ckb-next

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Contents

1 ckb-next: RGB Driver for Linux and macOS **1**

2 Building ckb **9**

3 cbk Improvements Roadmap **11**

4 DAEMON **13**

5 Todo List **21**

6 Deprecated List **23**

7 Namespace Index **25**

7.1 Namespace List 25

8 Hierarchical Index **27**

8.1 Class Hierarchy 27

9 Data Structure Index **31**

9.1 Data Structures 31

10 File Index **35**

10.1 File List 35

11 Namespace Documentation **41**

11.1 Ui Namespace Reference 41

12 Data Structure Documentation **43**

12.1 Ui::AnimAddDialog Class Reference 43

12.1.1 Detailed Description 44

12.1.2 Member Function Documentation 44

12.1.2.1 retranslateUi 44

12.1.2.2 setupUi 45

12.1.3 Field Documentation 46

12.1.3.1 animBox 46

12.1.3.2 buttonBox 47

12.1.3.3 gridLayout . . . 47
12.1.3.4 horizontalLayout . . . 47
12.1.3.5 horizontalSpacer . . . 47
12.1.3.6 horizontalSpacer_2 . . . 47
12.1.3.7 label . . . 47
12.1.3.8 label_2 . . . 47
12.1.3.9 presetBox . . . 47
12.1.3.10 previewBox . . . 47
12.1.3.11 verticalSpacer_2 . . . 48
12.1.3.12 verticalSpacer_3 . . . 48
12.2 AnimAddDialog Class Reference . . . 48
12.2.1 Detailed Description . . . 49
12.2.2 Constructor & Destructor Documentation . . . 49
12.2.2.1 AnimAddDialog . . . 50
12.2.2.2 ∼AnimAddDialog . . . 50
12.2.3 Member Function Documentation . . . 50
12.2.3.1 chosenPreset . . . 50
12.2.3.2 chosenScript . . . 51
12.2.3.3 on_animBox_activated . . . 51
12.2.3.4 on_presetBox_activated . . . 52
12.2.3.5 on_previewBox_clicked . . . 53
12.2.4 Field Documentation . . . 53
12.2.4.1 _keys . . . 53
12.2.4.2 _light . . . 53
12.2.4.3 scripts . . . 53
12.2.4.4 showPreview . . . 54
12.2.4.5 ui . . . 54
12.3 AnimScript Class Reference . . . 54
12.3.1 Detailed Description . . . 58
12.3.2 Data Structure Documentation . . . 58
12.3.2.1 struct AnimScript::Param . . . 58
12.3.3 Member Typedef Documentation . . . 59
12.3.3.1 PresetValue . . . 59
12.3.4 Constructor & Destructor Documentation . . . 59
12.3.4.1 ∼AnimScript . . . 59
12.3.4.2 AnimScript . . . 59
12.3.4.3 AnimScript . . . 60
12.3.5 Member Function Documentation . . . 60
12.3.5.1 advance . . . 60
12.3.5.2 author . . . 60

12.3.5.3 begin . . . 61
12.3.5.4 colors . . . 62
12.3.5.5 copy . . . 62
12.3.5.6 copyright . . . 63
12.3.5.7 count . . . 63
12.3.5.8 description . . . 64
12.3.5.9 end . . . 64
12.3.5.10 frame . . . 65
12.3.5.11 guid . . . 66
12.3.5.12 hasFrame . . . 66
12.3.5.13 hasKeypress . . . 67
12.3.5.14 hasParam . . . 67
12.3.5.15 init . . . 68
12.3.5.16 keypress . . . 69
12.3.5.17 license . . . 70
12.3.5.18 list . . . 70
12.3.5.19 load . . . 71
12.3.5.20 name . . . 74
12.3.5.21 param . . . 74
12.3.5.22 parameters . . . 75
12.3.5.23 paramIterator . . . 76
12.3.5.24 path . . . 76
12.3.5.25 preset . . . 77
12.3.5.26 presets . . . 77
12.3.5.27 printParams . . . 77
12.3.5.28 readProcess . . . 78
12.3.5.29 retrigger . . . 79
12.3.5.30 scan . . . 80
12.3.5.31 setDuration . . . 81
12.3.5.32 stop . . . 81
12.3.5.33 version . . . 82
12.3.5.34 year . . . 82
12.3.6 Field Documentation . . . 83
12.3.6.1 _colorBuffer . . . 83
12.3.6.2 _colors . . . 83
12.3.6.3 _info . . . 83
12.3.6.4 _keys . . . 83
12.3.6.5 _map . . . 83
12.3.6.6 _paramValues . . . 83
12.3.6.7 _path . . . 83

12.3.6.8 _presets . . . 84
12.3.6.9 _presetValues . . . 84
12.3.6.10 durationMsec . . . 84
12.3.6.11 firstFrame . . . 84
12.3.6.12 inFrame . . . 84
12.3.6.13 initialized . . . 84
12.3.6.14 KP_NAME . . . 84
12.3.6.15 KP_NONE . . . 84
12.3.6.16 KP_POSITION . . . 84
12.3.6.17 lastFrame . . . 85
12.3.6.18 minX . . . 85
12.3.6.19 minY . . . 85
12.3.6.20 process . . . 85
12.3.6.21 readAnyFrame . . . 85
12.3.6.22 readFrame . . . 85
12.3.6.23 repeatMsec . . . 85
12.3.6.24 scripts . . . 85
12.3.6.25 stopped . . . 85
12.4 Ui::AnimSettingDialog Class Reference . . . 86
12.4.1 Detailed Description . . . 88
12.4.2 Member Function Documentation . . . 88
12.4.2.1 retranslateUi . . . 88
12.4.2.2 setupUi . . . 89
12.4.3 Field Documentation . . . 93
12.4.3.1 animName . . . 93
12.4.3.2 buttonBox . . . 93
12.4.3.3 delayBox . . . 93
12.4.3.4 gridLayout . . . 94
12.4.3.5 gridLayout_2 . . . 94
12.4.3.6 horizontalSpacer . . . 94
12.4.3.7 horizontalSpacer_2 . . . 94
12.4.3.8 horizontalSpacer_3 . . . 94
12.4.3.9 horizontalSpacer_4 . . . 94
12.4.3.10 horizontalSpacer_5 . . . 94
12.4.3.11 horizontalSpacer_6 . . . 94
12.4.3.12 infoTab . . . 94
12.4.3.13 kpDelayBox . . . 95
12.4.3.14 kpModeStopBox . . . 95
12.4.3.15 kpReleaseBox . . . 95
12.4.3.16 kpRepeatBox . . . 95

12.4.3.17 kpRepeatLabel . . . 95
12.4.3.18 kpRepeatLabel_2 . . . 95
12.4.3.19 label . . . 95
12.4.3.20 label_10 . . . 95
12.4.3.21 label_11 . . . 95
12.4.3.22 label_12 . . . 96
12.4.3.23 label_13 . . . 96
12.4.3.24 label_2 . . . 96
12.4.3.25 label_3 . . . 96
12.4.3.26 label_4 . . . 96
12.4.3.27 label_5 . . . 96
12.4.3.28 label_6 . . . 96
12.4.3.29 label_7 . . . 96
12.4.3.30 label_8 . . . 96
12.4.3.31 label_9 . . . 97
12.4.3.32 line . . . 97
12.4.3.33 line_2 . . . 97
12.4.3.34 repeatBox . . . 97
12.4.3.35 repeatLabel . . . 97
12.4.3.36 repeatLabel_2 . . . 97
12.4.3.37 sAuthorLabel . . . 97
12.4.3.38 sDescLabel . . . 97
12.4.3.39 settingsGrid . . . 97
12.4.3.40 settingTab . . . 98
12.4.3.41 sLicenseLabel . . . 98
12.4.3.42 sNameLabel . . . 98
12.4.3.43 sVerLabel . . . 98
12.4.3.44 sYearLabel . . . 98
12.4.3.45 tabWidget . . . 98
12.4.3.46 timeGrid . . . 98
12.4.3.47 timeTab . . . 98
12.4.3.48 verticalSpacer . . . 98
12.4.3.49 verticalSpacer_2 . . . 99
12.4.3.50 verticalSpacer_3 . . . 99
12.5 AnimSettingDialog Class Reference . . . 99
12.5.1 Detailed Description . . . 102
12.5.2 Constructor & Destructor Documentation . . . 102
12.5.2.1 AnimSettingDialog . . . 102
12.5.2.2 ~AnimSettingDialog . . . 107
12.5.3 Member Function Documentation . . . 107

12.5.3.1 angleDialChanged . . . 108
12.5.3.2 angleSpinnerChanged . . . 108
12.5.3.3 hLine . . . 109
12.5.3.4 name . . . 110
12.5.3.5 newDuration . . . 110
12.5.3.6 on_delayBox_valueChanged . . . 111
12.5.3.7 on_kpDelayBox_valueChanged . . . 112
12.5.3.8 on_kpReleaseBox_stateChanged . . . 112
12.5.3.9 on_kpRepeatBox_valueChanged . . . 113
12.5.3.10 on_repeatBox_valueChanged . . . 114
12.5.3.11 updateParam . . . 114
12.5.3.12 updateStops . . . 117
12.5.4 Field Documentation . . . 118
12.5.4.1 _anim . . . 118
12.5.4.2 angleDialMapper . . . 118
12.5.4.3 angleSpinnerMapper . . . 118
12.5.4.4 angleSpinners . . . 119
12.5.4.5 hasRepeat . . . 119
12.5.4.6 kpStopCheck . . . 119
12.5.4.7 lastDuration . . . 119
12.5.4.8 settingWidgets . . . 119
12.5.4.9 stopCheck . . . 119
12.5.4.10 ui . . . 119
12.5.4.11 updateMapper . . . 119
12.6 AutoRun Class Reference . . . 120
12.6.1 Detailed Description . . . 120
12.6.2 Member Function Documentation . . . 120
12.6.2.1 available . . . 120
12.6.2.2 disable . . . 121
12.6.2.3 enable . . . 121
12.6.2.4 isEnabled . . . 122
12.6.2.5 once . . . 123
12.7 CkbSettings Class Reference . . . 124
12.7.1 Detailed Description . . . 126
12.7.2 Constructor & Destructor Documentation . . . 126
12.7.2.1 CkbSettings . . . 126
12.7.2.2 CkbSettings . . . 126
12.7.2.3 CkbSettings . . . 127
12.7.2.4 ~CkbSettings . . . 127
12.7.3 Member Function Documentation . . . 127

12.7.3.1 beginGroup . . . 127
12.7.3.2 childGroups . . . 127
12.7.3.3 childKeys . . . 128
12.7.3.4 cleanUp . . . 129
12.7.3.5 contains . . . 130
12.7.3.6 containsGroup . . . 130
12.7.3.7 endGroup . . . 131
12.7.3.8 get . . . 131
12.7.3.9 isBusy . . . 132
12.7.3.10 pwd . . . 133
12.7.3.11 pwd . . . 134
12.7.3.12 remove . . . 135
12.7.3.13 set . . . 135
12.7.3.14 setValue . . . 137
12.7.3.15 value . . . 137
12.7.4 Field Documentation . . . 138
12.7.4.1 backing . . . 138
12.7.4.2 groups . . . 138
12.7.4.3 removeCache . . . 139
12.7.4.4 writeCache . . . 139
12.8 CkbSettingsWriter Class Reference . . . 139
12.8.1 Detailed Description . . . 140
12.8.2 Constructor & Destructor Documentation . . . 140
12.8.2.1 CkbSettingsWriter . . . 140
12.8.2.2 ~CkbSettingsWriter . . . 141
12.8.3 Member Function Documentation . . . 141
12.8.3.1 run . . . 141
12.8.4 Field Documentation . . . 141
12.8.4.1 _backing . . . 141
12.8.4.2 _removals . . . 141
12.8.4.3 _updates . . . 141
12.9 ColorButton Class Reference . . . 141
12.9.1 Detailed Description . . . 144
12.9.2 Constructor & Destructor Documentation . . . 144
12.9.2.1 ColorButton . . . 144
12.9.3 Member Function Documentation . . . 144
12.9.3.1 allowAlpha . . . 144
12.9.3.2 allowAlpha . . . 145
12.9.3.3 bigIcons . . . 145
12.9.3.4 bigIcons . . . 146

12.9.3.5 color . . . 146
12.9.3.6 color . . . 147
12.9.3.7 colorChanged . . . 148
12.9.3.8 pickColor . . . 148
12.9.3.9 setLabel . . . 149
12.9.3.10 setLabel . . . 149
12.9.3.11 updateImage . . . 149
12.9.4 Field Documentation . . . 150
12.9.4.1 _alpha . . . 150
12.9.4.2 _bigIcons . . . 150
12.9.4.3 _color . . . 150
12.9.4.4 _setLabel . . . 150
12.10 ColorMap Class Reference . . . 151
12.10.1 Detailed Description . . . 152
12.10.2 Constructor & Destructor Documentation . . . 152
12.10.2.1 ColorMap . . . 152
12.10.2.2 ~ColorMap . . . 152
12.10.2.3 ColorMap . . . 152
12.10.3 Member Function Documentation . . . 153
12.10.3.1 alloc . . . 153
12.10.3.2 clear . . . 153
12.10.3.3 colorForName . . . 154
12.10.3.4 colorForName . . . 155
12.10.3.5 colors . . . 155
12.10.3.6 colors . . . 156
12.10.3.7 count . . . 156
12.10.3.8 deAlloc . . . 156
12.10.3.9 init . . . 157
12.10.3.10 keyNames . . . 158
12.10.3.11 operator= . . . 158
12.10.3.12 operator== . . . 159
12.10.4 Field Documentation . . . 159
12.10.4.1 _colors . . . 159
12.10.4.2 _count . . . 159
12.10.4.3 _keyNames . . . 159
12.10.4.4 _mapCount . . . 159
12.11 devcmd.__unnamed__ Struct Reference . . . 160
12.11.1 Detailed Description . . . 161
12.11.2 Field Documentation . . . 161
12.11.2.1 active . . . 161

12.11.2.2 allocprofile . . . 161
12.11.2.3 bind . . . 161
12.11.2.4 dpi . . . 161
12.11.2.5 dpisel . . . 161
12.11.2.6 erase . . . 161
12.11.2.7 eraseprofile . . . 161
12.11.2.8 freeprofile . . . 161
12.11.2.9 fwupdate . . . 161
12.11.2.10 get . . . 161
12.11.2.11 hwload . . . 161
12.11.2.12 hwsave . . . 161
12.11.2.13 iauto . . . 161
12.11.2.14 id . . . 161
12.11.2.15 idle . . . 161
12.11.2.16 inotify . . . 161
12.11.2.17 ioff . . . 162
12.11.2.18 ion . . . 162
12.11.2.19 ilift . . . 162
12.11.2.20 loadprofile . . . 162
12.11.2.21 macro . . . 162
12.11.2.22 name . . . 162
12.11.2.23 notify . . . 162
12.11.2.24 pollrate . . . 162
12.11.2.25 profileid . . . 162
12.11.2.26 profilename . . . 162
12.11.2.27 rebind . . . 162
12.11.2.28 restart . . . 162
12.11.2.29 rgb . . . 162
12.11.2.30 setmodeindex . . . 162
12.11.2.31 snap . . . 162
12.11.2.32 start . . . 162
12.11.2.33 unbind . . . 162
12.11.2.34 updatedpi . . . 162
12.11.2.35 updateindicators . . . 162
12.11.2.36 updatergb . . . 162
12.12 Ui::ExtraSettingsWidget Class Reference . . . 162
12.12.1 Detailed Description . . . 164
12.12.2 Member Function Documentation . . . 165
12.12.2.1 retranslateUi . . . 165
12.12.2.2 setupUi . . . 166

12.12.3 Field Documentation . . . 170
12.12.3.1 animCountLabel . . . 170
12.12.3.2 animPathLabel . . . 170
12.12.3.3 animScanButton . . . 170
12.12.3.4 brightnessBox . . . 170
12.12.3.5 buttonBox . . . 170
12.12.3.6 delayBox . . . 170
12.12.3.7 ditherBox . . . 170
12.12.3.8 fpsBox . . . 170
12.12.3.9 fpsWarnLabel . . . 171
12.12.3.10 gridLayout . . . 171
12.12.3.11 horizontalLayout . . . 171
12.12.3.12 horizontalLayout_2 . . . 171
12.12.3.13 horizontalSpacer . . . 171
12.12.3.14 horizontalSpacer_2 . . . 171
12.12.3.15 horizontalSpacer_3 . . . 171
12.12.3.16 label . . . 171
12.12.3.17 label_10 . . . 171
12.12.3.18 label_11 . . . 172
12.12.3.19 label_2 . . . 172
12.12.3.20 label_3 . . . 172
12.12.3.21 label_5 . . . 172
12.12.3.22 label_6 . . . 172
12.12.3.23 line . . . 172
12.12.3.24 line_2 . . . 172
12.12.3.25 line_3 . . . 172
12.12.3.26 mAccelBox . . . 172
12.12.3.27 osxLabel . . . 173
12.12.3.28 osxLine . . . 173
12.12.3.29 sAccelBox . . . 173
12.12.3.30 sSpeedBox . . . 173
12.12.3.31 sSpeedWidget . . . 173
12.12.3.32 trayBox . . . 173
12.12.3.33 verticalSpacer . . . 173
12.12.3.34 verticalSpacer_10 . . . 173
12.12.3.35 verticalSpacer_11 . . . 173
12.12.3.36 verticalSpacer_2 . . . 174
12.12.3.37 verticalSpacer_3 . . . 174
12.12.3.38 verticalSpacer_4 . . . 174
12.12.3.39 verticalSpacer_5 . . . 174

12.12.3.40 verticalSpacer_6 . . . 174
12.12.3.41 verticalSpacer_7 . . . 174
12.12.3.42 verticalSpacer_8 . . . 174
12.12.3.43 verticalSpacer_9 . . . 174
12.13 ExtraSettingsWidget Class Reference . . . 175
12.13.1 Detailed Description . . . 176
12.13.2 Constructor & Destructor Documentation . . . 177
12.13.2.1 ExtraSettingsWidget . . . 177
12.13.2.2 ~ExtraSettingsWidget . . . 178
12.13.3 Member Function Documentation . . . 178
12.13.3.1 on_animScanButton_clicked . . . 178
12.13.3.2 on_brightnessBox_clicked . . . 179
12.13.3.3 on_delayBox_clicked . . . 179
12.13.3.4 on_ditherBox_clicked . . . 180
12.13.3.5 on_fpsBox_valueChanged . . . 180
12.13.3.6 on_mAccelBox_clicked . . . 180
12.13.3.7 on_sAccelBox_clicked . . . 181
12.13.3.8 on_sSpeedBox_valueChanged . . . 181
12.13.3.9 on_trayBox_clicked . . . 182
12.13.3.10 pollUpdates . . . 182
12.13.4 Field Documentation . . . 183
12.13.4.1 ui . . . 183
12.14 KbFirmware::FW Struct Reference . . . 183
12.14.1 Detailed Description . . . 184
12.14.2 Constructor & Destructor Documentation . . . 184
12.14.2.1 FW . . . 184
12.14.3 Field Documentation . . . 184
12.14.3.1 ckbVersion . . . 184
12.14.3.2 fileName . . . 184
12.14.3.3 fwVersion . . . 184
12.14.3.4 hash . . . 184
12.14.3.5 url . . . 184
12.15 FwUpgradeDialog Class Reference . . . 184
12.15.1 Detailed Description . . . 186
12.15.2 Constructor & Destructor Documentation . . . 186
12.15.2.1 FwUpgradeDialog . . . 186
12.15.2.2 ~FwUpgradeDialog . . . 187
12.15.3 Member Function Documentation . . . 187
12.15.3.1 cleanBlob . . . 187
12.15.3.2 closeEvent . . . 188

12.15.3.3 exec . . . 188
12.15.3.4 fwUpdateFinished . . . 189
12.15.3.5 fwUpdateProgress . . . 190
12.15.3.6 on_actionButton_clicked . . . 190
12.15.3.7 on_cancelButton_clicked . . . 191
12.15.3.8 removeDev . . . 191
12.15.3.9 saveBlob . . . 192
12.15.4 Field Documentation . . . 192
12.15.4.1 blob . . . 193
12.15.4.2 evLoop . . . 193
12.15.4.3 exitSuccess . . . 193
12.15.4.4 kb . . . 193
12.15.4.5 savePath . . . 193
12.15.4.6 ui . . . 193
12.16 Ui::FwUpgradeDialog Class Reference . . . 193
12.16.1 Detailed Description . . . 195
12.16.2 Member Function Documentation . . . 196
12.16.2.1 retranslateUi . . . 196
12.16.2.2 setupUi . . . 196
12.16.3 Field Documentation . . . 198
12.16.3.1 actionButton . . . 198
12.16.3.2 cancelButton . . . 198
12.16.3.3 curLabel . . . 198
12.16.3.4 devLabel . . . 198
12.16.3.5 gridLayout . . . 199
12.16.3.6 gridLayout_2 . . . 199
12.16.3.7 horizontalSpacer . . . 199
12.16.3.8 horizontalSpacer_2 . . . 199
12.16.3.9 horizontalSpacer_3 . . . 199
12.16.3.10 horizontalSpacer_4 . . . 199
12.16.3.11 label_2 . . . 199
12.16.3.12 label_4 . . . 199
12.16.3.13 newLabel . . . 199
12.16.3.14 progressBar . . . 200
12.16.3.15 statusLabel . . . 200
12.17 GradientButton Class Reference . . . 200
12.17.1 Detailed Description . . . 201
12.17.2 Constructor & Destructor Documentation . . . 202
12.17.2.1 GradientButton . . . 202
12.17.3 Member Function Documentation . . . 202

12.17.3.1 fromString . . . 202
12.17.3.2 gradientChanged . . . 203
12.17.3.3 pickGradient . . . 203
12.17.3.4 toString . . . 204
12.17.3.5 updateImage . . . 205
12.17.4 Field Documentation . . . 206
12.17.4.1 _alpha . . . 206
12.17.4.2 _stops . . . 206
12.18 Ui::GradientDialog Class Reference . . . 206
12.18.1 Detailed Description . . . 208
12.18.2 Member Function Documentation . . . 208
12.18.2.1 retranslateUi . . . 208
12.18.2.2 setupUi . . . 209
12.18.3 Field Documentation . . . 211
12.18.3.1 buttonBox . . . 211
12.18.3.2 gridLayout . . . 211
12.18.3.3 gridLayout_2 . . . 211
12.18.3.4 gridLayout_3 . . . 212
12.18.3.5 groupBox_2 . . . 212
12.18.3.6 horizontalLayout . . . 212
12.18.3.7 horizontalLayout_2 . . . 212
12.18.3.8 horizontalSpacer . . . 212
12.18.3.9 horizontalSpacer_2 . . . 212
12.18.3.10 horizontalSpacer_3 . . . 212
12.18.3.11 label . . . 212
12.18.3.12 label_2 . . . 212
12.18.3.13 presetDelete . . . 213
12.18.3.14 presetList . . . 213
12.18.3.15 presetName . . . 213
12.18.3.16 presetSave . . . 213
12.18.3.17 stopBox . . . 213
12.18.3.18 stopColor . . . 213
12.18.3.19 stopOpacity . . . 213
12.18.3.20 stopPos . . . 213
12.18.3.21 verticalSpacer . . . 214
12.18.3.22 verticalSpacer_2 . . . 214
12.18.3.23 widget . . . 214
12.19 GradientDialog Class Reference . . . 214
12.19.1 Detailed Description . . . 217
12.19.2 Constructor & Destructor Documentation . . . 217

12.19.2.1 GradientDialog . . . 217
12.19.2.2 ~GradientDialog . . . 218
12.19.3 Member Function Documentation . . . 218
12.19.3.1 addPreset . . . 218
12.19.3.2 colorChanged . . . 219
12.19.3.3 currentChanged . . . 219
12.19.3.4 getGradient . . . 220
12.19.3.5 makeIcon . . . 221
12.19.3.6 on_presetDelete_clicked . . . 222
12.19.3.7 on_presetList_currentItemChanged . . . 222
12.19.3.8 on_presetName_textEdited . . . 223
12.19.3.9 on_presetSave_clicked . . . 223
12.19.3.10 on_stopOpacity_valueChanged . . . 224
12.19.3.11 on_stopPos_valueChanged . . . 224
12.19.3.12 setPreset . . . 225
12.19.3.13 updatePresets . . . 226
12.19.4 Field Documentation . . . 226
12.19.4.1 currentPreset . . . 226
12.19.4.2 presets . . . 227
12.19.4.3 ui . . . 227
12.20 GradientDialogWidget Class Reference . . . 227
12.20.1 Detailed Description . . . 230
12.20.2 Constructor & Destructor Documentation . . . 230
12.20.2.1 GradientDialogWidget . . . 230
12.20.3 Member Function Documentation . . . 230
12.20.3.1 colorAt . . . 230
12.20.3.2 current . . . 231
12.20.3.3 currentChanged . . . 231
12.20.3.4 fillRect . . . 231
12.20.3.5 makeStops . . . 232
12.20.3.6 mouseMoveEvent . . . 233
12.20.3.7 mousePressEvent . . . 234
12.20.3.8 mouseReleaseEvent . . . 235
12.20.3.9 moveCurrent . . . 235
12.20.3.10 paintEvent . . . 236
12.20.3.11 selectedStop . . . 237
12.20.3.12 selectionColors . . . 238
12.20.3.13 setCurrentColor . . . 239
12.20.3.14 setStops . . . 239
12.20.3.15 stopCount . . . 240

12.20.3.16 stopRect . . . 241
12.20.3.17 stops . . . 241
12.20.4 Field Documentation . . . 242
12.20.4.1 _colors . . . 242
12.20.4.2 _current . . . 242
12.20.4.3 _stops . . . 242
12.20.4.4 selected . . . 242
12.20.4.5 selectedOffset . . . 242
12.20.4.6 selectedPos . . . 242
12.21 JlCompress Class Reference . . . 243
12.21.1 Detailed Description . . . 244
12.21.2 Member Function Documentation . . . 244
12.21.2.1 compressDir . . . 244
12.21.2.2 compressFile . . . 245
12.21.2.3 compressFile . . . 246
12.21.2.4 compressFiles . . . 248
12.21.2.5 compressSubDir . . . 250
12.21.2.6 extractDir . . . 252
12.21.2.7 extractFile . . . 254
12.21.2.8 extractFile . . . 256
12.21.2.9 extractFiles . . . 257
12.21.2.10 getFileList . . . 258
12.21.2.11 removeFile . . . 260
12.22 Kb Class Reference . . . 261
12.22.1 Detailed Description . . . 266
12.22.2 Constructor & Destructor Documentation . . . 266
12.22.2.1 ~Kb . . . 266
12.22.2.2 Kb . . . 267
12.22.3 Member Function Documentation . . . 269
12.22.3.1 appendProfile . . . 269
12.22.3.2 autoSave . . . 269
12.22.3.3 currentBind . . . 270
12.22.3.4 currentLight . . . 270
12.22.3.5 currentMode . . . 271
12.22.3.6 currentPerf . . . 271
12.22.3.7 currentProfile . . . 272
12.22.3.8 deleteHw . . . 272
12.22.3.9 deletePrevious . . . 273
12.22.3.10 dither . . . 273
12.22.3.11 dither . . . 274

12.22.3.12find . . . 274
12.22.3.13frameRate . . . 275
12.22.3.14frameRate . . . 275
12.22.3.15frameUpdate . . . 276
12.22.3.16fwUpdate . . . 277
12.22.3.17fwUpdateFinished . . . 278
12.22.3.18fwUpdateProgress . . . 278
12.22.3.19getKeyMap . . . 279
12.22.3.20getMacroNumber . . . 279
12.22.3.21getMacroPath . . . 280
12.22.3.22hwProfile . . . 280
12.22.3.23hwProfile . . . 280
12.22.3.24hwSave . . . 281
12.22.3.25indexOf . . . 282
12.22.3.26infoUpdated . . . 283
12.22.3.27isKeyboard . . . 283
12.22.3.28isMouse . . . 284
12.22.3.29isOpen . . . 285
12.22.3.30layout . . . 285
12.22.3.31layout . . . 286
12.22.3.32load . . . 286
12.22.3.33macroDelay . . . 287
12.22.3.34macroDelay . . . 287
12.22.3.35matches . . . 288
12.22.3.36modeChanged . . . 288
12.22.3.37model . . . 289
12.22.3.38modeRenamed . . . 289
12.22.3.39mouseAccel . . . 289
12.22.3.40mouseAccel . . . 290
12.22.3.41needsSave . . . 290
12.22.3.42newMode . . . 290
12.22.3.43newMode . . . 291
12.22.3.44newProfile . . . 292
12.22.3.45newProfile . . . 292
12.22.3.46profileAdded . . . 293
12.22.3.47profileChanged . . . 293
12.22.3.48profileRenamed . . . 294
12.22.3.49profiles . . . 294
12.22.3.50profiles . . . 295
12.22.3.51readNotify . . . 295

12.22.3.52 run . . . 299
12.22.3.53 save . . . 300
12.22.3.54 scrollSpeed . . . 301
12.22.3.55 scrollSpeed . . . 301
12.22.3.56 setCurrentMode . . . 302
12.22.3.57 setCurrentMode . . . 302
12.22.3.58 setCurrentMode . . . 303
12.22.3.59 setCurrentProfile . . . 304
12.22.3.60 updateLayout . . . 305
12.22.3.61 writeProfileHeader . . . 306
12.22.4 Friends And Related Function Documentation . . . 307
12.22.4.1 KbManager . . . 307
12.22.5 Field Documentation . . . 307
12.22.5.1 _currentMode . . . 307
12.22.5.2 _currentProfile . . . 307
12.22.5.3 _delay . . . 307
12.22.5.4 _dither . . . 307
12.22.5.5 _frameRate . . . 307
12.22.5.6 _hwProfile . . . 308
12.22.5.7 _layout . . . 308
12.22.5.8 _model . . . 308
12.22.5.9 _mouseAccel . . . 308
12.22.5.10 _needsSave . . . 308
12.22.5.11 _profiles . . . 308
12.22.5.12 _scrollSpeed . . . 308
12.22.5.13 cmd . . . 308
12.22.5.14 cmdpath . . . 308
12.22.5.15 devpath . . . 309
12.22.5.16 features . . . 309
12.22.5.17 firmware . . . 309
12.22.5.18 fwUpdPath . . . 309
12.22.5.19 hwLoading . . . 309
12.22.5.20 HWMODE_MAX . . . 309
12.22.5.21 hwModeCount . . . 309
12.22.5.22 iState . . . 309
12.22.5.23 lastAutoSave . . . 309
12.22.5.24 macroNumber . . . 310
12.22.5.25 macroPath . . . 310
12.22.5.26 monochrome . . . 310
12.22.5.27 notifyNumber . . . 310

12.22.5.28 notifyPath . . . 310
12.22.5.29 pollrate . . . 310
12.22.5.30 prefsPath . . . 310
12.22.5.31 prevMode . . . 310
12.22.5.32 prevProfile . . . 310
12.22.5.33 usbModel . . . 311
12.22.5.34 usbSerial . . . 311
12.23 KbAnim Class Reference . . . 311
12.23.1 Detailed Description . . . 314
12.23.2 Member Enumeration Documentation . . . 314
12.23.2.1 Mode . . . 314
12.23.3 Constructor & Destructor Documentation . . . 315
12.23.3.1 KbAnim . . . 315
12.23.3.2 KbAnim . . . 316
12.23.3.3 KbAnim . . . 317
12.23.4 Member Function Documentation . . . 317
12.23.4.1 blend . . . 317
12.23.4.2 catchUp . . . 319
12.23.4.3 commitParams . . . 320
12.23.4.4 effectiveParams . . . 321
12.23.4.5 guid . . . 321
12.23.4.6 hasParameter . . . 322
12.23.4.7 isActive . . . 322
12.23.4.8 isRunning . . . 322
12.23.4.9 keypress . . . 323
12.23.4.10 keys . . . 324
12.23.4.11 keys . . . 325
12.23.4.12 map . . . 325
12.23.4.13 map . . . 326
12.23.4.14 mode . . . 326
12.23.4.15 mode . . . 326
12.23.4.16 name . . . 327
12.23.4.17 name . . . 327
12.23.4.18 needsSave . . . 327
12.23.4.19 newId . . . 328
12.23.4.20 opacity . . . 328
12.23.4.21 opacity . . . 328
12.23.4.22 parameter . . . 329
12.23.4.23 parameter . . . 329
12.23.4.24 reInit . . . 330

12.23.4.25 resetParams . . . 330
12.23.4.26 save . . . 331
12.23.4.27 script . . . 332
12.23.4.28 scriptName . . . 332
12.23.4.29 stop . . . 333
12.23.4.30 trigger . . . 334
12.23.4.31 updateParams . . . 335
12.23.5 Field Documentation . . . 336
12.23.5.1 _guid . . . 336
12.23.5.2 _isActive . . . 336
12.23.5.3 _isActiveKp . . . 336
12.23.5.4 _keys . . . 336
12.23.5.5 _map . . . 336
12.23.5.6 _mode . . . 336
12.23.5.7 _name . . . 336
12.23.5.8 _needsSave . . . 337
12.23.5.9 _opacity . . . 337
12.23.5.10 _parameters . . . 337
12.23.5.11 _script . . . 337
12.23.5.12 _scriptGuid . . . 337
12.23.5.13 _scriptName . . . 337
12.23.5.14 _tempParameters . . . 337
12.23.5.15 kpRepeatMsec . . . 337
12.23.5.16 kpRepeatTime . . . 337
12.23.5.17 kpStopTime . . . 338
12.23.5.18 repeatKey . . . 338
12.23.5.19 repeatMsec . . . 338
12.23.5.20 repeatTime . . . 338
12.23.5.21 stopTime . . . 338
12.24 Ui::KbAnimWidget Class Reference . . . 338
12.24.1 Detailed Description . . . 340
12.24.2 Member Function Documentation . . . 340
12.24.2.1 retranslateUi . . . 340
12.24.2.2 setupUi . . . 341
12.24.3 Field Documentation . . . 344
12.24.3.1 aCopyLabel . . . 344
12.24.3.2 aMissingLabel . . . 344
12.24.3.3 aMissingPage . . . 344
12.24.3.4 aNameLabel . . . 344
12.24.3.5 animList . . . 344

12.24.3.6 animPage . . . 345
12.24.3.7 aVerLabel . . . 345
12.24.3.8 blendBox . . . 345
12.24.3.9 deleteButton . . . 345
12.24.3.10 gridLayout . . . 345
12.24.3.11 gridLayout_2 . . . 345
12.24.3.12 gridLayout_3 . . . 345
12.24.3.13 gridLayout_4 . . . 345
12.24.3.14 horizontalLayout . . . 345
12.24.3.15 horizontalSpacer . . . 346
12.24.3.16 horizontalSpacer_2 . . . 346
12.24.3.17 horizontalSpacer_3 . . . 346
12.24.3.18 horizontalSpacer_4 . . . 346
12.24.3.19 horizontalSpacer_5 . . . 346
12.24.3.20 keyButton . . . 346
12.24.3.21 label_5 . . . 346
12.24.3.22 label_6 . . . 346
12.24.3.23 label_7 . . . 346
12.24.3.24 nameBox . . . 347
12.24.3.25 noAnimLabel . . . 347
12.24.3.26 noSelPage . . . 347
12.24.3.27 opacityBox . . . 347
12.24.3.28 propertyButton . . . 347
12.24.3.29 selectionStack . . . 347
12.24.3.30 verticalLayout . . . 347
12.24.3.31 verticalSpacer . . . 347
12.24.3.32 verticalSpacer_2 . . . 347
12.24.3.33 verticalSpacer_3 . . . 348
12.25 KbAnimWidget Class Reference . . . 348
12.25.1 Detailed Description . . . 350
12.25.2 Constructor & Destructor Documentation . . . 350
12.25.2.1 KbAnimWidget . . . 350
12.25.2.2 ~KbAnimWidget . . . 351
12.25.3 Member Function Documentation . . . 351
12.25.3.1 addAnim . . . 351
12.25.3.2 animChanged . . . 352
12.25.3.3 clearSelection . . . 353
12.25.3.4 didUpdateSelection . . . 353
12.25.3.5 duplicateAnim . . . 354
12.25.3.6 on_animList_currentItemChanged . . . 355

12.25.3.7 on_animList_customContextMenuRequested . . . 355
12.25.3.8 on_animList_itemChanged . . . 356
12.25.3.9 on_blendBox_activated . . . 356
12.25.3.10 on_deleteButton_clicked . . . 357
12.25.3.11 on_keyButton_clicked . . . 358
12.25.3.12 on_nameBox_textEdited . . . 358
12.25.3.13 on_opacityBox_valueChanged . . . 359
12.25.3.14 on_propertyButton_clicked . . . 359
12.25.3.15 refreshList . . . 360
12.25.3.16 reorderAnims . . . 361
12.25.3.17 setCurrent . . . 362
12.25.3.18 setLight . . . 363
12.25.3.19 setSelectedKeys . . . 364
12.25.4 Field Documentation . . . 365
12.25.4.1 animations . . . 365
12.25.4.2 current . . . 365
12.25.4.3 light . . . 365
12.25.4.4 noReorder . . . 365
12.25.4.5 selectedKeys . . . 365
12.25.4.6 ui . . . 365
12.26 KbBind Class Reference . . . 366
12.26.1 Detailed Description . . . 369
12.26.2 Constructor & Destructor Documentation . . . 369
12.26.2.1 KbBind . . . 369
12.26.2.2 KbBind . . . 369
12.26.3 Member Function Documentation . . . 370
12.26.3.1 action . . . 370
12.26.3.2 bindAction . . . 371
12.26.3.3 defaultAction . . . 371
12.26.3.4 defaultAction . . . 372
12.26.3.5 devParent . . . 372
12.26.3.6 didLoad . . . 373
12.26.3.7 friendlyActionName . . . 373
12.26.3.8 friendlyName . . . 374
12.26.3.9 getMacroNumber . . . 374
12.26.3.10 getMacroPath . . . 375
12.26.3.11 globalRemap . . . 376
12.26.3.12 handleNotificationChannel . . . 376
12.26.3.13 isISO . . . 377
12.26.3.14 isKeyboard . . . 378

12.26.3.15 isMouse . . . 378
12.26.3.16 keyEvent . . . 379
12.26.3.17 layoutChanged . . . 380
12.26.3.18 light . . . 381
12.26.3.19 load . . . 382
12.26.3.20 loadGlobalRemap . . . 383
12.26.3.21 map . . . 383
12.26.3.22 map . . . 384
12.26.3.23 modeParent . . . 384
12.26.3.24 needsSave . . . 385
12.26.3.25 noAction . . . 385
12.26.3.26 noAction . . . 385
12.26.3.27 perf . . . 386
12.26.3.28 resetAction . . . 387
12.26.3.29 resetAction . . . 387
12.26.3.30 save . . . 388
12.26.3.31 saveGlobalRemap . . . 389
12.26.3.32 setAction . . . 390
12.26.3.33 setAction . . . 391
12.26.3.34 setGlobalRemap . . . 391
12.26.3.35 setNeedsUpdate . . . 392
12.26.3.36 update . . . 392
12.26.3.37 updated . . . 394
12.26.3.38 winLock . . . 394
12.26.3.39 winLock . . . 395
12.26.4 Friends And Related Function Documentation . . . 395
12.26.4.1 KeyAction . . . 395
12.26.5 Field Documentation . . . 395
12.26.5.1 _bind . . . 395
12.26.5.2 _devParent . . . 395
12.26.5.3 _globalRemap . . . 395
12.26.5.4 _map . . . 395
12.26.5.5 _needsSave . . . 396
12.26.5.6 _needsUpdate . . . 396
12.26.5.7 _winLock . . . 396
12.26.5.8 globalRemapTime . . . 396
12.26.5.9 lastCmd . . . 396
12.26.5.10 lastGlobalRemapTime . . . 396
12.27 Ui::KbBindWidget Class Reference . . . 396
12.27.1 Detailed Description . . . 398

12.27.2 Member Function Documentation . . . 398
12.27.2.1 retranslateUi . . . 398
12.27.2.2 setupUi . . . 399
12.27.3 Field Documentation . . . 401
12.27.3.1 copyButton . . . 401
12.27.3.2 gridLayout . . . 401
12.27.3.3 gridLayout_2 . . . 401
12.27.3.4 horizontalLayout_2 . . . 401
12.27.3.5 horizontalSpacer . . . 401
12.27.3.6 horizontalSpacer_2 . . . 402
12.27.3.7 keyWidget . . . 402
12.27.3.8 label . . . 402
12.27.3.9 label_2 . . . 402
12.27.3.10 line . . . 402
12.27.3.11 line_2 . . . 402
12.27.3.12 rbWidget . . . 402
12.27.3.13 resetButton . . . 402
12.27.3.14 selectLabel . . . 402
12.27.3.15 verticalLayout . . . 403
12.27.3.16 verticalSpacer . . . 403
12.27.3.17 widget . . . 403
12.28 KbBindWidget Class Reference . . . 403
12.28.1 Detailed Description . . . 405
12.28.2 Constructor & Destructor Documentation . . . 406
12.28.2.1 KbBindWidget . . . 406
12.28.2.2 ~KbBindWidget . . . 406
12.28.3 Member Function Documentation . . . 407
12.28.3.1 newLayout . . . 407
12.28.3.2 newSelection . . . 408
12.28.3.3 on_copyButton_clicked . . . 409
12.28.3.4 on_resetButton_clicked . . . 410
12.28.3.5 setBind . . . 410
12.28.3.6 updateBind . . . 412
12.28.3.7 updateSelDisplay . . . 413
12.28.4 Field Documentation . . . 414
12.28.4.1 bind . . . 414
12.28.4.2 currentSelection . . . 414
12.28.4.3 profile . . . 414
12.28.4.4 ui . . . 414
12.29 KbFirmware Class Reference . . . 414

12.29.1 Detailed Description . . . 417
12.29.2 Member Enumeration Documentation . . . 417
12.29.2.1 anonymous enum . . . 417
12.29.3 Constructor & Destructor Documentation . . . 417
12.29.3.1 KbFirmware . . . 417
12.29.3.2 ~KbFirmware . . . 417
12.29.4 Member Function Documentation . . . 417
12.29.4.1 _checkUpdates . . . 417
12.29.4.2 _fileForBoard . . . 418
12.29.4.3 _latestForBoard . . . 419
12.29.4.4 checkUpdates . . . 420
12.29.4.5 dataForBoard . . . 420
12.29.4.6 downloaded . . . 421
12.29.4.7 downloadFinished . . . 421
12.29.4.8 hasDownloaded . . . 422
12.29.4.9 processDownload . . . 422
12.29.4.10 versionForBoard . . . 424
12.29.5 Field Documentation . . . 425
12.29.5.1 fwTable . . . 425
12.29.5.2 fwTableHash . . . 425
12.29.5.3 hasGPG . . . 425
12.29.5.4 instance . . . 425
12.29.5.5 lastCheck . . . 425
12.29.5.6 lastFinished . . . 425
12.29.5.7 networkManager . . . 425
12.29.5.8 tableDownload . . . 426
12.30 KbLight Class Reference . . . 426
12.30.1 Detailed Description . . . 429
12.30.2 Member Typedef Documentation . . . 430
12.30.2.1 AnimList . . . 430
12.30.3 Constructor & Destructor Documentation . . . 430
12.30.3.1 KbLight . . . 430
12.30.3.2 KbLight . . . 430
12.30.3.3 ~KbLight . . . 431
12.30.4 Member Function Documentation . . . 431
12.30.4.1 addAnim . . . 431
12.30.4.2 animKeypress . . . 432
12.30.4.3 animList . . . 433
12.30.4.4 animList . . . 433
12.30.4.5 base . . . 433

12.30.4.6 close . . . 434
12.30.4.7 color . . . 435
12.30.4.8 color . . . 436
12.30.4.9 colorMap . . . 437
12.30.4.10 didLoad . . . 437
12.30.4.11 dimming . . . 437
12.30.4.12 dimming . . . 438
12.30.4.13 duplicateAnim . . . 438
12.30.4.14 findAnim . . . 439
12.30.4.15 findAnimIdx . . . 440
12.30.4.16 frameDisplayed . . . 440
12.30.4.17 frameUpdate . . . 441
12.30.4.18 isStarted . . . 442
12.30.4.19 load . . . 443
12.30.4.20 map . . . 444
12.30.4.21 map . . . 445
12.30.4.22 needsSave . . . 446
12.30.4.23 open . . . 446
12.30.4.24 previewAnim . . . 447
12.30.4.25 printRGB . . . 448
12.30.4.26 rebuildBaseMap . . . 449
12.30.4.27 resetIndicators . . . 449
12.30.4.28 restartAnimation . . . 450
12.30.4.29 save . . . 451
12.30.4.30 setIndicator . . . 452
12.30.4.31 shareDimming . . . 452
12.30.4.32 shareDimming . . . 453
12.30.4.33 stopPreview . . . 453
12.30.4.34 updated . . . 454
12.30.5 Field Documentation . . . 454
12.30.5.1 _animList . . . 454
12.30.5.2 _animMap . . . 454
12.30.5.3 _colorMap . . . 455
12.30.5.4 _dimming . . . 455
12.30.5.5 _indicatorList . . . 455
12.30.5.6 _indicatorMap . . . 455
12.30.5.7 _lastFrameAnimMap . . . 455
12.30.5.8 _lastFrameDimming . . . 455
12.30.5.9 _lastFrameIndicatorMap . . . 455
12.30.5.10 _map . . . 455

12.30.5.11 _needsMapRefresh . . . 455
12.30.5.12 _needsSave . . . 456
12.30.5.13 _previewAnim . . . 456
12.30.5.14 _qColorMap . . . 456
12.30.5.15 _start . . . 456
12.30.5.16 lastFrameSignal . . . 456
12.30.5.17 MAX_DIM . . . 456
12.31 Ui::KbLightWidget Class Reference . . . 456
12.31.1 Detailed Description . . . 458
12.31.2 Member Function Documentation . . . 458
12.31.2.1 retranslateUi . . . 458
12.31.2.2 setupUi . . . 459
12.31.3 Field Documentation . . . 462
12.31.3.1 animButton . . . 462
12.31.3.2 animWidget . . . 462
12.31.3.3 bgButton . . . 462
12.31.3.4 brightnessBox . . . 462
12.31.3.5 gridLayout . . . 462
12.31.3.6 gridLayout_2 . . . 462
12.31.3.7 gridLayout_4 . . . 462
12.31.3.8 horizontalLayout . . . 462
12.31.3.9 horizontalLayout_2 . . . 462
12.31.3.10 horizontalLayout_3 . . . 463
12.31.3.11 horizontalSpacer_3 . . . 463
12.31.3.12 horizontalSpacer_4 . . . 463
12.31.3.13 horizontalSpacer_5 . . . 463
12.31.3.14 horizontalSpacer_6 . . . 463
12.31.3.15 keyWidget . . . 463
12.31.3.16 label . . . 463
12.31.3.17 label_2 . . . 463
12.31.3.18 label_3 . . . 464
12.31.3.19 line . . . 464
12.31.3.20 line_2 . . . 464
12.31.3.21 selLabel . . . 464
12.31.3.22 showAnimBox . . . 464
12.31.3.23 verticalLayout . . . 464
12.31.3.24 verticalSpacer_2 . . . 464
12.31.3.25 verticalSpacer_3 . . . 464
12.31.3.26 widget . . . 464
12.32 KbLightWidget Class Reference . . . 465

12.32.1 Detailed Description . . . 467
12.32.2 Constructor & Destructor Documentation . . . 467
12.32.2.1 KbLightWidget . . . 467
12.32.2.2 ~KbLightWidget . . . 468
12.32.3 Member Function Documentation . . . 468
12.32.3.1 changeAnim . . . 468
12.32.3.2 changeAnimKeys . . . 468
12.32.3.3 changeColor . . . 469
12.32.3.4 newSelection . . . 470
12.32.3.5 on_animButton_clicked . . . 471
12.32.3.6 on_bgButton_clicked . . . 472
12.32.3.7 on_brightnessBox_activated . . . 472
12.32.3.8 on_showAnimBox_clicked . . . 473
12.32.3.9 setLight . . . 473
12.32.3.10 setMonochrome . . . 475
12.32.3.11 toggleSidelight . . . 475
12.32.3.12 updateLight . . . 476
12.32.4 Field Documentation . . . 477
12.32.4.1 currentSelection . . . 477
12.32.4.2 light . . . 477
12.32.4.3 ui . . . 477
12.33 KbManager Class Reference . . . 478
12.33.1 Detailed Description . . . 480
12.33.2 Constructor & Destructor Documentation . . . 480
12.33.2.1 KbManager . . . 480
12.33.3 Member Function Documentation . . . 481
12.33.3.1 ckbDaemonVersion . . . 481
12.33.3.2 ckbDaemonVersionF . . . 481
12.33.3.3 ckbGuiVersion . . . 482
12.33.3.4 ckbGuiVersionF . . . 482
12.33.3.5 devices . . . 483
12.33.3.6 eventTimer . . . 483
12.33.3.7 fps . . . 483
12.33.3.8 init . . . 484
12.33.3.9 kbConnected . . . 485
12.33.3.10 kbDisconnected . . . 485
12.33.3.11 kbManager . . . 485
12.33.3.12 parseVersionString . . . 486
12.33.3.13 scanKeyboards . . . 486
12.33.3.14 scanTimer . . . 488

12.33.3.15 stop . . . 488
12.33.3.16 versionUpdated . . . 489
12.33.4 Field Documentation . . . 489
12.33.4.1 _daemonVersion . . . 489
12.33.4.2 _devices . . . 489
12.33.4.3 _eventTimer . . . 489
12.33.4.4 _guiVersion . . . 490
12.33.4.5 _kbManager . . . 490
12.33.4.6 _scanTimer . . . 490
12.34 KbMode Class Reference . . . 490
12.34.1 Detailed Description . . . 493
12.34.2 Constructor & Destructor Documentation . . . 493
12.34.2.1 KbMode . . . 493
12.34.2.2 KbMode . . . 494
12.34.2.3 KbMode . . . 494
12.34.2.4 ~KbMode . . . 495
12.34.3 Member Function Documentation . . . 495
12.34.3.1 bind . . . 495
12.34.3.2 doUpdate . . . 496
12.34.3.3 id . . . 496
12.34.3.4 id . . . 497
12.34.3.5 keyMap . . . 497
12.34.3.6 light . . . 498
12.34.3.7 name . . . 499
12.34.3.8 name . . . 499
12.34.3.9 needsSave . . . 499
12.34.3.10 newId . . . 500
12.34.3.11 perf . . . 501
12.34.3.12 save . . . 501
12.34.3.13 setNeedsSave . . . 502
12.34.3.14 setNeedsUpdate . . . 503
12.34.3.15 updated . . . 503
12.34.4 Field Documentation . . . 504
12.34.4.1 _bind . . . 504
12.34.4.2 _id . . . 504
12.34.4.3 _light . . . 504
12.34.4.4 _name . . . 504
12.34.4.5 _needsSave . . . 504
12.34.4.6 _perf . . . 504
12.35 KbPerf Class Reference . . . 504

12.35.1 Detailed Description . . . 508
12.35.2 Member Enumeration Documentation . . . 508
12.35.2.1 height . . . 508
12.35.2.2 i_hw . . . 509
12.35.2.3 indicator . . . 509
12.35.3 Constructor & Destructor Documentation . . . 509
12.35.3.1 KbPerf . . . 509
12.35.3.2 KbPerf . . . 510
12.35.4 Member Function Documentation . . . 511
12.35.4.1 _curDpi . . . 511
12.35.4.2 angleSnap . . . 511
12.35.4.3 angleSnap . . . 512
12.35.4.4 applyIndicators . . . 512
12.35.4.5 baseDpiIdx . . . 513
12.35.4.6 baseDpiIdx . . . 514
12.35.4.7 bind . . . 514
12.35.4.8 didLoad . . . 515
12.35.4.9 dpi . . . 515
12.35.4.10 dpi . . . 516
12.35.4.11 dpi . . . 517
12.35.4.12 dpiColor . . . 517
12.35.4.13 dpiColor . . . 518
12.35.4.14 dpiCycleDown . . . 518
12.35.4.15 dpiCycleUp . . . 519
12.35.4.16 dpiDown . . . 519
12.35.4.17 dpiEnabled . . . 520
12.35.4.18 dpiEnabled . . . 520
12.35.4.19 dpiIndicator . . . 521
12.35.4.20 dpiIndicator . . . 521
12.35.4.21 dpiUp . . . 521
12.35.4.22 getIndicator . . . 522
12.35.4.23 lOpacity . . . 522
12.35.4.24 lOpacity . . . 523
12.35.4.25 liftHeight . . . 523
12.35.4.26 liftHeight . . . 523
12.35.4.27 light . . . 524
12.35.4.28 lightIndicator . . . 524
12.35.4.29 load . . . 525
12.35.4.30 modeParent . . . 527
12.35.4.31 needsSave . . . 527

12.35.4.32 operator= . . . 528
12.35.4.33 popDpi . . . 528
12.35.4.34 pushDpi . . . 529
12.35.4.35 pushDpi . . . 530
12.35.4.36 pushSniper . . . 531
12.35.4.37 save . . . 531
12.35.4.38 setIndicator . . . 532
12.35.4.39 setNeedsUpdate . . . 533
12.35.4.40 settingsUpdated . . . 533
12.35.4.41 sniperDpi . . . 534
12.35.4.42 sniperDpi . . . 534
12.35.4.43 sniperDpi . . . 534
12.35.4.44 update . . . 535
12.35.5 Field Documentation . . . 536
12.35.5.1 _angleSnap . . . 536
12.35.5.2 _dpiIndicator . . . 536
12.35.5.3 _iOpacity . . . 537
12.35.5.4 _liftHeight . . . 537
12.35.5.5 _needsSave . . . 537
12.35.5.6 _needsUpdate . . . 537
12.35.5.7 DPI_COUNT . . . 537
12.35.5.8 DPI_MAX . . . 537
12.35.5.9 DPI_MIN . . . 537
12.35.5.10 dpiBaseIdx . . . 537
12.35.5.11 dpiClr . . . 537
12.35.5.12 dpiCurX . . . 538
12.35.5.13 dpiCurY . . . 538
12.35.5.14 dpiOn . . . 538
12.35.5.15 dpiX . . . 538
12.35.5.16 dpiY . . . 538
12.35.5.17 HW_I_COUNT . . . 538
12.35.5.18 hwIType . . . 538
12.35.5.19 I_COUNT . . . 538
12.35.5.20 iColor . . . 538
12.35.5.21 iEnable . . . 539
12.35.5.22 light100Color . . . 539
12.35.5.23 muteNAColor . . . 539
12.35.5.24 OTHER . . . 539
12.35.5.25 pushedDpis . . . 539
12.35.5.26 runningPushIdx . . . 539

12.35.5.27 SNIPER . . . 539
12.36 KbProfile Class Reference . . . 539
12.36.1 Detailed Description . . . 542
12.36.2 Member Typedef Documentation . . . 542
12.36.2.1 ModeList . . . 542
12.36.3 Constructor & Destructor Documentation . . . 542
12.36.3.1 KbProfile . . . 542
12.36.3.2 KbProfile . . . 543
12.36.3.3 KbProfile . . . 543
12.36.4 Member Function Documentation . . . 544
12.36.4.1 append . . . 544
12.36.4.2 currentMode . . . 544
12.36.4.3 currentMode . . . 545
12.36.4.4 find . . . 545
12.36.4.5 id . . . 546
12.36.4.6 id . . . 546
12.36.4.7 indexOf . . . 547
12.36.4.8 insert . . . 547
12.36.4.9 keyMap . . . 548
12.36.4.10 keyMap . . . 548
12.36.4.11 modeCount . . . 549
12.36.4.12 modes . . . 549
12.36.4.13 modes . . . 550
12.36.4.14 move . . . 550
12.36.4.15 name . . . 551
12.36.4.16 name . . . 551
12.36.4.17 needsSave . . . 552
12.36.4.18 newId . . . 552
12.36.4.19 removeAll . . . 553
12.36.4.20 save . . . 554
12.36.4.21 setNeedsSave . . . 555
12.36.4.22 setNeedsUpdate . . . 555
12.36.5 Field Documentation . . . 556
12.36.5.1 _currentMode . . . 556
12.36.5.2 _id . . . 556
12.36.5.3 _keyMap . . . 556
12.36.5.4 _modes . . . 556
12.36.5.5 _name . . . 557
12.36.5.6 _needsSave . . . 557
12.37 KbProfileDialog Class Reference . . . 557

12.37.1 Detailed Description . . . 558
12.37.2 Constructor & Destructor Documentation . . . 559
12.37.2.1 KbProfileDialog . . . 559
12.37.2.2 ~KbProfileDialog . . . 559
12.37.3 Member Function Documentation . . . 559
12.37.3.1 addNewProfileItem . . . 559
12.37.3.2 on_profileList_currentItemChanged . . . 560
12.37.3.3 on_profileList_customContextMenuRequested . . . 560
12.37.3.4 on_profileList_itemChanged . . . 562
12.37.3.5 on_profileList_itemClicked . . . 563
12.37.3.6 profileList_reordered . . . 564
12.37.3.7 repopulate . . . 564
12.37.4 Field Documentation . . . 565
12.37.4.1 device . . . 565
12.37.4.2 GUID . . . 566
12.37.4.3 NEW_FLAG . . . 566
12.37.4.4 ui . . . 566
12.38 Ui::KbProfileDialog Class Reference . . . 566
12.38.1 Detailed Description . . . 568
12.38.2 Member Function Documentation . . . 568
12.38.2.1 retranslateUi . . . 568
12.38.2.2 setupUi . . . 569
12.38.3 Field Documentation . . . 570
12.38.3.1 buttonBox . . . 570
12.38.3.2 gridLayout . . . 570
12.38.3.3 horizontalSpacer . . . 570
12.38.3.4 horizontalSpacer_2 . . . 570
12.38.3.5 profileList . . . 570
12.39 KbWidget Class Reference . . . 571
12.39.1 Detailed Description . . . 573
12.39.2 Constructor & Destructor Documentation . . . 573
12.39.2.1 KbWidget . . . 573
12.39.2.2 ~KbWidget . . . 575
12.39.3 Member Function Documentation . . . 575
12.39.3.1 addNewModeItem . . . 575
12.39.3.2 devUpdate . . . 576
12.39.3.3 modeChanged . . . 576
12.39.3.4 modeIcon . . . 578
12.39.3.5 modesList_reordered . . . 579
12.39.3.6 modeUpdate . . . 580

12.39.3.7 name . . . 580
12.39.3.8 on_fwUpdButton_clicked . . . 581
12.39.3.9 on_hwSaveButton_clicked . . . 582
12.39.3.10 on_modesList_currentItemChanged . . . 583
12.39.3.11 on_modesList_customContextMenuRequested . . . 584
12.39.3.12 on_modesList_itemChanged . . . 586
12.39.3.13 on_modesList_itemClicked . . . 586
12.39.3.14 on_profileBox_activated . . . 587
12.39.3.15 on_tabWidget_currentChanged . . . 587
12.39.3.16 profileChanged . . . 588
12.39.3.17 showFirstTab . . . 589
12.39.3.18 showFwUpdate . . . 589
12.39.3.19 showLastTab . . . 590
12.39.3.20 updateFwButton . . . 590
12.39.3.21 updateProfileList . . . 591
12.39.4 Field Documentation . . . 592
12.39.4.1 currentMode . . . 592
12.39.4.2 device . . . 592
12.39.4.3 GUID . . . 593
12.39.4.4 hasShownNewFW . . . 593
12.39.4.5 lastAutoSave . . . 593
12.39.4.6 NEW_FLAG . . . 593
12.39.4.7 ui . . . 593
12.40 Ui::KbWidget Class Reference . . . 593
12.40.1 Detailed Description . . . 595
12.40.2 Member Function Documentation . . . 595
12.40.2.1 retranslateUi . . . 595
12.40.2.2 setupUi . . . 596
12.40.3 Field Documentation . . . 599
12.40.3.1 bindTab . . . 599
12.40.3.2 bindWidget . . . 599
12.40.3.3 devTab . . . 599
12.40.3.4 fwLabel . . . 599
12.40.3.5 fwUpdButton . . . 600
12.40.3.6 fwUpdLabel . . . 600
12.40.3.7 fwUpdLayout . . . 600
12.40.3.8 gridLayout . . . 600
12.40.3.9 gridLayout_2 . . . 600
12.40.3.10 gridLayout_3 . . . 600
12.40.3.11 gridLayout_4 . . . 600

12.40.3.12 gridLayout_5 . . . 600
12.40.3.13 gridLayout_7 . . . 600
12.40.3.14 horizontalSpacer_2 . . . 601
12.40.3.15 horizontalSpacer_3 . . . 601
12.40.3.16 hwSaveButton . . . 601
12.40.3.17 kPerfTab . . . 601
12.40.3.18 kPerfWidget . . . 601
12.40.3.19 label_3 . . . 601
12.40.3.20 label_4 . . . 601
12.40.3.21 label_9 . . . 601
12.40.3.22 lightTab . . . 601
12.40.3.23 lightWidget . . . 602
12.40.3.24 modesList . . . 602
12.40.3.25 mPerfTab . . . 602
12.40.3.26 mPerfWidget . . . 602
12.40.3.27 pollLabel . . . 602
12.40.3.28 pollLabel2 . . . 602
12.40.3.29 profileBox . . . 602
12.40.3.30 serialLabel . . . 602
12.40.3.31 tabWidget . . . 602
12.40.3.32 verticalSpacer . . . 603
12.41 Key Struct Reference . . . 603
12.41.1 Detailed Description . . . 604
12.41.2 Member Function Documentation . . . 604
12.41.2.1 friendlyName . . . 604
12.41.2.2 operator bool . . . 604
12.41.2.3 operator! . . . 605
12.41.2.4 storageName . . . 605
12.41.3 Field Documentation . . . 605
12.41.3.1 _friendlyName . . . 605
12.41.3.2 _storageName . . . 605
12.41.3.3 hasLed . . . 605
12.41.3.4 hasScan . . . 605
12.41.3.5 height . . . 606
12.41.3.6 name . . . 606
12.41.3.7 width . . . 606
12.41.3.8 x . . . 606
12.41.3.9 y . . . 606
12.42 KeyAction Class Reference . . . 606
12.42.1 Detailed Description . . . 610

12.42.2 Member Enumeration Documentation . . . 610
12.42.2.1 Type . . . 610
12.42.3 Constructor & Destructor Documentation . . . 611
12.42.3.1 KeyAction . . . 611
12.42.3.2 KeyAction . . . 611
12.42.3.3 ~KeyAction . . . 611
12.42.3.4 KeyAction . . . 611
12.42.4 Member Function Documentation . . . 611
12.42.4.1 adjustDisplay . . . 611
12.42.4.2 animAction . . . 612
12.42.4.3 animInfo . . . 613
12.42.4.4 defaultAction . . . 613
12.42.4.5 dpiAction . . . 614
12.42.4.6 dpiInfo . . . 615
12.42.4.7 driverName . . . 615
12.42.4.8 friendlyName . . . 616
12.42.4.9 isAnim . . . 617
12.42.4.10 isDPI . . . 618
12.42.4.11 isMacro . . . 618
12.42.4.12 isMedia . . . 618
12.42.4.13 isMouse . . . 619
12.42.4.14 isNormal . . . 619
12.42.4.15 isProgram . . . 620
12.42.4.16 isSpecial . . . 620
12.42.4.17 isUnbound . . . 621
12.42.4.18 isValidMacro . . . 621
12.42.4.19 keyEvent . . . 622
12.42.4.20 keyRelease . . . 626
12.42.4.21 lightAction . . . 626
12.42.4.22 lockAction . . . 626
12.42.4.23 macroAction . . . 626
12.42.4.24 macroContent . . . 627
12.42.4.25 macroDisplay . . . 628
12.42.4.26 macroFullLine . . . 628
12.42.4.27 macroLine . . . 629
12.42.4.28 macroTiming . . . 630
12.42.4.29 modeAction . . . 630
12.42.4.30 noAction . . . 631
12.42.4.31 operator QString . . . 631
12.42.4.32 operator= . . . 631

12.42.4.33programAction . . . 631
12.42.4.34programInfo . . . 631
12.42.4.35specialInfo . . . 632
12.42.4.36type . . . 633
12.42.4.37value . . . 633
12.42.5 Field Documentation . . . 633
12.42.5.1 _value . . . 633
12.42.5.2 DPI_CUSTOM . . . 634
12.42.5.3 DPI_CYCLE_DOWN . . . 634
12.42.5.4 DPI_CYCLE_UP . . . 634
12.42.5.5 DPI_DOWN . . . 634
12.42.5.6 DPI_SNIPER . . . 634
12.42.5.7 DPI_UP . . . 634
12.42.5.8 LIGHT_DOWN . . . 634
12.42.5.9 LIGHT_DOWN_WRAP . . . 634
12.42.5.10LIGHT_UP . . . 634
12.42.5.11LIGHT_UP_WRAP . . . 635
12.42.5.12LOCK_OFF . . . 635
12.42.5.13LOCK_ON . . . 635
12.42.5.14LOCK_TOGGLE . . . 635
12.42.5.15MODE_NEXT . . . 635
12.42.5.16MODE_NEXT_WRAP . . . 635
12.42.5.17MODE_PREV . . . 635
12.42.5.18MODE_PREV_WRAP . . . 635
12.42.5.19preProgram . . . 635
12.42.5.20PROGRAM_PR_INDEF . . . 636
12.42.5.21PROGRAM_PR_KPSTOP . . . 636
12.42.5.22PROGRAM_PR_KRSTOP . . . 636
12.42.5.23PROGRAM_PR_MULTI . . . 636
12.42.5.24PROGRAM_RE_INDEF . . . 636
12.42.5.25PROGRAM_RE_KPSTOP . . . 636
12.42.5.26PROGRAM_RE_MULTI . . . 636
12.42.5.27relProgram . . . 636
12.42.5.28sniperValue . . . 636
12.43KeyMap Class Reference . . . 637
12.43.1 Detailed Description . . . 639
12.43.2 Member Enumeration Documentation . . . 639
12.43.2.1 Layout . . . 639
12.43.2.2 Model . . . 640
12.43.3 Constructor & Destructor Documentation . . . 640

12.43.3.1 KeyMap . . . 640
12.43.3.2 KeyMap . . . 641
12.43.4 Member Function Documentation . . . 641
12.43.4.1 byPosition . . . 641
12.43.4.2 contains . . . 641
12.43.4.3 count . . . 642
12.43.4.4 friendlyName . . . 642
12.43.4.5 fromName . . . 644
12.43.4.6 fromStorage . . . 644
12.43.4.7 getLayout . . . 645
12.43.4.8 getLayout . . . 646
12.43.4.9 getModel . . . 646
12.43.4.10 getModel . . . 647
12.43.4.11 height . . . 647
12.43.4.12 isISO . . . 648
12.43.4.13 isISO . . . 648
12.43.4.14 isJP . . . 649
12.43.4.15 isJP . . . 649
12.43.4.16 isKeyboard . . . 650
12.43.4.17 isKeyboard . . . 650
12.43.4.18 isMouse . . . 651
12.43.4.19 isMouse . . . 651
12.43.4.20 key . . . 652
12.43.4.21 keys . . . 653
12.43.4.22 layout . . . 653
12.43.4.23 layoutNames . . . 654
12.43.4.24 locale . . . 654
12.43.4.25 map . . . 655
12.43.4.26 model . . . 656
12.43.4.27 modelHeight . . . 656
12.43.4.28 modelWidth . . . 656
12.43.4.29 name . . . 657
12.43.4.30 operator const QHash< QString, Key > & . . . 657
12.43.4.31 operator[] . . . 657
12.43.4.32 positions . . . 658
12.43.4.33 strLayout . . . 658
12.43.4.34 strModel . . . 659
12.43.4.35 toStorage . . . 659
12.43.4.36 width . . . 660
12.43.5 Field Documentation . . . 660

12.43.5.1 _keys . . . 660
12.43.5.2 keyHeight . . . 660
12.43.5.3 keyLayout . . . 660
12.43.5.4 keyModel . . . 661
12.43.5.5 keyWidth . . . 661
12.44 KeyWidget Class Reference . . . 661
12.44.1 Detailed Description . . . 664
12.44.2 Member Typedef Documentation . . . 664
12.44.2.1 BindMap . . . 664
12.44.3 Member Enumeration Documentation . . . 665
12.44.3.1 anonymous enum . . . 665
12.44.4 Constructor & Destructor Documentation . . . 665
12.44.4.1 KeyWidget . . . 665
12.44.5 Member Function Documentation . . . 665
12.44.5.1 bindMap . . . 665
12.44.5.2 bindMap . . . 666
12.44.5.3 clearAnimation . . . 666
12.44.5.4 clearSelection . . . 666
12.44.5.5 colorMap . . . 667
12.44.5.6 colorMap . . . 667
12.44.5.7 displayColorMap . . . 667
12.44.5.8 drawInfo . . . 668
12.44.5.9 map . . . 668
12.44.5.10 map . . . 669
12.44.5.11 monochrome . . . 669
12.44.5.12 monochrome . . . 670
12.44.5.13 mouseMoveEvent . . . 670
12.44.5.14 mousePressEvent . . . 671
12.44.5.15 mouseReleaseEvent . . . 672
12.44.5.16 paintEvent . . . 673
12.44.5.17 rgbMode . . . 678
12.44.5.18 rgbMode . . . 679
12.44.5.19 selectAll . . . 679
12.44.5.20 selectionChanged . . . 680
12.44.5.21 setAnimation . . . 680
12.44.5.22 setAnimationToSelection . . . 681
12.44.5.23 setSelection . . . 681
12.44.5.24 sidelightToggled . . . 682
12.44.6 Field Documentation . . . 682
12.44.6.1 _bindMap . . . 682

12.44.6.2 _colorMap . . . 683
12.44.6.3 _displayColorMap . . . 683
12.44.6.4 _indicators . . . 683
12.44.6.5 _monochrome . . . 683
12.44.6.6 _rgbMode . . . 683
12.44.6.7 animation . . . 683
12.44.6.8 keyMap . . . 683
12.44.6.9 mouseCurrentX . . . 683
12.44.6.10 mouseCurrentY . . . 683
12.44.6.11 mouseDownMode . . . 684
12.44.6.12 mouseDownX . . . 684
12.44.6.13 mouseDownY . . . 684
12.44.6.14 newSelection . . . 684
12.44.6.15 selection . . . 684
12.45 Ui::KPerfWidget Class Reference . . . 684
12.45.1 Detailed Description . . . 688
12.45.2 Member Function Documentation . . . 688
12.45.2.1 retranslateUi . . . 688
12.45.2.2 setupUi . . . 689
12.45.3 Field Documentation . . . 696
12.45.3.1 capsBox . . . 696
12.45.3.2 capsColorOff . . . 696
12.45.3.3 capsColorOn . . . 696
12.45.3.4 copyButton . . . 696
12.45.3.5 gridLayout . . . 696
12.45.3.6 horizontalLayout . . . 696
12.45.3.7 horizontalLayout_2 . . . 696
12.45.3.8 horizontalSpacer . . . 697
12.45.3.9 horizontalSpacer_2 . . . 697
12.45.3.10 horizontalSpacer_3 . . . 697
12.45.3.11 horizontalSpacer_4 . . . 697
12.45.3.12 horizontalSpacer_5 . . . 697
12.45.3.13 horizontalSpacer_6 . . . 697
12.45.3.14 horizontalSpacer_7 . . . 697
12.45.3.15 horizontalSpacer_8 . . . 697
12.45.3.16 intensityBox . . . 697
12.45.3.17 k95Label1 . . . 698
12.45.3.18 k95Label2 . . . 698
12.45.3.19 k95Label3 . . . 698
12.45.3.20 k95Label4 . . . 698

12.45.3.21k95Label5 698
12.45.3.22k95Label6 698
12.45.3.23k95Line 698
12.45.3.24k95Spacer 698
12.45.3.25abel 698
12.45.3.26abel_10 699
12.45.3.27abel_11 699
12.45.3.28abel_12 699
12.45.3.29abel_14 699
12.45.3.30abel_15 699
12.45.3.31label_16 699
12.45.3.32abel_17 699
12.45.3.33abel_18 699
12.45.3.34abel_19 699
12.45.3.35abel_2 700
12.45.3.36abel_20 700
12.45.3.37abel_21 700
12.45.3.38abel_22 700
12.45.3.39abel_23 700
12.45.3.40abel_24 700
12.45.3.41label_3 700
12.45.3.42abel_4 700
12.45.3.43abel_5 700
12.45.3.44abel_6 701
12.45.3.45abel_7 701
12.45.3.46abel_8 701
12.45.3.47ightBox 701
12.45.3.48ightColor1 701
12.45.3.49ightColor2 701
12.45.3.50ightColor3 701
12.45.3.51line 701
12.45.3.52ine_2 701
12.45.3.53ine_3 702
12.45.3.54ockBox 702
12.45.3.55ockColorOff 702
12.45.3.56ockColorOn 702
12.45.3.57macroBox 702
12.45.3.58macroColorOff 702
12.45.3.59macroColorOn 702
12.45.3.60modeBox 702

12.45.3.61 modeColorOff . . . 702
12.45.3.62 modeColorOn . . . 703
12.45.3.63 muteBox . . . 703
12.45.3.64 muteColorNA . . . 703
12.45.3.65 muteColorOff . . . 703
12.45.3.66 muteColorOn . . . 703
12.45.3.67 numBox . . . 703
12.45.3.68 numColorOff . . . 703
12.45.3.69 numColorOn . . . 703
12.45.3.70 scrollBox . . . 703
12.45.3.71 scrollColorOff . . . 704
12.45.3.72 scrollColorOn . . . 704
12.45.3.73 verticalSpacer . . . 704
12.45.3.74 verticalSpacer_2 . . . 704
12.45.3.75 verticalSpacer_3 . . . 704
12.45.3.76 verticalSpacer_4 . . . 704
12.46 KPerfWidget Class Reference . . . 704
12.46.1 Detailed Description . . . 707
12.46.2 Data Structure Documentation . . . 707
12.46.2.1 struct KPerfWidget::IndicatorUi . . . 707
12.46.3 Member Typedef Documentation . . . 708
12.46.3.1 i_hw . . . 709
12.46.3.2 indicator . . . 709
12.46.4 Member Enumeration Documentation . . . 709
12.46.4.1 HwMode . . . 709
12.46.5 Constructor & Destructor Documentation . . . 709
12.46.5.1 KPerfWidget . . . 709
12.46.5.2 ~KPerfWidget . . . 711
12.46.6 Member Function Documentation . . . 711
12.46.6.1 mode2Raw . . . 711
12.46.6.2 on_copyButton_clicked . . . 712
12.46.6.3 on_intensityBox_valueChanged . . . 713
12.46.6.4 raw2Mode . . . 713
12.46.6.5 setPerf . . . 714
12.46.6.6 uiUpdated . . . 715
12.46.7 Field Documentation . . . 716
12.46.7.1 HW_I_COUNT . . . 716
12.46.7.2 I_COUNT . . . 717
12.46.7.3 indicators . . . 717
12.46.7.4 k95Widgets . . . 717

12.46.7.5 perf . . . 717
12.46.7.6 profile . . . 717
12.46.7.7 ui . . . 717
12.46.7.8 updateMapper . . . 717
12.47 Ui::LayoutDialog Class Reference . . . 717
12.47.1 Detailed Description . . . 719
12.47.2 Member Function Documentation . . . 719
12.47.2.1 retranslateUi . . . 719
12.47.2.2 setupUi . . . 720
12.47.3 Field Documentation . . . 721
12.47.3.1 buttonBox . . . 721
12.47.3.2 comboBox . . . 721
12.47.3.3 gridLayout . . . 721
12.47.3.4 horizontalSpacer . . . 721
12.47.3.5 horizontalSpacer_2 . . . 721
12.47.3.6 label . . . 722
12.47.3.7 label_2 . . . 722
12.47.3.8 verticalSpacer . . . 722
12.47.3.9 verticalSpacer_2 . . . 722
12.47.3.10 verticalSpacer_3 . . . 722
12.47.3.11 verticalSpacer_4 . . . 722
12.48 LayoutDialog Class Reference . . . 722
12.48.1 Detailed Description . . . 724
12.48.2 Constructor & Destructor Documentation . . . 724
12.48.2.1 LayoutDialog . . . 724
12.48.2.2 ~LayoutDialog . . . 724
12.48.3 Member Function Documentation . . . 725
12.48.3.1 selected . . . 725
12.48.4 Field Documentation . . . 725
12.48.4.1 ui . . . 725
12.49 MacroReader Class Reference . . . 725
12.49.1 Detailed Description . . . 727
12.49.2 Constructor & Destructor Documentation . . . 728
12.49.2.1 MacroReader . . . 728
12.49.2.2 MacroReader . . . 728
12.49.2.3 ~MacroReader . . . 728
12.49.3 Member Function Documentation . . . 728
12.49.3.1 startWorkInAThread . . . 728
12.49.4 Field Documentation . . . 729
12.49.4.1 macroReaderThread . . . 729

12.50 MacroReaderThread Class Reference . . . 729
12.50.1 Detailed Description . . . 731
12.50.2 Constructor & Destructor Documentation . . . 731
12.50.2.1 MacroReaderThread . . . 731
12.50.3 Member Function Documentation . . . 732
12.50.3.1 readMacro . . . 732
12.50.3.2 run . . . 732
12.50.4 Field Documentation . . . 733
12.50.4.1 macroBox . . . 733
12.50.4.2 macroNumber . . . 733
12.50.4.3 macroPath . . . 733
12.50.4.4 macroText . . . 733
12.51 Ui::MainWindow Class Reference . . . 733
12.51.1 Detailed Description . . . 735
12.51.2 Member Function Documentation . . . 735
12.51.2.1 retranslateUi . . . 735
12.51.2.2 setupUi . . . 735
12.51.3 Field Documentation . . . 736
12.51.3.1 actionAbout . . . 736
12.51.3.2 actionExit . . . 736
12.51.3.3 centralWidget . . . 737
12.51.3.4 gridLayout . . . 737
12.51.3.5 tabWidget . . . 737
12.52 MainWindow Class Reference . . . 737
12.52.1 Detailed Description . . . 740
12.52.2 Constructor & Destructor Documentation . . . 740
12.52.2.1 MainWindow . . . 740
12.52.2.2 ~MainWindow . . . 741
12.52.3 Member Function Documentation . . . 742
12.52.3.1 addDevice . . . 742
12.52.3.2 checkFwUpdates . . . 743
12.52.3.3 cleanup . . . 743
12.52.3.4 closeEvent . . . 744
12.52.3.5 iconClicked . . . 745
12.52.3.6 quitApp . . . 745
12.52.3.7 removeDevice . . . 746
12.52.3.8 showFwUpdateNotification . . . 746
12.52.3.9 showWindow . . . 747
12.52.3.10 stateChange . . . 748
12.52.3.11 timerTick . . . 749

12.52.3.12 toggleTrayIcon . . . 750
12.52.3.13 updateVersion . . . 750
12.52.4 Field Documentation . . . 751
12.52.4.1 closeAction . . . 751
12.52.4.2 kbWidgets . . . 751
12.52.4.3 mainWindow . . . 751
12.52.4.4 restoreAction . . . 752
12.52.4.5 settingsWidget . . . 752
12.52.4.6 trayIcon . . . 752
12.52.4.7 trayIconMenu . . . 752
12.52.4.8 ui . . . 752
12.53 Ui::ModeSelectDialog Class Reference . . . 752
12.53.1 Detailed Description . . . 754
12.53.2 Member Function Documentation . . . 754
12.53.2.1 retranslateUi . . . 754
12.53.2.2 setupUi . . . 754
12.53.3 Field Documentation . . . 755
12.53.3.1 buttonBox . . . 755
12.53.3.2 gridLayout . . . 756
12.53.3.3 label . . . 756
12.53.3.4 modeList . . . 756
12.53.3.5 selAllButton . . . 756
12.53.3.6 selNoneButton . . . 756
12.54 ModeSelectDialog Class Reference . . . 756
12.54.1 Detailed Description . . . 758
12.54.2 Constructor & Destructor Documentation . . . 758
12.54.2.1 ModeSelectDialog . . . 758
12.54.2.2 ~ModeSelectDialog . . . 759
12.54.3 Member Function Documentation . . . 759
12.54.3.1 on_selAllButton_clicked . . . 759
12.54.3.2 on_selNoneButton_clicked . . . 759
12.54.3.3 selection . . . 759
12.54.4 Field Documentation . . . 760
12.54.4.1 _modeList . . . 760
12.54.4.2 ui . . . 760
12.55 Ui::MPerfWidget Class Reference . . . 760
12.55.1 Detailed Description . . . 763
12.55.2 Member Function Documentation . . . 763
12.55.2.1 retranslateUi . . . 763
12.55.2.2 setupUi . . . 765

12.55.3 Field Documentation . . . 772
12.55.3.1 aSnapBox . . . 772
12.55.3.2 copyButton . . . 772
12.55.3.3 eBox1 . . . 772
12.55.3.4 eBox2 . . . 772
12.55.3.5 eBox3 . . . 772
12.55.3.6 eBox4 . . . 772
12.55.3.7 eBox5 . . . 772
12.55.3.8 gridLayout . . . 773
12.55.3.9 horizontalLayout . . . 773
12.55.3.10 horizontalLayout_2 . . . 773
12.55.3.11 horizontalLayout_4 . . . 773
12.55.3.12 horizontalSpacer . . . 773
12.55.3.13 horizontalSpacer_2 . . . 773
12.55.3.14 horizontalSpacer_3 . . . 773
12.55.3.15 horizontalSpacer_4 . . . 773
12.55.3.16 horizontalSpacer_5 . . . 773
12.55.3.17 horizontalSpacer_6 . . . 774
12.55.3.18 horizontalSpacer_7 . . . 774
12.55.3.19 iButton0 . . . 774
12.55.3.20 iButton1 . . . 774
12.55.3.21 iButton2 . . . 774
12.55.3.22 iButton3 . . . 774
12.55.3.23 iButton4 . . . 774
12.55.3.24 iButton5 . . . 774
12.55.3.25 iButtonO . . . 774
12.55.3.26 indicBox . . . 775
12.55.3.27 label . . . 775
12.55.3.28 label_11 . . . 775
12.55.3.29 label_12 . . . 775
12.55.3.30 label_13 . . . 775
12.55.3.31 label_14 . . . 775
12.55.3.32 label_15 . . . 775
12.55.3.33 label_2 . . . 775
12.55.3.34 label_25 . . . 775
12.55.3.35 label_3 . . . 776
12.55.3.36 label_4 . . . 776
12.55.3.37 label_5 . . . 776
12.55.3.38 label_6 . . . 776
12.55.3.39 label_7 . . . 776

12.55.3.40label_8 . . . 776
12.55.3.41lHeightBox . . . 776
12.55.3.42line . . . 776
12.55.3.43line_2 . . . 776
12.55.3.44line_3 . . . 777
12.55.3.45spinBox . . . 777
12.55.3.46verticalLayout . . . 777
12.55.3.47verticalSpacer . . . 777
12.55.3.48verticalSpacer_2 . . . 777
12.55.3.49verticalSpacer_3 . . . 777
12.55.3.50xBox0 . . . 777
12.55.3.51xBox1 . . . 777
12.55.3.52xBox2 . . . 777
12.55.3.53xBox3 . . . 778
12.55.3.54xBox4 . . . 778
12.55.3.55xBox5 . . . 778
12.55.3.56xSlider0 . . . 778
12.55.3.57xSlider1 . . . 778
12.55.3.58xSlider2 . . . 778
12.55.3.59xSlider3 . . . 778
12.55.3.60xSlider4 . . . 778
12.55.3.61xSlider5 . . . 778
12.55.3.62xyBox . . . 779
12.55.3.63yBox0 . . . 779
12.55.3.64yBox1 . . . 779
12.55.3.65yBox2 . . . 779
12.55.3.66yBox3 . . . 779
12.55.3.67yBox4 . . . 779
12.55.3.68yBox5 . . . 779
12.55.3.69ySlider0 . . . 779
12.55.3.70ySlider1 . . . 779
12.55.3.71ySlider2 . . . 780
12.55.3.72ySlider3 . . . 780
12.55.3.73ySlider4 . . . 780
12.55.3.74ySlider5 . . . 780
12.56MPerfWidget Class Reference . . . 780
12.56.1 Detailed Description . . . 783
12.56.2 Data Structure Documentation . . . 783
12.56.2.1 struct MPerfWidget::DpiUi . . . 783
12.56.3 Constructor & Destructor Documentation . . . 784

12.56.3.1 MPerfWidget . . . 784
12.56.3.2 ~MPerfWidget . . . 786
12.56.4 Member Function Documentation . . . 786
12.56.4.1 boxXChanged . . . 786
12.56.4.2 boxYChanged . . . 787
12.56.4.3 colorChanged . . . 788
12.56.4.4 colorClicked . . . 789
12.56.4.5 enableChanged . . . 789
12.56.4.6 on_aSnapBox_clicked . . . 790
12.56.4.7 on_copyButton_clicked . . . 790
12.56.4.8 on_indicBox_clicked . . . 791
12.56.4.9 on_lHeightBox_activated . . . 791
12.56.4.10 on_spinBox_valueChanged . . . 792
12.56.4.11 on_xyBox_clicked . . . 792
12.56.4.12 setPerf . . . 793
12.56.4.13 sliderXMoved . . . 794
12.56.4.14 sliderYMoved . . . 795
12.56.5 Field Documentation . . . 796
12.56.5.1 _xyLink . . . 796
12.56.5.2 boxXMapper . . . 796
12.56.5.3 boxYMapper . . . 796
12.56.5.4 buttonMapper1 . . . 796
12.56.5.5 buttonMapper2 . . . 797
12.56.5.6 colorLink . . . 797
12.56.5.7 DPI_COUNT . . . 797
12.56.5.8 DPI_MAX . . . 797
12.56.5.9 DPI_MIN . . . 797
12.56.5.10 enableMapper . . . 797
12.56.5.11 isSetting . . . 797
12.56.5.12 perf . . . 797
12.56.5.13 profile . . . 797
12.56.5.14 sliderXMapper . . . 797
12.56.5.15 sliderYMapper . . . 798
12.56.5.16 stages . . . 798
12.56.5.17 ui . . . 798
12.57 GradientDialog::Preset Struct Reference . . . 798
12.57.1 Detailed Description . . . 799
12.57.2 Constructor & Destructor Documentation . . . 799
12.57.2.1 Preset . . . 799
12.57.2.2 Preset . . . 799

12.57.2.3 Preset . . . 799
12.57.3 Field Documentation . . . 799
12.57.3.1 builtIn . . . 799
12.57.3.2 gradient . . . 799
12.57.3.3 name . . . 800
12.58 QDialog Class Reference . . . 800
12.59 QIODevice Class Reference . . . 801
12.60 QIODevice_descriptor Struct Reference . . . 802
12.60.1 Detailed Description . . . 802
12.60.2 Constructor & Destructor Documentation . . . 802
12.60.2.1 QIODevice_descriptor . . . 802
12.60.3 Field Documentation . . . 802
12.60.3.1 pos . . . 802
12.61 QListWidget Class Reference . . . 803
12.62 QMainWindow Class Reference . . . 804
12.63 QObject Class Reference . . . 805
12.64 QPushButton Class Reference . . . 806
12.65 QThread Class Reference . . . 807
12.66 QuaAdler32 Class Reference . . . 808
12.66.1 Detailed Description . . . 809
12.66.2 Constructor & Destructor Documentation . . . 810
12.66.2.1 QuaAdler32 . . . 810
12.66.3 Member Function Documentation . . . 810
12.66.3.1 calculate . . . 810
12.66.3.2 reset . . . 810
12.66.3.3 update . . . 811
12.66.3.4 value . . . 811
12.66.4 Field Documentation . . . 811
12.66.4.1 checksum . . . 811
12.67 QuaChecksum32 Class Reference . . . 811
12.67.1 Detailed Description . . . 813
12.67.2 Member Function Documentation . . . 813
12.67.2.1 calculate . . . 813
12.67.2.2 reset . . . 813
12.67.2.3 update . . . 813
12.67.2.4 value . . . 813
12.68 QuaCrc32 Class Reference . . . 814
12.68.1 Detailed Description . . . 815
12.68.2 Constructor & Destructor Documentation . . . 816
12.68.2.1 QuaCrc32 . . . 816

12.68.3 Member Function Documentation . . . 816
12.68.3.1 calculate . . . 816
12.68.3.2 reset . . . 816
12.68.3.3 update . . . 817
12.68.3.4 value . . . 817
12.68.4 Field Documentation . . . 817
12.68.4.1 checksum . . . 817
12.69 QuaGzipFile Class Reference . . . 817
12.69.1 Detailed Description . . . 820
12.69.2 Constructor & Destructor Documentation . . . 820
12.69.2.1 QuaGzipFile . . . 820
12.69.2.2 QuaGzipFile . . . 820
12.69.2.3 QuaGzipFile . . . 821
12.69.2.4 ~QuaGzipFile . . . 821
12.69.2.5 QuaGzipFile . . . 821
12.69.3 Member Function Documentation . . . 821
12.69.3.1 close . . . 821
12.69.3.2 flush . . . 822
12.69.3.3 getFileName . . . 822
12.69.3.4 isSequential . . . 822
12.69.3.5 open . . . 822
12.69.3.6 open . . . 823
12.69.3.7 operator= . . . 823
12.69.3.8 readData . . . 823
12.69.3.9 setFileName . . . 823
12.69.3.10 writeData . . . 824
12.69.4 Field Documentation . . . 824
12.69.4.1 d . . . 824
12.70 QuaZIODevice Class Reference . . . 824
12.70.1 Detailed Description . . . 827
12.70.2 Constructor & Destructor Documentation . . . 827
12.70.2.1 QuaZIODevice . . . 827
12.70.2.2 ~QuaZIODevice . . . 827
12.70.3 Member Function Documentation . . . 827
12.70.3.1 close . . . 827
12.70.3.2 flush . . . 828
12.70.3.3 getIoDevice . . . 829
12.70.3.4 isSequential . . . 829
12.70.3.5 open . . . 829
12.70.3.6 readData . . . 830

12.70.3.7 writeData . . . 831
12.70.4 Field Documentation . . . 831
12.70.4.1 d . . . 831
12.71 QuaZip Class Reference . . . 832
12.71.1 Detailed Description . . . 834
12.71.2 Member Enumeration Documentation . . . 835
12.71.2.1 CaseSensitivity . . . 835
12.71.2.2 Constants . . . 835
12.71.2.3 Mode . . . 835
12.71.3 Constructor & Destructor Documentation . . . 836
12.71.3.1 QuaZip . . . 836
12.71.3.2 QuaZip . . . 836
12.71.3.3 QuaZip . . . 836
12.71.3.4 QuaZip . . . 836
12.71.3.5 ~QuaZip . . . 836
12.71.4 Member Function Documentation . . . 837
12.71.4.1 close . . . 837
12.71.4.2 convertCaseSensitivity . . . 838
12.71.4.3 getComment . . . 839
12.71.4.4 getCommentCodec . . . 839
12.71.4.5 getCurrentFileInfo . . . 840
12.71.4.6 getCurrentFileInfo . . . 841
12.71.4.7 getCurrentFileName . . . 842
12.71.4.8 getEntriesCount . . . 843
12.71.4.9 getFileInfoList . . . 844
12.71.4.10 getFileInfoList64 . . . 845
12.71.4.11 getFileNameCodec . . . 845
12.71.4.12 getFileNameList . . . 846
12.71.4.13 getIoDevice . . . 846
12.71.4.14 getMode . . . 846
12.71.4.15 getUnzFile . . . 847
12.71.4.16 getZipError . . . 848
12.71.4.17 getZipFile . . . 849
12.71.4.18 getZipName . . . 849
12.71.4.19 goToFirstFile . . . 850
12.71.4.20 goToNextFile . . . 851
12.71.4.21 hasCurrentFile . . . 852
12.71.4.22 isAutoClose . . . 852
12.71.4.23 isDataDescriptorWritingEnabled . . . 852
12.71.4.24 isOpen . . . 853

12.71.4.25 isZip64Enabled . . . 853
12.71.4.26 open . . . 854
12.71.4.27 operator= . . . 857
12.71.4.28 setAutoClose . . . 857
12.71.4.29 setComment . . . 858
12.71.4.30 setCommentCodec . . . 858
12.71.4.31 setCommentCodec . . . 858
12.71.4.32 setCurrentFile . . . 859
12.71.4.33 setDataDescriptorWritingEnabled . . . 860
12.71.4.34 setDefaultFileNameCodec . . . 861
12.71.4.35 setDefaultFileNameCodec . . . 862
12.71.4.36 setFileNameCodec . . . 862
12.71.4.37 setFileNameCodec . . . 862
12.71.4.38 setIoDevice . . . 862
12.71.4.39 setZip64Enabled . . . 863
12.71.4.40 setZipName . . . 863
12.71.5 Friends And Related Function Documentation . . . 864
12.71.5.1 QuaZipPrivate . . . 864
12.71.6 Field Documentation . . . 864
12.71.6.1 p . . . 864
12.72 QuaZipDir Class Reference . . . 864
12.72.1 Detailed Description . . . 867
12.72.2 Constructor & Destructor Documentation . . . 867
12.72.2.1 QuaZipDir . . . 867
12.72.2.2 QuaZipDir . . . 867
12.72.2.3 ~QuaZipDir . . . 868
12.72.3 Member Function Documentation . . . 868
12.72.3.1 caseSensitivity . . . 868
12.72.3.2 cd . . . 868
12.72.3.3 cdUp . . . 870
12.72.3.4 count . . . 870
12.72.3.5 dirName . . . 871
12.72.3.6 entryInfoList . . . 871
12.72.3.7 entryInfoList . . . 872
12.72.3.8 entryInfoList64 . . . 872
12.72.3.9 entryInfoList64 . . . 873
12.72.3.10 entryList . . . 873
12.72.3.11 entryList . . . 874
12.72.3.12 exists . . . 874
12.72.3.13 exists . . . 875

12.72.3.14 filePath . . . 876
12.72.3.15 filter . . . 877
12.72.3.16 isRoot . . . 877
12.72.3.17 nameFilters . . . 877
12.72.3.18 operator!= . . . 878
12.72.3.19 operator= . . . 878
12.72.3.20 operator== . . . 878
12.72.3.21 operator[] . . . 878
12.72.3.22 path . . . 879
12.72.3.23 relativeFilePath . . . 879
12.72.3.24 setCaseSensitivity . . . 879
12.72.3.25 setFilter . . . 880
12.72.3.26 setNameFilters . . . 880
12.72.3.27 setPath . . . 880
12.72.3.28 setSorting . . . 881
12.72.3.29 sorting . . . 881
12.72.4 Field Documentation . . . 881
12.72.4.1 d . . . 881
12.73 QuaZipFile Class Reference . . . 882
12.73.1 Detailed Description . . . 884
12.73.2 Sequential or random-access? . . . 885
12.73.3 Constructor & Destructor Documentation . . . 885
12.73.3.1 QuaZipFile . . . 885
12.73.3.2 QuaZipFile . . . 885
12.73.3.3 QuaZipFile . . . 885
12.73.3.4 QuaZipFile . . . 885
12.73.3.5 QuaZipFile . . . 886
12.73.3.6 QuaZipFile . . . 886
12.73.3.7 ~QuaZipFile . . . 887
12.73.4 Member Function Documentation . . . 887
12.73.4.1 atEnd . . . 887
12.73.4.2 bytesAvailable . . . 888
12.73.4.3 close . . . 888
12.73.4.4 csize . . . 889
12.73.4.5 getActualFileName . . . 890
12.73.4.6 getCaseSensitivity . . . 891
12.73.4.7 getFileInfo . . . 891
12.73.4.8 getFileInfo . . . 892
12.73.4.9 getFileName . . . 893
12.73.4.10 getZip . . . 893

12.73.4.11 getZipError . . . 893
12.73.4.12 getZipName . . . 894
12.73.4.13 isRaw . . . 894
12.73.4.14 isSequential . . . 895
12.73.4.15 open . . . 895
12.73.4.16 open . . . 896
12.73.4.17 open . . . 896
12.73.4.18 open . . . 897
12.73.4.19 operator= . . . 899
12.73.4.20 pos . . . 899
12.73.4.21 readData . . . 900
12.73.4.22 setFileName . . . 901
12.73.4.23 setZip . . . 901
12.73.4.24 setZipName . . . 902
12.73.4.25 size . . . 902
12.73.4.26 usize . . . 903
12.73.4.27 writeData . . . 904
12.73.5 Friends And Related Function Documentation . . . 904
12.73.5.1 QuaZipFilePrivate . . . 905
12.73.6 Field Documentation . . . 905
12.73.6.1 p . . . 905
12.74 QuaZipFileInfo Struct Reference . . . 905
12.74.1 Detailed Description . . . 906
12.74.2 Member Function Documentation . . . 906
12.74.2.1 getPermissions . . . 906
12.74.3 Field Documentation . . . 907
12.74.3.1 comment . . . 907
12.74.3.2 compressedSize . . . 907
12.74.3.3 crc . . . 907
12.74.3.4 dateTime . . . 907
12.74.3.5 diskNumberStart . . . 907
12.74.3.6 externalAttr . . . 907
12.74.3.7 extra . . . 907
12.74.3.8 flags . . . 908
12.74.3.9 internalAttr . . . 908
12.74.3.10 method . . . 908
12.74.3.11 name . . . 908
12.74.3.12 uncompressedSize . . . 908
12.74.3.13 versionCreated . . . 908
12.74.3.14 versionNeeded . . . 908

12.75 QuaZipFileInfo64 Struct Reference . . . 908
12.75.1 Detailed Description . . . 910
12.75.2 Member Function Documentation . . . 910
12.75.2.1 getNTFSaTime . . . 910
12.75.2.2 getNTFScTime . . . 911
12.75.2.3 getNTFSmTime . . . 911
12.75.2.4 getPermissions . . . 912
12.75.2.5 isEncrypted . . . 913
12.75.2.6 toQuaZipFileInfo . . . 913
12.75.3 Field Documentation . . . 914
12.75.3.1 comment . . . 914
12.75.3.2 compressedSize . . . 914
12.75.3.3 crc . . . 914
12.75.3.4 dateTime . . . 914
12.75.3.5 diskNumberStart . . . 914
12.75.3.6 externalAttr . . . 915
12.75.3.7 extra . . . 915
12.75.3.8 flags . . . 915
12.75.3.9 internalAttr . . . 915
12.75.3.10 method . . . 915
12.75.3.11 name . . . 915
12.75.3.12 uncompressedSize . . . 915
12.75.3.13 versionCreated . . . 915
12.75.3.14 versionNeeded . . . 915
12.76 QuaZipFilePrivate Class Reference . . . 916
12.76.1 Detailed Description . . . 917
12.76.2 Constructor & Destructor Documentation . . . 917
12.76.2.1 QuaZipFilePrivate . . . 917
12.76.2.2 QuaZipFilePrivate . . . 917
12.76.2.3 QuaZipFilePrivate . . . 917
12.76.2.4 QuaZipFilePrivate . . . 918
12.76.2.5 ~QuaZipFilePrivate . . . 918
12.76.3 Member Function Documentation . . . 918
12.76.3.1 resetZipError . . . 918
12.76.3.2 setZipError . . . 918
12.76.4 Friends And Related Function Documentation . . . 919
12.76.4.1 QuaZipFile . . . 919
12.76.5 Field Documentation . . . 919
12.76.5.1 caseSensitivity . . . 919
12.76.5.2 crc . . . 919

12.76.5.3 fileName . . . 919
12.76.5.4 internal . . . 920
12.76.5.5 q . . . 920
12.76.5.6 raw . . . 920
12.76.5.7 uncompressedSize . . . 920
12.76.5.8 writePos . . . 920
12.76.5.9 zip . . . 920
12.76.5.10 zipError . . . 920
12.77 QuaZipNewInfo Struct Reference . . . 921
12.77.1 Detailed Description . . . 922
12.77.2 Constructor & Destructor Documentation . . . 922
12.77.2.1 QuaZipNewInfo . . . 922
12.77.2.2 QuaZipNewInfo . . . 922
12.77.2.3 QuaZipNewInfo . . . 923
12.77.2.4 QuaZipNewInfo . . . 924
12.77.3 Member Function Documentation . . . 924
12.77.3.1 setFileDateTime . . . 924
12.77.3.2 setFileNTFSaTime . . . 924
12.77.3.3 setFileNTFScTime . . . 925
12.77.3.4 setFileNTFSmTime . . . 926
12.77.3.5 setFileNTFSTimes . . . 927
12.77.3.6 setFilePermissions . . . 927
12.77.3.7 setPermissions . . . 928
12.77.4 Field Documentation . . . 928
12.77.4.1 comment . . . 928
12.77.4.2 dateTime . . . 928
12.77.4.3 externalAttr . . . 929
12.77.4.4 extraGlobal . . . 929
12.77.4.5 extraLocal . . . 929
12.77.4.6 internalAttr . . . 929
12.77.4.7 name . . . 929
12.77.4.8 uncompressedSize . . . 929
12.78 QuaZipPrivate Class Reference . . . 929
12.78.1 Detailed Description . . . 931
12.78.2 Constructor & Destructor Documentation . . . 931
12.78.2.1 QuaZipPrivate . . . 931
12.78.2.2 QuaZipPrivate . . . 932
12.78.2.3 QuaZipPrivate . . . 932
12.78.3 Member Function Documentation . . . 932
12.78.3.1 addCurrentFileToDirectoryMap . . . 932

12.78.3.2 clearDirectoryMap . . . 933
12.78.3.3 getDefaultFileNameCodec . . . 934
12.78.3.4 getFileInfoList . . . 934
12.78.3.5 goToFirstUnmappedFile . . . 935
12.78.4 Friends And Related Function Documentation . . . 936
12.78.4.1 QuaZip . . . 936
12.78.5 Field Documentation . . . 936
12.78.5.1 "@4 . . . 936
12.78.5.2 autoClose . . . 936
12.78.5.3 comment . . . 936
12.78.5.4 commentCodec . . . 936
12.78.5.5 dataDescriptorWritingEnabled . . . 937
12.78.5.6 defaultFileNameCodec . . . 937
12.78.5.7 directoryCaseInsensitive . . . 937
12.78.5.8 directoryCaseSensitive . . . 937
12.78.5.9 fileNameCodec . . . 937
12.78.5.10 hasCurrentFile_f . . . 937
12.78.5.11 ioDevice . . . 937
12.78.5.12 lastMappedDirectoryEntry . . . 937
12.78.5.13 mode . . . 937
12.78.5.14 q . . . 938
12.78.5.15 zip64 . . . 938
12.78.5.16 zipError . . . 938
12.78.5.17 zipName . . . 938
12.79 QWidget Class Reference . . . 938
12.80 Ui::RebindWidget Class Reference . . . 939
12.80.1 Detailed Description . . . 942
12.80.2 Member Function Documentation . . . 942
12.80.2.1 retranslateUi . . . 942
12.80.2.2 setupUi . . . 945
12.80.3 Field Documentation . . . 955
12.80.3.1 actionTab . . . 955
12.80.3.2 animBox . . . 955
12.80.3.3 animButton . . . 955
12.80.3.4 animKrBox . . . 956
12.80.3.5 animOnceBox . . . 956
12.80.3.6 animTab . . . 956
12.80.3.7 applyButton . . . 956
12.80.3.8 btnClearMacro . . . 956
12.80.3.9 btnStartMacro . . . 956

12.80.3.10btnStopMacro . . . 956
12.80.3.11cancelButton . . . 956
12.80.3.12delayButtons . . . 956
12.80.3.13dpiBox . . . 957
12.80.3.14dpiButton . . . 957
12.80.3.15dpiCustLabel . . . 957
12.80.3.16dpiCustXBox . . . 957
12.80.3.17dpiCustYBox . . . 957
12.80.3.18dpiWarning . . . 957
12.80.3.19fnBox . . . 957
12.80.3.20fnButton . . . 957
12.80.3.21gridLayout . . . 958
12.80.3.22gridLayout_10 . . . 958
12.80.3.23gridLayout_2 . . . 958
12.80.3.24gridLayout_3 . . . 958
12.80.3.25gridLayout_4 . . . 958
12.80.3.26gridLayout_5 . . . 958
12.80.3.27gridLayout_8 . . . 958
12.80.3.28groupBox_2 . . . 958
12.80.3.29groupBox_3 . . . 958
12.80.3.30groupBox_4 . . . 959
12.80.3.31horizontalLayout . . . 959
12.80.3.32horizontalLayout_2 . . . 959
12.80.3.33horizontalLayout_3 . . . 959
12.80.3.34horizontalSpacer . . . 959
12.80.3.35horizontalSpacer_10 . . . 959
12.80.3.36horizontalSpacer_11 . . . 959
12.80.3.37horizontalSpacer_12 . . . 959
12.80.3.38horizontalSpacer_13 . . . 959
12.80.3.39horizontalSpacer_14 . . . 960
12.80.3.40horizontalSpacer_15 . . . 960
12.80.3.41horizontalSpacer_16 . . . 960
12.80.3.42horizontalSpacer_17 . . . 960
12.80.3.43horizontalSpacer_18 . . . 960
12.80.3.44horizontalSpacer_19 . . . 960
12.80.3.45horizontalSpacer_2 . . . 960
12.80.3.46horizontalSpacer_20 . . . 960
12.80.3.47horizontalSpacer_21 . . . 960
12.80.3.48horizontalSpacer_22 . . . 961
12.80.3.49horizontalSpacer_23 . . . 961

12.80.3.50 horizontalSpacer_24 . . . 961
12.80.3.51 horizontalSpacer_25 . . . 961
12.80.3.52 horizontalSpacer_26 . . . 961
12.80.3.53 horizontalSpacer_3 . . . 961
12.80.3.54 horizontalSpacer_4 . . . 961
12.80.3.55 horizontalSpacer_5 . . . 961
12.80.3.56 horizontalSpacer_6 . . . 961
12.80.3.57 horizontalSpacer_7 . . . 962
12.80.3.58 horizontalSpacer_8 . . . 962
12.80.3.59 horizontalSpacer_9 . . . 962
12.80.3.60 keyTab . . . 962
12.80.3.61 label . . . 962
12.80.3.62 layoutWidget . . . 962
12.80.3.63 layoutWidget1 . . . 962
12.80.3.64 layoutWidget2 . . . 962
12.80.3.65 layoutWidget_2 . . . 962
12.80.3.66 lbl_macro . . . 963
12.80.3.67 lightBox . . . 963
12.80.3.68 lightButton . . . 963
12.80.3.69 lightWrapBox . . . 963
12.80.3.70 lockBox . . . 963
12.80.3.71 lockButton . . . 963
12.80.3.72 macroTab . . . 963
12.80.3.73 mb2Box . . . 963
12.80.3.74 mb2Button . . . 964
12.80.3.75 mbBox . . . 964
12.80.3.76 mbButton . . . 964
12.80.3.77 mediaBox . . . 964
12.80.3.78 mediaButton . . . 964
12.80.3.79 modBox . . . 964
12.80.3.80 modButton . . . 964
12.80.3.81 modeBox . . . 964
12.80.3.82 modeButton . . . 965
12.80.3.83 modeWrapBox . . . 965
12.80.3.84 mouseTab . . . 965
12.80.3.85 numBox . . . 965
12.80.3.86 numButton . . . 965
12.80.3.87 programKpBox . . . 965
12.80.3.88 programKpButton . . . 965
12.80.3.89 programKpExtra . . . 966

12.80.3.90 programKpModeBox . . . 966
12.80.3.91 programKpSIBox . . . 966
12.80.3.92 programKrBox . . . 966
12.80.3.93 programKrButton . . . 966
12.80.3.94 programKrExtra . . . 966
12.80.3.95 programKrModeBox . . . 966
12.80.3.96 programKrSIBox . . . 966
12.80.3.97 programTab . . . 967
12.80.3.98 progTipLabel . . . 967
12.80.3.99 pteMacroBox . . . 967
12.80.3.100 pteMacroComment . . . 967
12.80.3.101 pteMacroText . . . 967
12.80.3.102 rb_delay_asTyped . . . 967
12.80.3.103 rb_delay_default . . . 967
12.80.3.104 rb_delay_no . . . 967
12.80.3.105 resetButton . . . 968
12.80.3.106 tabWidget . . . 968
12.80.3.107 txtBuffer . . . 968
12.80.3.108 typingBox . . . 968
12.80.3.109 typingButton . . . 968
12.80.3.110 unbindButton . . . 968
12.80.3.111 verticalLayout . . . 968
12.80.3.112 verticalLayout_2 . . . 968
12.80.3.113 verticalSpacer . . . 969
12.80.3.114 verticalSpacer_10 . . . 969
12.80.3.115 verticalSpacer_11 . . . 969
12.80.3.116 verticalSpacer_2 . . . 969
12.80.3.117 verticalSpacer_3 . . . 969
12.80.3.118 verticalSpacer_4 . . . 969
12.80.3.119 verticalSpacer_5 . . . 969
12.80.3.120 verticalSpacer_6 . . . 969
12.80.3.121 verticalSpacer_7 . . . 969
12.80.3.122 verticalSpacer_8 . . . 970
12.80.3.123 wheelBox . . . 970
12.80.3.124 wheelButton . . . 970
12.81 RebindWidget Class Reference . . . 970
12.81.1 Detailed Description . . . 974
12.81.2 Constructor & Destructor Documentation . . . 974
12.81.2.1 RebindWidget . . . 974
12.81.2.2 ~RebindWidget . . . 975

12.81.3 Member Function Documentation . . . 975
12.81.3.1 applyChanges . . . 975
12.81.3.2 convertMacroBox . . . 977
12.81.3.3 helpStatus . . . 978
12.81.3.4 on_animBox_currentIndexChanged . . . 979
12.81.3.5 on_animButton_clicked . . . 980
12.81.3.6 on_applyButton_clicked . . . 980
12.81.3.7 on_btnClearMacro_clicked . . . 980
12.81.3.8 on_btnStartMacro_clicked . . . 981
12.81.3.9 on_btnStopMacro_clicked . . . 981
12.81.3.10 on_cancelButton_clicked . . . 982
12.81.3.11 on_dpiBox_currentIndexChanged . . . 983
12.81.3.12 on_dpiButton_clicked . . . 984
12.81.3.13 on_fnBox_currentIndexChanged . . . 984
12.81.3.14 on_fnButton_clicked . . . 984
12.81.3.15 on_lightBox_currentIndexChanged . . . 985
12.81.3.16 on_lightButton_clicked . . . 985
12.81.3.17 on_lockBox_currentIndexChanged . . . 985
12.81.3.18 on_lockButton_clicked . . . 986
12.81.3.19 on_mb2Box_currentIndexChanged . . . 986
12.81.3.20 on_mb2Button_clicked . . . 986
12.81.3.21 on_mbBox_currentIndexChanged . . . 986
12.81.3.22 on_mbButton_clicked . . . 987
12.81.3.23 on_mediaBox_currentIndexChanged . . . 987
12.81.3.24 on_mediaButton_clicked . . . 987
12.81.3.25 on_modBox_currentIndexChanged . . . 988
12.81.3.26 on_modButton_clicked . . . 988
12.81.3.27 on_modeBox_currentIndexChanged . . . 988
12.81.3.28 on_modeButton_clicked . . . 989
12.81.3.29 on_numBox_currentIndexChanged . . . 989
12.81.3.30 on_numButton_clicked . . . 989
12.81.3.31 on_programKpBox_textChanged . . . 989
12.81.3.32 on_programKpButton_clicked . . . 990
12.81.3.33 on_programKpSIBox_clicked . . . 990
12.81.3.34 on_programKrBox_textChanged . . . 990
12.81.3.35 on_programKrButton_clicked . . . 991
12.81.3.36 on_programKrSIBox_clicked . . . 991
12.81.3.37 on_pteMacroBox_textChanged . . . 991
12.81.3.38 on_rb_delay_asTyped_toggled . . . 992
12.81.3.39 on_rb_delay_default_toggled . . . 992

12.81.3.40 on_rb_delay_no_toggled . . . 993
12.81.3.41 on_resetButton_clicked . . . 993
12.81.3.42 on_typingBox_currentIndexChanged . . . 994
12.81.3.43 on_typingButton_clicked . . . 994
12.81.3.44 on_unbindButton_clicked . . . 994
12.81.3.45 on_wheelBox_currentIndexChanged . . . 995
12.81.3.46 on_wheelButton_clicked . . . 995
12.81.3.47 setBind . . . 995
12.81.3.48 setBox . . . 998
12.81.3.49 setCorrectRadioButton . . . 999
12.81.3.50 setSelection . . . 1000
12.81.4 Field Documentation . . . 1003
12.81.4.1 bind . . . 1004
12.81.4.2 fnKeys . . . 1004
12.81.4.3 macReader . . . 1004
12.81.4.4 mediaKeys . . . 1004
12.81.4.5 modKeys . . . 1004
12.81.4.6 mouseExtKeys . . . 1004
12.81.4.7 mouseKeys . . . 1004
12.81.4.8 numKeys . . . 1004
12.81.4.9 profile . . . 1004
12.81.4.10 selection . . . 1005
12.81.4.11 TAB_ANIM . . . 1005
12.81.4.12 TAB_KB . . . 1005
12.81.4.13 TAB_MACRO . . . 1005
12.81.4.14 TAB_MOUSE . . . 1005
12.81.4.15 TAB_PROGRAM . . . 1005
12.81.4.16 TAB_SPECIAL . . . 1005
12.81.4.17 typingKeys . . . 1005
12.81.4.18 ui . . . 1005
12.81.4.19 wheelKeys . . . 1006
12.82 RListWidget Class Reference . . . 1006
12.82.1 Detailed Description . . . 1007
12.82.2 Constructor & Destructor Documentation . . . 1008
12.82.2.1 RListWidget . . . 1008
12.82.3 Member Function Documentation . . . 1008
12.82.3.1 change . . . 1008
12.82.3.2 enter . . . 1009
12.82.3.3 orderChanged . . . 1009
12.82.3.4 rescanItems . . . 1010

12.82.3.5 timerTick . . . 1010
12.82.4 Field Documentation . . . 1011
12.82.4.1 currentData . . . 1011
12.82.4.2 DATA_ROLE . . . 1011
12.82.4.3 dragged . . . 1011
12.82.4.4 previousItems . . . 1011
12.82.4.5 reorderTimer . . . 1011
12.83 SettingsWidget Class Reference . . . 1011
12.83.1 Detailed Description . . . 1014
12.83.2 Constructor & Destructor Documentation . . . 1014
12.83.2.1 SettingsWidget . . . 1014
12.83.2.2 ~SettingsWidget . . . 1015
12.83.3 Member Function Documentation . . . 1015
12.83.3.1 on_altBox_activated . . . 1016
12.83.3.2 on_autoFWBox_clicked . . . 1016
12.83.3.3 on_capsBox_activated . . . 1016
12.83.3.4 on_ctrlBox_activated . . . 1017
12.83.3.5 on_extraButton_clicked . . . 1017
12.83.3.6 on_layoutBox_activated . . . 1017
12.83.3.7 on_loginItemBox_clicked . . . 1018
12.83.3.8 on_pushButton_clicked . . . 1018
12.83.3.9 on_shiftBox_activated . . . 1018
12.83.3.10 on_winBox_activated . . . 1019
12.83.3.11 pollUpdates . . . 1019
12.83.3.12 setStatus . . . 1019
12.83.3.13 setVersion . . . 1020
12.83.3.14 showLayoutDialog . . . 1020
12.83.3.15 updateModifiers . . . 1021
12.83.4 Friends And Related Function Documentation . . . 1022
12.83.4.1 MainWindow . . . 1022
12.83.5 Field Documentation . . . 1022
12.83.5.1 extra . . . 1022
12.83.5.2 ui . . . 1022
12.84 Ui::SettingsWidget Class Reference . . . 1023
12.84.1 Detailed Description . . . 1025
12.84.2 Member Function Documentation . . . 1025
12.84.2.1 retranslateUi . . . 1025
12.84.2.2 setupUi . . . 1026
12.84.3 Field Documentation . . . 1030
12.84.3.1 altBox . . . 1030

12.84.3.2 altLabel . . . 1030
12.84.3.3 autoFWBox . . . 1030
12.84.3.4 capsBox . . . 1030
12.84.3.5 capsLabel . . . 1031
12.84.3.6 ctrlBox . . . 1031
12.84.3.7 ctrlLabel . . . 1031
12.84.3.8 devicesLabel . . . 1031
12.84.3.9 extraButton . . . 1031
12.84.3.10 gridLayout . . . 1031
12.84.3.11 gridLayout_3 . . . 1031
12.84.3.12 gridLayout_5 . . . 1031
12.84.3.13 horizontalLayout . . . 1031
12.84.3.14 horizontalLayout_2 . . . 1032
12.84.3.15 horizontalSpacer . . . 1032
12.84.3.16 horizontalSpacer_10 . . . 1032
12.84.3.17 horizontalSpacer_2 . . . 1032
12.84.3.18 horizontalSpacer_7 . . . 1032
12.84.3.19 horizontalSpacer_9 . . . 1032
12.84.3.20 label . . . 1032
12.84.3.21 label_2 . . . 1032
12.84.3.22 label_3 . . . 1032
12.84.3.23 label_5 . . . 1033
12.84.3.24 label_6 . . . 1033
12.84.3.25 label_8 . . . 1033
12.84.3.26 layoutBox . . . 1033
12.84.3.27 line . . . 1033
12.84.3.28 line_2 . . . 1033
12.84.3.29 line_3 . . . 1033
12.84.3.30 loginItemBox . . . 1033
12.84.3.31 pushButton . . . 1033
12.84.3.32 shiftBox . . . 1034
12.84.3.33 shiftLabel . . . 1034
12.84.3.34 versionLabel . . . 1034
12.84.3.35 verticalSpacer . . . 1034
12.84.3.36 verticalSpacer_10 . . . 1034
12.84.3.37 verticalSpacer_2 . . . 1034
12.84.3.38 verticalSpacer_3 . . . 1034
12.84.3.39 verticalSpacer_4 . . . 1034
12.84.3.40 verticalSpacer_5 . . . 1034
12.84.3.41 verticalSpacer_6 . . . 1035

12.84.3.42 verticalSpacer_7 . . . 1035
12.84.3.43 verticalSpacer_8 . . . 1035
12.84.3.44 winBox . . . 1035
12.84.3.45 winLabel . . . 1035
12.85 SGroup Class Reference . . . 1035
12.85.1 Detailed Description . . . 1037
12.85.2 Constructor & Destructor Documentation . . . 1037
12.85.2.1 SGroup . . . 1037
12.85.2.2 ~SGroup . . . 1037
12.85.3 Field Documentation . . . 1037
12.85.3.1 _settings . . . 1037
12.86 Ui_AnimAddDialog Class Reference . . . 1038
12.86.1 Detailed Description . . . 1039
12.86.2 Member Function Documentation . . . 1039
12.86.2.1 retranslateUi . . . 1039
12.86.2.2 setupUi . . . 1039
12.86.3 Field Documentation . . . 1041
12.86.3.1 animBox . . . 1041
12.86.3.2 buttonBox . . . 1041
12.86.3.3 gridLayout . . . 1041
12.86.3.4 horizontalLayout . . . 1041
12.86.3.5 horizontalSpacer . . . 1041
12.86.3.6 horizontalSpacer_2 . . . 1042
12.86.3.7 label . . . 1042
12.86.3.8 label_2 . . . 1042
12.86.3.9 presetBox . . . 1042
12.86.3.10 previewBox . . . 1042
12.86.3.11 verticalSpacer_2 . . . 1042
12.86.3.12 verticalSpacer_3 . . . 1042
12.87 Ui_AnimSettingDialog Class Reference . . . 1042
12.87.1 Detailed Description . . . 1045
12.87.2 Member Function Documentation . . . 1045
12.87.2.1 retranslateUi . . . 1045
12.87.2.2 setupUi . . . 1046
12.87.3 Field Documentation . . . 1049
12.87.3.1 animName . . . 1049
12.87.3.2 buttonBox . . . 1049
12.87.3.3 delayBox . . . 1050
12.87.3.4 gridLayout . . . 1050
12.87.3.5 gridLayout_2 . . . 1050

12.87.3.6 horizontalSpacer . . . 1050
12.87.3.7 horizontalSpacer_2 . . . 1050
12.87.3.8 horizontalSpacer_3 . . . 1050
12.87.3.9 horizontalSpacer_4 . . . 1050
12.87.3.10 horizontalSpacer_5 . . . 1050
12.87.3.11 horizontalSpacer_6 . . . 1050
12.87.3.12 infoTab . . . 1051
12.87.3.13 kpDelayBox . . . 1051
12.87.3.14 kpModeStopBox . . . 1051
12.87.3.15 kpReleaseBox . . . 1051
12.87.3.16 kpRepeatBox . . . 1051
12.87.3.17 kpRepeatLabel . . . 1051
12.87.3.18 kpRepeatLabel_2 . . . 1051
12.87.3.19 label . . . 1051
12.87.3.20 label_10 . . . 1051
12.87.3.21 label_11 . . . 1052
12.87.3.22 label_12 . . . 1052
12.87.3.23 label_13 . . . 1052
12.87.3.24 label_2 . . . 1052
12.87.3.25 label_3 . . . 1052
12.87.3.26 label_4 . . . 1052
12.87.3.27 label_5 . . . 1052
12.87.3.28 label_6 . . . 1052
12.87.3.29 label_7 . . . 1052
12.87.3.30 label_8 . . . 1053
12.87.3.31 label_9 . . . 1053
12.87.3.32 line . . . 1053
12.87.3.33 line_2 . . . 1053
12.87.3.34 repeatBox . . . 1053
12.87.3.35 repeatLabel . . . 1053
12.87.3.36 repeatLabel_2 . . . 1053
12.87.3.37 sAuthorLabel . . . 1053
12.87.3.38 sDescLabel . . . 1053
12.87.3.39 settingsGrid . . . 1054
12.87.3.40 settingTab . . . 1054
12.87.3.41 sLicenseLabel . . . 1054
12.87.3.42 sNameLabel . . . 1054
12.87.3.43 sVerLabel . . . 1054
12.87.3.44 sYearLabel . . . 1054
12.87.3.45 tabWidget . . . 1054

12.87.3.46timeGrid . . . 1054
12.87.3.47timeTab . . . 1054
12.87.3.48verticalSpacer . . . 1055
12.87.3.49verticalSpacer_2 . . . 1055
12.87.3.50verticalSpacer_3 . . . 1055
12.88Ui_ExtraSettingsWidget Class Reference . . . 1055
12.88.1 Detailed Description . . . 1057
12.88.2 Member Function Documentation . . . 1058
12.88.2.1 retranslateUi . . . 1058
12.88.2.2 setupUi . . . 1059
12.88.3 Field Documentation . . . 1062
12.88.3.1 animCountLabel . . . 1062
12.88.3.2 animPathLabel . . . 1063
12.88.3.3 animScanButton . . . 1063
12.88.3.4 brightnessBox . . . 1063
12.88.3.5 buttonBox . . . 1063
12.88.3.6 delayBox . . . 1063
12.88.3.7 ditherBox . . . 1063
12.88.3.8 fpsBox . . . 1063
12.88.3.9 fpsWarnLabel . . . 1063
12.88.3.10gridLayout . . . 1063
12.88.3.11horizontalLayout . . . 1064
12.88.3.12horizontalLayout_2 . . . 1064
12.88.3.13horizontalSpacer . . . 1064
12.88.3.14horizontalSpacer_2 . . . 1064
12.88.3.15horizontalSpacer_3 . . . 1064
12.88.3.16label . . . 1064
12.88.3.17label_10 . . . 1064
12.88.3.18label_11 . . . 1064
12.88.3.19label_2 . . . 1064
12.88.3.20label_3 . . . 1065
12.88.3.21label_5 . . . 1065
12.88.3.22label_6 . . . 1065
12.88.3.23line . . . 1065
12.88.3.24line_2 . . . 1065
12.88.3.25line_3 . . . 1065
12.88.3.26mAccelBox . . . 1065
12.88.3.27osxLabel . . . 1065
12.88.3.28osxLine . . . 1065
12.88.3.29sAccelBox . . . 1066

12.88.3.30 sSpeedBox . . . 1066
12.88.3.31 sSpeedWidget . . . 1066
12.88.3.32 trayBox . . . 1066
12.88.3.33 verticalSpacer . . . 1066
12.88.3.34 verticalSpacer_10 . . . 1066
12.88.3.35 verticalSpacer_11 . . . 1066
12.88.3.36 verticalSpacer_2 . . . 1066
12.88.3.37 verticalSpacer_3 . . . 1066
12.88.3.38 verticalSpacer_4 . . . 1067
12.88.3.39 verticalSpacer_5 . . . 1067
12.88.3.40 verticalSpacer_6 . . . 1067
12.88.3.41 verticalSpacer_7 . . . 1067
12.88.3.42 verticalSpacer_8 . . . 1067
12.88.3.43 verticalSpacer_9 . . . 1067
12.89 Ui_FwUpgradeDialog Class Reference . . . 1067
12.89.1 Detailed Description . . . 1069
12.89.2 Member Function Documentation . . . 1069
12.89.2.1 retranslateUi . . . 1069
12.89.2.2 setupUi . . . 1070
12.89.3 Field Documentation . . . 1071
12.89.3.1 actionButton . . . 1071
12.89.3.2 cancelButton . . . 1072
12.89.3.3 curLabel . . . 1072
12.89.3.4 devLabel . . . 1072
12.89.3.5 gridLayout . . . 1072
12.89.3.6 gridLayout_2 . . . 1072
12.89.3.7 horizontalSpacer . . . 1072
12.89.3.8 horizontalSpacer_2 . . . 1072
12.89.3.9 horizontalSpacer_3 . . . 1072
12.89.3.10 horizontalSpacer_4 . . . 1072
12.89.3.11 label_2 . . . 1073
12.89.3.12 label_4 . . . 1073
12.89.3.13 newLabel . . . 1073
12.89.3.14 progressBar . . . 1073
12.89.3.15 statusLabel . . . 1073
12.90 Ui_GradientDialog Class Reference . . . 1073
12.90.1 Detailed Description . . . 1075
12.90.2 Member Function Documentation . . . 1075
12.90.2.1 retranslateUi . . . 1075
12.90.2.2 setupUi . . . 1076

12.90.3 Field Documentation . . . 1078
12.90.3.1 buttonBox . . . 1078
12.90.3.2 gridLayout . . . 1078
12.90.3.3 gridLayout_2 . . . 1078
12.90.3.4 gridLayout_3 . . . 1078
12.90.3.5 groupBox_2 . . . 1079
12.90.3.6 horizontalLayout . . . 1079
12.90.3.7 horizontalLayout_2 . . . 1079
12.90.3.8 horizontalSpacer . . . 1079
12.90.3.9 horizontalSpacer_2 . . . 1079
12.90.3.10 horizontalSpacer_3 . . . 1079
12.90.3.11 label . . . 1079
12.90.3.12 label_2 . . . 1079
12.90.3.13 presetDelete . . . 1079
12.90.3.14 presetList . . . 1080
12.90.3.15 presetName . . . 1080
12.90.3.16 presetSave . . . 1080
12.90.3.17 stopBox . . . 1080
12.90.3.18 stopColor . . . 1080
12.90.3.19 stopOpacity . . . 1080
12.90.3.20 stopPos . . . 1080
12.90.3.21 verticalSpacer . . . 1080
12.90.3.22 verticalSpacer_2 . . . 1080
12.90.3.23 widget . . . 1081
12.91 Ui_KbAnimWidget Class Reference . . . 1081
12.91.1 Detailed Description . . . 1083
12.91.2 Member Function Documentation . . . 1083
12.91.2.1 retranslateUi . . . 1083
12.91.2.2 setupUi . . . 1083
12.91.3 Field Documentation . . . 1086
12.91.3.1 aCopyLabel . . . 1086
12.91.3.2 aMissingLabel . . . 1086
12.91.3.3 aMissingPage . . . 1086
12.91.3.4 aNameLabel . . . 1086
12.91.3.5 animList . . . 1086
12.91.3.6 animPage . . . 1087
12.91.3.7 aVerLabel . . . 1087
12.91.3.8 blendBox . . . 1087
12.91.3.9 deleteButton . . . 1087
12.91.3.10 gridLayout . . . 1087

12.91.3.11 gridLayout_2 . . . 1087
12.91.3.12 gridLayout_3 . . . 1087
12.91.3.13 gridLayout_4 . . . 1087
12.91.3.14 horizontalLayout . . . 1088
12.91.3.15 horizontalSpacer . . . 1088
12.91.3.16 horizontalSpacer_2 . . . 1088
12.91.3.17 horizontalSpacer_3 . . . 1088
12.91.3.18 horizontalSpacer_4 . . . 1088
12.91.3.19 horizontalSpacer_5 . . . 1088
12.91.3.20 keyButton . . . 1088
12.91.3.21 label_5 . . . 1088
12.91.3.22 label_6 . . . 1088
12.91.3.23 label_7 . . . 1089
12.91.3.24 nameBox . . . 1089
12.91.3.25 noAnimLabel . . . 1089
12.91.3.26 noSelPage . . . 1089
12.91.3.27 opacityBox . . . 1089
12.91.3.28 propertyButton . . . 1089
12.91.3.29 selectionStack . . . 1089
12.91.3.30 verticalLayout . . . 1089
12.91.3.31 verticalSpacer . . . 1089
12.91.3.32 verticalSpacer_2 . . . 1090
12.91.3.33 verticalSpacer_3 . . . 1090
12.92 Ui_KbBindWidget Class Reference . . . 1090
12.92.1 Detailed Description . . . 1091
12.92.2 Member Function Documentation . . . 1092
12.92.2.1 retranslateUi . . . 1092
12.92.2.2 setupUi . . . 1092
12.92.3 Field Documentation . . . 1094
12.92.3.1 copyButton . . . 1094
12.92.3.2 gridLayout . . . 1094
12.92.3.3 gridLayout_2 . . . 1094
12.92.3.4 horizontalLayout_2 . . . 1095
12.92.3.5 horizontalSpacer . . . 1095
12.92.3.6 horizontalSpacer_2 . . . 1095
12.92.3.7 keyWidget . . . 1095
12.92.3.8 label . . . 1095
12.92.3.9 label_2 . . . 1095
12.92.3.10 line . . . 1095
12.92.3.11 line_2 . . . 1095

12.92.3.12 rbWidget . . . 1095
12.92.3.13 resetButton . . . 1096
12.92.3.14 selectLabel . . . 1096
12.92.3.15 verticalLayout . . . 1096
12.92.3.16 verticalSpacer . . . 1096
12.92.3.17 widget . . . 1096
12.93 Ui_KbLightWidget Class Reference . . . 1096
12.93.1 Detailed Description . . . 1098
12.93.2 Member Function Documentation . . . 1098
12.93.2.1 retranslateUi . . . 1098
12.93.2.2 setupUi . . . 1099
12.93.3 Field Documentation . . . 1101
12.93.3.1 animButton . . . 1101
12.93.3.2 animWidget . . . 1102
12.93.3.3 bgButton . . . 1102
12.93.3.4 brightnessBox . . . 1102
12.93.3.5 gridLayout . . . 1102
12.93.3.6 gridLayout_2 . . . 1102
12.93.3.7 gridLayout_4 . . . 1102
12.93.3.8 horizontalLayout . . . 1102
12.93.3.9 horizontalLayout_2 . . . 1102
12.93.3.10 horizontalLayout_3 . . . 1102
12.93.3.11 horizontalSpacer_3 . . . 1103
12.93.3.12 horizontalSpacer_4 . . . 1103
12.93.3.13 horizontalSpacer_5 . . . 1103
12.93.3.14 horizontalSpacer_6 . . . 1103
12.93.3.15 keyWidget . . . 1103
12.93.3.16 label . . . 1103
12.93.3.17 label_2 . . . 1103
12.93.3.18 label_3 . . . 1103
12.93.3.19 line . . . 1103
12.93.3.20 line_2 . . . 1104
12.93.3.21 selLabel . . . 1104
12.93.3.22 showAnimBox . . . 1104
12.93.3.23 verticalLayout . . . 1104
12.93.3.24 verticalSpacer_2 . . . 1104
12.93.3.25 verticalSpacer_3 . . . 1104
12.93.3.26 widget . . . 1104
12.94 Ui_KbProfileDialog Class Reference . . . 1104
12.94.1 Detailed Description . . . 1106

12.94.2 Member Function Documentation . . . 1106
12.94.2.1 retranslateUi . . . 1106
12.94.2.2 setupUi . . . 1106
12.94.3 Field Documentation . . . 1107
12.94.3.1 buttonBox . . . 1107
12.94.3.2 gridLayout . . . 1107
12.94.3.3 horizontalSpacer . . . 1108
12.94.3.4 horizontalSpacer_2 . . . 1108
12.94.3.5 profileList . . . 1108
12.95 Ui_KbWidget Class Reference . . . 1108
12.95.1 Detailed Description . . . 1110
12.95.2 Member Function Documentation . . . 1110
12.95.2.1 retranslateUi . . . 1110
12.95.2.2 setupUi . . . 1111
12.95.3 Field Documentation . . . 1114
12.95.3.1 bindTab . . . 1114
12.95.3.2 bindWidget . . . 1114
12.95.3.3 devTab . . . 1114
12.95.3.4 fwLabel . . . 1114
12.95.3.5 fwUpdButton . . . 1114
12.95.3.6 fwUpdLabel . . . 1115
12.95.3.7 fwUpdLayout . . . 1115
12.95.3.8 gridLayout . . . 1115
12.95.3.9 gridLayout_2 . . . 1115
12.95.3.10 gridLayout_3 . . . 1115
12.95.3.11 gridLayout_4 . . . 1115
12.95.3.12 gridLayout_5 . . . 1115
12.95.3.13 gridLayout_7 . . . 1115
12.95.3.14 horizontalSpacer_2 . . . 1115
12.95.3.15 horizontalSpacer_3 . . . 1116
12.95.3.16 hwSaveButton . . . 1116
12.95.3.17 kPerfTab . . . 1116
12.95.3.18 kPerfWidget . . . 1116
12.95.3.19 label_3 . . . 1116
12.95.3.20 label_4 . . . 1116
12.95.3.21 label_9 . . . 1116
12.95.3.22 lightTab . . . 1116
12.95.3.23 lightWidget . . . 1116
12.95.3.24 modesList . . . 1117
12.95.3.25 mPerfTab . . . 1117

12.95.3.26 mPerfWidget . . . 1117
12.95.3.27 pollLabel . . . 1117
12.95.3.28 pollLabel2 . . . 1117
12.95.3.29 profileBox . . . 1117
12.95.3.30 serialLabel . . . 1117
12.95.3.31 tabWidget . . . 1117
12.95.3.32 verticalSpacer . . . 1117
12.96 Ui_KPerfWidget Class Reference . . . 1118
12.96.1 Detailed Description . . . 1121
12.96.2 Member Function Documentation . . . 1121
12.96.2.1 retranslateUi . . . 1121
12.96.2.2 setupUi . . . 1122
12.96.3 Field Documentation . . . 1128
12.96.3.1 capsBox . . . 1128
12.96.3.2 capsColorOff . . . 1129
12.96.3.3 capsColorOn . . . 1129
12.96.3.4 copyButton . . . 1129
12.96.3.5 gridLayout . . . 1129
12.96.3.6 horizontalLayout . . . 1129
12.96.3.7 horizontalLayout_2 . . . 1129
12.96.3.8 horizontalSpacer . . . 1129
12.96.3.9 horizontalSpacer_2 . . . 1129
12.96.3.10 horizontalSpacer_3 . . . 1129
12.96.3.11 horizontalSpacer_4 . . . 1130
12.96.3.12 horizontalSpacer_5 . . . 1130
12.96.3.13 horizontalSpacer_6 . . . 1130
12.96.3.14 horizontalSpacer_7 . . . 1130
12.96.3.15 horizontalSpacer_8 . . . 1130
12.96.3.16 intensityBox . . . 1130
12.96.3.17 k95Label1 . . . 1130
12.96.3.18 k95Label2 . . . 1130
12.96.3.19 k95Label3 . . . 1130
12.96.3.20 k95Label4 . . . 1131
12.96.3.21 k95Label5 . . . 1131
12.96.3.22 k95Label6 . . . 1131
12.96.3.23 k95Line . . . 1131
12.96.3.24 k95Spacer . . . 1131
12.96.3.25 label . . . 1131
12.96.3.26 label_10 . . . 1131
12.96.3.27 label_11 . . . 1131

12.96.3.28 label_12 . . . 1131
12.96.3.29 label_14 . . . 1132
12.96.3.30 label_15 . . . 1132
12.96.3.31 label_16 . . . 1132
12.96.3.32 label_17 . . . 1132
12.96.3.33 label_18 . . . 1132
12.96.3.34 label_19 . . . 1132
12.96.3.35 label_2 . . . 1132
12.96.3.36 label_20 . . . 1132
12.96.3.37 label_21 . . . 1132
12.96.3.38 label_22 . . . 1133
12.96.3.39 label_23 . . . 1133
12.96.3.40 label_24 . . . 1133
12.96.3.41 label_3 . . . 1133
12.96.3.42 label_4 . . . 1133
12.96.3.43 label_5 . . . 1133
12.96.3.44 label_6 . . . 1133
12.96.3.45 label_7 . . . 1133
12.96.3.46 label_8 . . . 1133
12.96.3.47 lightBox . . . 1134
12.96.3.48 lightColor1 . . . 1134
12.96.3.49 lightColor2 . . . 1134
12.96.3.50 lightColor3 . . . 1134
12.96.3.51 line . . . 1134
12.96.3.52 line_2 . . . 1134
12.96.3.53 line_3 . . . 1134
12.96.3.54 lockBox . . . 1134
12.96.3.55 lockColorOff . . . 1134
12.96.3.56 lockColorOn . . . 1135
12.96.3.57 macroBox . . . 1135
12.96.3.58 macroColorOff . . . 1135
12.96.3.59 macroColorOn . . . 1135
12.96.3.60 modeBox . . . 1135
12.96.3.61 modeColorOff . . . 1135
12.96.3.62 modeColorOn . . . 1135
12.96.3.63 muteBox . . . 1135
12.96.3.64 muteColorNA . . . 1135
12.96.3.65 muteColorOff . . . 1136
12.96.3.66 muteColorOn . . . 1136
12.96.3.67 numBox . . . 1136

12.96.3.68 numColorOff . . . 1136
12.96.3.69 numColorOn . . . 1136
12.96.3.70 scrollBox . . . 1136
12.96.3.71 scrollColorOff . . . 1136
12.96.3.72 scrollColorOn . . . 1136
12.96.3.73 verticalSpacer . . . 1136
12.96.3.74 verticalSpacer_2 . . . 1137
12.96.3.75 verticalSpacer_3 . . . 1137
12.96.3.76 verticalSpacer_4 . . . 1137
12.97 Ui_LayoutDialog Class Reference . . . 1137
12.97.1 Detailed Description . . . 1139
12.97.2 Member Function Documentation . . . 1139
12.97.2.1 retranslateUi . . . 1139
12.97.2.2 setupUi . . . 1139
12.97.3 Field Documentation . . . 1141
12.97.3.1 buttonBox . . . 1141
12.97.3.2 comboBox . . . 1141
12.97.3.3 gridLayout . . . 1141
12.97.3.4 horizontalSpacer . . . 1141
12.97.3.5 horizontalSpacer_2 . . . 1141
12.97.3.6 label . . . 1142
12.97.3.7 label_2 . . . 1142
12.97.3.8 verticalSpacer . . . 1142
12.97.3.9 verticalSpacer_2 . . . 1142
12.97.3.10 verticalSpacer_3 . . . 1142
12.97.3.11 verticalSpacer_4 . . . 1142
12.98 Ui_MainWindow Class Reference . . . 1142
12.98.1 Detailed Description . . . 1144
12.98.2 Member Function Documentation . . . 1144
12.98.2.1 retranslateUi . . . 1144
12.98.2.2 setupUi . . . 1144
12.98.3 Field Documentation . . . 1145
12.98.3.1 actionAbout . . . 1145
12.98.3.2 actionExit . . . 1145
12.98.3.3 centralWidget . . . 1145
12.98.3.4 gridLayout . . . 1146
12.98.3.5 tabWidget . . . 1146
12.99 Ui_ModeSelectDialog Class Reference . . . 1146
12.99.1 Detailed Description . . . 1147
12.99.2 Member Function Documentation . . . 1147

12.99.2.1 retranslateUi . . . 1147
12.99.2.2 setupUi . . . 1148
12.99.3 Field Documentation . . . 1149
12.99.3.1 buttonBox . . . 1149
12.99.3.2 gridLayout . . . 1149
12.99.3.3 label . . . 1149
12.99.3.4 modeList . . . 1149
12.99.3.5 selAllButton . . . 1149
12.99.3.6 selNoneButton . . . 1150
12.100 Ui_MPerfWidget Class Reference . . . 1150
12.100.1 Detailed Description . . . 1152
12.100.2 Member Function Documentation . . . 1153
12.100.2.1 retranslateUi . . . 1153
12.100.2.2 setupUi . . . 1154
12.100.3 Field Documentation . . . 1161
12.100.3.1 aSnapBox . . . 1161
12.100.3.2 copyButton . . . 1161
12.100.3.3 eBox1 . . . 1161
12.100.3.4 eBox2 . . . 1161
12.100.3.5 eBox3 . . . 1161
12.100.3.6 eBox4 . . . 1162
12.100.3.7 eBox5 . . . 1162
12.100.3.8 gridLayout . . . 1162
12.100.3.9 horizontalLayout . . . 1162
12.100.3.10 horizontalLayout_2 . . . 1162
12.100.3.11 horizontalLayout_4 . . . 1162
12.100.3.12 horizontalSpacer . . . 1162
12.100.3.13 horizontalSpacer_2 . . . 1162
12.100.3.14 horizontalSpacer_3 . . . 1162
12.100.3.15 horizontalSpacer_4 . . . 1163
12.100.3.16 horizontalSpacer_5 . . . 1163
12.100.3.17 horizontalSpacer_6 . . . 1163
12.100.3.18 horizontalSpacer_7 . . . 1163
12.100.3.19 mButton0 . . . 1163
12.100.3.20 mButton1 . . . 1163
12.100.3.21 mButton2 . . . 1163
12.100.3.22 mButton3 . . . 1163
12.100.3.23 mButton4 . . . 1163
12.100.3.24 mButton5 . . . 1164
12.100.3.25 mButtonO . . . 1164

12.100.3.26 IndicBox . . . 1164
12.100.3.27 Label . . . 1164
12.100.3.28 Label_11 . . . 1164
12.100.3.29 Label_12 . . . 1164
12.100.3.30 Label_13 . . . 1164
12.100.3.31 Label_14 . . . 1164
12.100.3.32 Label_15 . . . 1164
12.100.3.33 Label_2 . . . 1165
12.100.3.34 Label_25 . . . 1165
12.100.3.35 Label_3 . . . 1165
12.100.3.36 Label_4 . . . 1165
12.100.3.37 Label_5 . . . 1165
12.100.3.38 Label_6 . . . 1165
12.100.3.39 Label_7 . . . 1165
12.100.3.40 Label_8 . . . 1165
12.100.3.41 MHeightBox . . . 1165
12.100.3.42 Line . . . 1166
12.100.3.43 Line_2 . . . 1166
12.100.3.44 Line_3 . . . 1166
12.100.3.45 SpinBox . . . 1166
12.100.3.46 VerticalLayout . . . 1166
12.100.3.47 VerticalSpacer . . . 1166
12.100.3.48 VerticalSpacer_2 . . . 1166
12.100.3.49 VerticalSpacer_3 . . . 1166
12.100.3.50 XBox0 . . . 1166
12.100.3.51 XBox1 . . . 1167
12.100.3.52 XBox2 . . . 1167
12.100.3.53 XBox3 . . . 1167
12.100.3.54 XBox4 . . . 1167
12.100.3.55 XBox5 . . . 1167
12.100.3.56 XSlider0 . . . 1167
12.100.3.57 XSlider1 . . . 1167
12.100.3.58 XSlider2 . . . 1167
12.100.3.59 XSlider3 . . . 1167
12.100.3.60 XSlider4 . . . 1168
12.100.3.61 XSlider5 . . . 1168
12.100.3.62 YBox . . . 1168
12.100.3.63 YBox0 . . . 1168
12.100.3.64 YBox1 . . . 1168
12.100.3.65 YBox2 . . . 1168

12.100.3.66 yBox3 . . . 1168
12.100.3.67 yBox4 . . . 1168
12.100.3.68 yBox5 . . . 1168
12.100.3.69 ySlider0 . . . 1169
12.100.3.70 ySlider1 . . . 1169
12.100.3.71 ySlider2 . . . 1169
12.100.3.72 ySlider3 . . . 1169
12.100.3.73 ySlider4 . . . 1169
12.100.3.74 ySlider5 . . . 1169
12.101 Ui_RebindWidget Class Reference . . . 1169
12.101.1 Detailed Description . . . 1173
12.101.2 Member Function Documentation . . . 1173
12.101.2.1 retranslateUi . . . 1173
12.101.2.2 setupUi . . . 1175
12.101.3 Field Documentation . . . 1185
12.101.3.1 actionTab . . . 1185
12.101.3.2 animBox . . . 1185
12.101.3.3 animButton . . . 1185
12.101.3.4 animKrBox . . . 1186
12.101.3.5 animOnceBox . . . 1186
12.101.3.6 animTab . . . 1186
12.101.3.7 applyButton . . . 1186
12.101.3.8 btnClearMacro . . . 1186
12.101.3.9 btnStartMacro . . . 1186
12.101.3.10 btnStopMacro . . . 1186
12.101.3.11 cancelButton . . . 1186
12.101.3.12 delayButtons . . . 1186
12.101.3.13 dpiBox . . . 1187
12.101.3.14 dpiButton . . . 1187
12.101.3.15 dpiCustLabel . . . 1187
12.101.3.16 dpiCustXBox . . . 1187
12.101.3.17 dpiCustYBox . . . 1187
12.101.3.18 dpiWarning . . . 1187
12.101.3.19 fnBox . . . 1187
12.101.3.20 fnButton . . . 1187
12.101.3.21 gridLayout . . . 1188
12.101.3.22 gridLayout_10 . . . 1188
12.101.3.23 gridLayout_2 . . . 1188
12.101.3.24 gridLayout_3 . . . 1188
12.101.3.25 gridLayout_4 . . . 1188

12.101.3.26 gridLayout_5 . . . 1188
12.101.3.27 gridLayout_8 . . . 1188
12.101.3.28 groupBox_2 . . . 1188
12.101.3.29 groupBox_3 . . . 1188
12.101.3.30 groupBox_4 . . . 1189
12.101.3.31 horizontalLayout . . . 1189
12.101.3.32 horizontalLayout_2 . . . 1189
12.101.3.33 horizontalLayout_3 . . . 1189
12.101.3.34 horizontalSpacer . . . 1189
12.101.3.35 horizontalSpacer_10 . . . 1189
12.101.3.36 horizontalSpacer_11 . . . 1189
12.101.3.37 horizontalSpacer_12 . . . 1189
12.101.3.38 horizontalSpacer_13 . . . 1189
12.101.3.39 horizontalSpacer_14 . . . 1190
12.101.3.40 horizontalSpacer_15 . . . 1190
12.101.3.41 horizontalSpacer_16 . . . 1190
12.101.3.42 horizontalSpacer_17 . . . 1190
12.101.3.43 horizontalSpacer_18 . . . 1190
12.101.3.44 horizontalSpacer_19 . . . 1190
12.101.3.45 horizontalSpacer_2 . . . 1190
12.101.3.46 horizontalSpacer_20 . . . 1190
12.101.3.47 horizontalSpacer_21 . . . 1190
12.101.3.48 horizontalSpacer_22 . . . 1191
12.101.3.49 horizontalSpacer_23 . . . 1191
12.101.3.50 horizontalSpacer_24 . . . 1191
12.101.3.51 horizontalSpacer_25 . . . 1191
12.101.3.52 horizontalSpacer_26 . . . 1191
12.101.3.53 horizontalSpacer_3 . . . 1191
12.101.3.54 horizontalSpacer_4 . . . 1191
12.101.3.55 horizontalSpacer_5 . . . 1191
12.101.3.56 horizontalSpacer_6 . . . 1191
12.101.3.57 horizontalSpacer_7 . . . 1192
12.101.3.58 horizontalSpacer_8 . . . 1192
12.101.3.59 horizontalSpacer_9 . . . 1192
12.101.3.60 keyTab . . . 1192
12.101.3.61 label . . . 1192
12.101.3.62 layoutWidget . . . 1192
12.101.3.63 layoutWidget1 . . . 1192
12.101.3.64 layoutWidget2 . . . 1192
12.101.3.65 layoutWidget_2 . . . 1192

12.101.3.66 ll_macro . . . 1193
12.101.3.67 ightBox . . . 1193
12.101.3.68 ightButton . . . 1193
12.101.3.69 ightWrapBox . . . 1193
12.101.3.70 ockBox . . . 1193
12.101.3.71 ockButton . . . 1193
12.101.3.72 acroTab . . . 1193
12.101.3.73 ab2Box . . . 1193
12.101.3.74 ab2Button . . . 1194
12.101.3.75 abBox . . . 1194
12.101.3.76 abButton . . . 1194
12.101.3.77 ediaBox . . . 1194
12.101.3.78 ediaButton . . . 1194
12.101.3.79 odBox . . . 1194
12.101.3.80 odButton . . . 1194
12.101.3.81 odeBox . . . 1194
12.101.3.82 odeButton . . . 1195
12.101.3.83 odeWrapBox . . . 1195
12.101.3.84 ouseTab . . . 1195
12.101.3.85 umBox . . . 1195
12.101.3.86 umButton . . . 1195
12.101.3.87 rogramKpBox . . . 1195
12.101.3.88 rogramKpButton . . . 1195
12.101.3.89 rogramKpExtra . . . 1195
12.101.3.90 rogramKpModeBox . . . 1195
12.101.3.91 rogramKpSIBox . . . 1196
12.101.3.92 rogramKrBox . . . 1196
12.101.3.93 rogramKrButton . . . 1196
12.101.3.94 rogramKrExtra . . . 1196
12.101.3.95 rogramKrModeBox . . . 1196
12.101.3.96 rogramKrSIBox . . . 1196
12.101.3.97 rogramTab . . . 1196
12.101.3.98 rogTipLabel . . . 1196
12.101.3.99 teMacroBox . . . 1197
12.101.3.100 teMacroComment . . . 1197
12.101.3.101 teMacroText . . . 1197
12.101.3.102 _delay_asTyped . . . 1197
12.101.3.103 _delay_default . . . 1197
12.101.3.104 _delay_no . . . 1197
12.101.3.105 etButton . . . 1197

12.101.3.106 tab Widget . . . 1197
12.101.3.107 text Buffer . . . 1198
12.101.3.108 typingBox . . . 1198
12.101.3.109 typingButton . . . 1198
12.101.3.110 unbindButton . . . 1198
12.101.3.111 verticalLayout . . . 1198
12.101.3.112 verticalLayout_2 . . . 1198
12.101.3.113 verticalSpacer . . . 1198
12.101.3.114 verticalSpacer_10 . . . 1198
12.101.3.115 verticalSpacer_11 . . . 1198
12.101.3.116 verticalSpacer_2 . . . 1199
12.101.3.117 verticalSpacer_3 . . . 1199
12.101.3.118 verticalSpacer_4 . . . 1199
12.101.3.119 verticalSpacer_5 . . . 1199
12.101.3.120 verticalSpacer_6 . . . 1199
12.101.3.121 verticalSpacer_7 . . . 1199
12.101.3.122 verticalSpacer_8 . . . 1199
12.101.3.123 wheelBox . . . 1199
12.101.3.124 wheelButton . . . 1199
12.102 Ui_SettingsWidget Class Reference . . . 1200
12.102.1 Detailed Description . . . 1202
12.102.2 Member Function Documentation . . . 1202
12.102.2.1 retranslateUi . . . 1202
12.102.2.2 setupUi . . . 1203
12.102.3 Field Documentation . . . 1207
12.102.3.1 altBox . . . 1207
12.102.3.2 altLabel . . . 1207
12.102.3.3 autoFWBox . . . 1207
12.102.3.4 capsBox . . . 1207
12.102.3.5 capsLabel . . . 1207
12.102.3.6 ctrlBox . . . 1207
12.102.3.7 ctrlLabel . . . 1207
12.102.3.8 devicesLabel . . . 1208
12.102.3.9 extraButton . . . 1208
12.102.3.10 gridLayout . . . 1208
12.102.3.11 gridLayout_3 . . . 1208
12.102.3.12 gridLayout_5 . . . 1208
12.102.3.13 horizontalLayout . . . 1208
12.102.3.14 horizontalLayout_2 . . . 1208
12.102.3.15 horizontalSpacer . . . 1208

12.102.3.16 horizontalSpacer_10 . . . 1208
12.102.3.17 horizontalSpacer_2 . . . 1209
12.102.3.18 horizontalSpacer_7 . . . 1209
12.102.3.19 horizontalSpacer_9 . . . 1209
12.102.3.20 label . . . 1209
12.102.3.21 label_2 . . . 1209
12.102.3.22 label_3 . . . 1209
12.102.3.23 label_5 . . . 1209
12.102.3.24 label_6 . . . 1209
12.102.3.25 label_8 . . . 1209
12.102.3.26 layoutBox . . . 1210
12.102.3.27 line . . . 1210
12.102.3.28 line_2 . . . 1210
12.102.3.29 line_3 . . . 1210
12.102.3.30 loginItemBox . . . 1210
12.102.3.31 pushButton . . . 1210
12.102.3.32 shiftBox . . . 1210
12.102.3.33 shiftLabel . . . 1210
12.102.3.34 versionLabel . . . 1210
12.102.3.35 verticalSpacer . . . 1211
12.102.3.36 verticalSpacer_10 . . . 1211
12.102.3.37 verticalSpacer_2 . . . 1211
12.102.3.38 verticalSpacer_3 . . . 1211
12.102.3.39 verticalSpacer_4 . . . 1211
12.102.3.40 verticalSpacer_5 . . . 1211
12.102.3.41 verticalSpacer_6 . . . 1211
12.102.3.42 verticalSpacer_7 . . . 1211
12.102.3.43 verticalSpacer_8 . . . 1211
12.102.3.44 winBox . . . 1212
12.102.3.45 winLabel . . . 1212
12.103 UsbId Struct Reference . . . 1212
12.103.1 Detailed Description . . . 1213
12.103.2 Constructor & Destructor Documentation . . . 1213
12.103.2.1 UsbId . . . 1213
12.103.2.2 UsbId . . . 1213
12.103.2.3 UsbId . . . 1213
12.103.3 Member Function Documentation . . . 1213
12.103.3.1 guidString . . . 1213
12.103.3.2 guidString . . . 1214
12.103.3.3 hwModifiedString . . . 1214

12.103.3.4 hwModifiedString . . . 1214
12.103.3.5 modifiedString . . . 1215
12.103.3.6 modifiedString . . . 1215
12.103.3.7 newGuid . . . 1215
12.103.3.8 newModified . . . 1216
12.103.4 Field Documentation . . . 1216
12.103.4.1 guid . . . 1216
12.103.4.2 hwModified . . . 1216
12.103.4.3 modified . . . 1216

13 File Documentation **1217**
13.1 BUILD.md File Reference . . . 1217
13.2 DAEMON.md File Reference . . . 1217
13.3 README.md File Reference . . . 1217
13.4 ROADMAP.md File Reference . . . 1217
13.5 src/ckb-daemon/command.c File Reference . . . 1217
13.5.1 Macro Definition Documentation . . . 1218
13.5.1.1 TRY_WITH_RESET . . . 1218
13.5.2 Function Documentation . . . 1218
13.5.2.1 readcmd . . . 1218
13.5.3 Variable Documentation . . . 1222
13.5.3.1 cmd_strings . . . 1222
13.6 src/ckb-daemon/command.h File Reference . . . 1222
13.6.1 Data Structure Documentation . . . 1224
13.6.1.1 union devcmd . . . 1224
13.6.2 Macro Definition Documentation . . . 1224
13.6.2.1 CMD_COUNT . . . 1224
13.6.2.2 CMD_DEV_COUNT . . . 1225
13.6.3 Typedef Documentation . . . 1225
13.6.3.1 cmdhandler . . . 1225
13.6.3.2 cmdhandler_io . . . 1225
13.6.3.3 cmdhandler_mac . . . 1225
13.6.3.4 devcmd . . . 1225
13.6.4 Enumeration Type Documentation . . . 1225
13.6.4.1 cmd . . . 1225
13.6.5 Function Documentation . . . 1227
13.6.5.1 readcmd . . . 1227
13.7 src/ckb-daemon/device.c File Reference . . . 1231
13.7.1 Function Documentation . . . 1232
13.7.1.1 _start_dev . . . 1232

13.7.1.2 start_dev . . . 1233
13.7.2 Variable Documentation . . . 1234
13.7.2.1 devlistmutex . . . 1234
13.7.2.2 devmutex . . . 1234
13.7.2.3 hwload_mode . . . 1234
13.7.2.4 inputmutex . . . 1234
13.7.2.5 keyboard . . . 1234
13.7.2.6 macromutex . . . 1234
13.7.2.7 macromutex2 . . . 1235
13.7.2.8 macrovar . . . 1235
13.8 src/ckb-daemon/device.h File Reference . . . 1235
13.8.1 Macro Definition Documentation . . . 1236
13.8.1.1 ACT_LIGHT . . . 1236
13.8.1.2 ACT_LOCK . . . 1236
13.8.1.3 ACT_M1 . . . 1236
13.8.1.4 ACT_M2 . . . 1237
13.8.1.5 ACT_M3 . . . 1237
13.8.1.6 ACT_MR_RING . . . 1237
13.8.1.7 ACT_NEXT . . . 1237
13.8.1.8 ACT_NEXT_NOWRAP . . . 1237
13.8.1.9 DEV_MAX . . . 1237
13.8.1.10 dmutex . . . 1237
13.8.1.11 imutex . . . 1237
13.8.1.12 IN_CORSAIR . . . 1237
13.8.1.13 IN_HID . . . 1237
13.8.1.14 IS_CONNECTED . . . 1238
13.8.1.15 mmutex . . . 1238
13.8.1.16 mmutex2 . . . 1238
13.8.1.17 mvar . . . 1238
13.8.1.18 setactive . . . 1238
13.8.2 Function Documentation . . . 1238
13.8.2.1 cmd_active_kb . . . 1238
13.8.2.2 cmd_active_mouse . . . 1239
13.8.2.3 cmd_idle_kb . . . 1239
13.8.2.4 cmd_idle_mouse . . . 1240
13.8.2.5 cmd_pollrate . . . 1240
13.8.2.6 setactive_kb . . . 1241
13.8.2.7 setactive_mouse . . . 1242
13.8.2.8 setmodeindex_nrgb . . . 1244
13.8.2.9 start_dev . . . 1244

13.8.2.10 start_kb_nrgb . . . 1244
13.8.3 Variable Documentation . . . 1245
13.8.3.1 devmutex . . . 1245
13.8.3.2 inputmutex . . . 1245
13.8.3.3 keyboard . . . 1245
13.8.3.4 macromutex . . . 1245
13.8.3.5 macromutex2 . . . 1245
13.8.3.6 macrovar . . . 1245
13.9 src/ckb-daemon/device_keyboard.c File Reference . . . 1245
13.9.1 Function Documentation . . . 1246
13.9.1.1 cmd_active_kb . . . 1246
13.9.1.2 cmd_idle_kb . . . 1247
13.9.1.3 setactive_kb . . . 1247
13.9.1.4 setmodeindex_nrgb . . . 1249
13.9.1.5 start_kb_nrgb . . . 1249
13.10 src/ckb-daemon/device_mouse.c File Reference . . . 1250
13.10.1 Function Documentation . . . 1250
13.10.1.1 cmd_active_mouse . . . 1250
13.10.1.2 cmd_idle_mouse . . . 1251
13.10.1.3 cmd_pollrate . . . 1251
13.10.1.4 setactive_mouse . . . 1252
13.11 src/ckb-daemon/device_vtable.c File Reference . . . 1253
13.11.1 Function Documentation . . . 1254
13.11.1.1 cmd_io_none . . . 1254
13.11.1.2 cmd_macro_none . . . 1254
13.11.1.3 cmd_none . . . 1254
13.11.1.4 int1_int_none . . . 1254
13.11.1.5 int1_void_none . . . 1255
13.11.1.6 loadprofile_none . . . 1255
13.11.2 Variable Documentation . . . 1255
13.11.2.1 vtable_keyboard . . . 1255
13.11.2.2 vtable_keyboard_nonrgb . . . 1255
13.11.2.3 vtable_mouse . . . 1255
13.12 src/ckb-daemon/devnode.c File Reference . . . 1255
13.12.1 Data Structure Documentation . . . 1257
13.12.1.1 struct _readlines_ctx . . . 1257
13.12.2 Macro Definition Documentation . . . 1257
13.12.2.1 MAX_BUFFER . . . 1257
13.12.2.2 S_GID_READ . . . 1257
13.12.3 Function Documentation . . . 1257

13.12.3.1 _mkdevpath . . . 1258
13.12.3.2 _mknotifynode . . . 1260
13.12.3.3 _rmnotifynode . . . 1261
13.12.3.4 _updateconnected . . . 1261
13.12.3.5 mkdevpath . . . 1262
13.12.3.6 mkfwnode . . . 1263
13.12.3.7 mknotifynode . . . 1264
13.12.3.8 readlines . . . 1264
13.12.3.9 readlines_ctx_free . . . 1265
13.12.3.10 readlines_ctx_init . . . 1266
13.12.3.11 rm_recursive . . . 1266
13.12.3.12 rmdevpath . . . 1267
13.12.3.13 rmnotifynode . . . 1268
13.12.3.14 updateconnected . . . 1268
13.12.4 Variable Documentation . . . 1269
13.12.4.1 devpath . . . 1269
13.12.4.2 gid . . . 1269
13.13 src/ckb-daemon/devnode.h File Reference . . . 1269
13.13.1 Macro Definition Documentation . . . 1271
13.13.1.1 S_CUSTOM . . . 1271
13.13.1.2 S_CUSTOM_R . . . 1271
13.13.1.3 S_READ . . . 1271
13.13.1.4 S_READDIR . . . 1271
13.13.1.5 S_READWRITE . . . 1271
13.13.2 Typedef Documentation . . . 1271
13.13.2.1 readlines_ctx . . . 1271
13.13.3 Function Documentation . . . 1271
13.13.3.1 mkdevpath . . . 1271
13.13.3.2 mkfwnode . . . 1272
13.13.3.3 mknotifynode . . . 1273
13.13.3.4 readlines . . . 1274
13.13.3.5 readlines_ctx_free . . . 1274
13.13.3.6 readlines_ctx_init . . . 1275
13.13.3.7 rmdevpath . . . 1275
13.13.3.8 rmnotifynode . . . 1276
13.13.3.9 updateconnected . . . 1277
13.13.4 Variable Documentation . . . 1277
13.13.4.1 devpath . . . 1277
13.13.4.2 gid . . . 1277
13.14 src/ckb-daemon/dpi.c File Reference . . . 1277

13.14.1 Function Documentation . . . 1278
13.14.1.1 cmd_dpi . . . 1278
13.14.1.2 cmd_dpisel . . . 1279
13.14.1.3 cmd_lift . . . 1279
13.14.1.4 cmd_snap . . . 1279
13.14.1.5 loaddpi . . . 1280
13.14.1.6 printdpi . . . 1281
13.14.1.7 savedpi . . . 1281
13.14.1.8 updatedpi . . . 1282
13.15src/ckb-daemon/dpi.h File Reference . . . 1283
13.15.1 Function Documentation . . . 1284
13.15.1.1 cmd_dpi . . . 1284
13.15.1.2 cmd_dpisel . . . 1285
13.15.1.3 cmd_lift . . . 1285
13.15.1.4 cmd_snap . . . 1285
13.15.1.5 loaddpi . . . 1285
13.15.1.6 printdpi . . . 1286
13.15.1.7 savedpi . . . 1287
13.15.1.8 updatedpi . . . 1288
13.16src/ckb-daemon/extra_mac.c File Reference . . . 1289
13.17src/ckb-daemon/firmware.c File Reference . . . 1289
13.17.1 Macro Definition Documentation . . . 1290
13.17.1.1 FW_MAXSIZE . . . 1290
13.17.1.2 FW_NOFILE . . . 1290
13.17.1.3 FW_OK . . . 1290
13.17.1.4 FW_USBFAIL . . . 1290
13.17.1.5 FW_WRONGDEV . . . 1291
13.17.2 Function Documentation . . . 1291
13.17.2.1 cmd_fwupdate . . . 1291
13.17.2.2 fwupdate . . . 1291
13.17.2.3 getfwversion . . . 1293
13.18src/ckb-daemon/firmware.h File Reference . . . 1294
13.18.1 Function Documentation . . . 1295
13.18.1.1 cmd_fwupdate . . . 1295
13.18.1.2 getfwversion . . . 1296
13.19src/ckb-daemon/includes.h File Reference . . . 1297
13.19.1 Macro Definition Documentation . . . 1298
13.19.1.1 __FILE_NOPATH__ . . . 1298
13.19.1.2 ckb_err . . . 1298
13.19.1.3 ckb_err_fn . . . 1299

13.19.1.4 ckb_err_nofile . . . 1299
13.19.1.5 ckb_fatal . . . 1299
13.19.1.6 ckb_fatal_fn . . . 1299
13.19.1.7 ckb_fatal_nofile . . . 1299
13.19.1.8 ckb_info . . . 1299
13.19.1.9 ckb_info_fn . . . 1299
13.19.1.10 ckb_info_nofile . . . 1299
13.19.1.11 ckb_s_err . . . 1299
13.19.1.12 ckb_s_out . . . 1299
13.19.1.13 ckb_warn . . . 1300
13.19.1.14 ckb_warn_fn . . . 1300
13.19.1.15 ckb_warn_nofile . . . 1300
13.19.1.16 INDEX_OF . . . 1300
13.19.1.17 timespec_eq . . . 1300
13.19.1.18 timespec_ge . . . 1300
13.19.1.19 timespec_gt . . . 1300
13.19.1.20 timespec_le . . . 1300
13.19.1.21 timespec_lt . . . 1300
13.19.2 Typedef Documentation . . . 1301
13.19.2.1 uchar . . . 1301
13.19.2.2 ushort . . . 1301
13.19.3 Function Documentation . . . 1301
13.19.3.1 timespec_add . . . 1301
13.20 src/ckb-daemon/input.c File Reference . . . 1301
13.20.1 Macro Definition Documentation . . . 1302
13.20.1.1 IS_WHEEL . . . 1302
13.20.2 Function Documentation . . . 1302
13.20.2.1 _cmd_macro . . . 1302
13.20.2.2 cmd_bind . . . 1304
13.20.2.3 cmd_macro . . . 1305
13.20.2.4 cmd_rebind . . . 1305
13.20.2.5 cmd_unbind . . . 1305
13.20.2.6 freebind . . . 1306
13.20.2.7 initbind . . . 1306
13.20.2.8 inputupdate . . . 1307
13.20.2.9 inputupdate_keys . . . 1308
13.20.2.10 macro_pt_dequeue . . . 1310
13.20.2.11 macro_pt_enqueue . . . 1311
13.20.2.12 macro_pt_first . . . 1311
13.20.2.13 macromask . . . 1312

13.20.2.14 play_macro . . . 1312
13.20.2.15 updateindicators_kb . . . 1314
13.20.3 Variable Documentation . . . 1315
13.20.3.1 pt_head . . . 1315
13.20.3.2 pt_tail . . . 1315
13.21 src/ckb-daemon/input.h File Reference . . . 1315
13.21.1 Data Structure Documentation . . . 1317
13.21.1.1 struct parameter . . . 1317
13.21.1.2 struct ptlist . . . 1317
13.21.2 Macro Definition Documentation . . . 1318
13.21.2.1 IS_MOD . . . 1318
13.21.3 Typedef Documentation . . . 1318
13.21.3.1 parameter_t . . . 1318
13.21.3.2 ptlist_t . . . 1318
13.21.4 Function Documentation . . . 1318
13.21.4.1 cmd_bind . . . 1318
13.21.4.2 cmd_macro . . . 1319
13.21.4.3 cmd_rebind . . . 1319
13.21.4.4 cmd_unbind . . . 1320
13.21.4.5 freebind . . . 1320
13.21.4.6 initbind . . . 1320
13.21.4.7 inputupdate . . . 1321
13.21.4.8 os_inputclose . . . 1322
13.21.4.9 os_inputopen . . . 1322
13.21.4.10 os_keypress . . . 1323
13.21.4.11 os_mousemove . . . 1324
13.21.4.12 os_setupindicators . . . 1325
13.21.4.13 updateindicators_kb . . . 1326
13.22 src/ckb-daemon/input_linux.c File Reference . . . 1326
13.22.1 Function Documentation . . . 1327
13.22.1.1 _ledthread . . . 1327
13.22.1.2 isync . . . 1328
13.22.1.3 os_inputclose . . . 1328
13.22.1.4 os_inputopen . . . 1329
13.22.1.5 os_keypress . . . 1330
13.22.1.6 os_mousemove . . . 1331
13.22.1.7 os_setupindicators . . . 1331
13.22.1.8 uinputopen . . . 1332
13.23 src/ckb-daemon/input_mac.c File Reference . . . 1333
13.24 src/ckb-daemon/input_mac_mouse.c File Reference . . . 1333

13.25 src/ckb-daemon/keymap.c File Reference . . . 1333
13.25.1 Macro Definition Documentation . . . 1334
13.25.1.1 BUTTON_HID_COUNT . . . 1334
13.25.2 Function Documentation . . . 1334
13.25.2.1 corsair_kbcopy . . . 1334
13.25.2.2 corsair_mousecopy . . . 1335
13.25.2.3 hid_kb_translate . . . 1335
13.25.2.4 hid_mouse_translate . . . 1337
13.25.3 Variable Documentation . . . 1338
13.25.3.1 keymap . . . 1338
13.26 src/ckb-daemon/keymap_mac.h File Reference . . . 1338
13.27 src/ckb-daemon/led.c File Reference . . . 1339
13.27.1 Function Documentation . . . 1339
13.27.1.1 cmd_iauto . . . 1339
13.27.1.2 cmd_inotify . . . 1340
13.27.1.3 cmd_ioff . . . 1340
13.27.1.4 cmd_ion . . . 1341
13.27.1.5 cmd_rgb . . . 1341
13.27.1.6 has_key . . . 1342
13.27.1.7 iselect . . . 1342
13.27.1.8 printrgb . . . 1343
13.28 src/ckb-daemon/led.h File Reference . . . 1344
13.28.1 Function Documentation . . . 1345
13.28.1.1 cmd_iauto . . . 1345
13.28.1.2 cmd_inotify . . . 1346
13.28.1.3 cmd_ioff . . . 1346
13.28.1.4 cmd_ion . . . 1347
13.28.1.5 cmd_rgb . . . 1347
13.28.1.6 loadrgb_kb . . . 1348
13.28.1.7 loadrgb_mouse . . . 1350
13.28.1.8 printrgb . . . 1350
13.28.1.9 savergb_kb . . . 1352
13.28.1.10 savergb_mouse . . . 1353
13.28.1.11 updatergb_kb . . . 1354
13.28.1.12 updatergb_mouse . . . 1355
13.29 src/ckb-daemon/led_keyboard.c File Reference . . . 1356
13.29.1 Macro Definition Documentation . . . 1379
13.29.1.1 BR1 . . . 1379
13.29.1.2 BR2 . . . 1379
13.29.1.3 BR4 . . . 1379

13.29.1.4 O0 . . . 1379
13.29.1.5 O1 . . . 1379
13.29.1.6 O2 . . . 1380
13.29.1.7 O3 . . . 1380
13.29.1.8 O4 . . . 1380
13.29.1.9 O5 . . . 1380
13.29.1.10 O6 . . . 1380
13.29.1.11 O7 . . . 1380
13.29.1.12 O8 . . . 1380
13.29.2 Function Documentation . . . 1380
13.29.2.1 loadrgb_kb . . . 1380
13.29.2.2 makergb_512 . . . 1382
13.29.2.3 makergb_full . . . 1383
13.29.2.4 ordered8to3 . . . 1383
13.29.2.5 quantize8to3 . . . 1384
13.29.2.6 rgbcmp . . . 1384
13.29.2.7 savergb_kb . . . 1385
13.29.2.8 updatergb_kb . . . 1386
13.29.3 Variable Documentation . . . 1387
13.29.3.1 bit_reverse_table . . . 1388
13.30 src/ckb-daemon/led_mouse.c File Reference . . . 1389
13.30.1 Function Documentation . . . 1389
13.30.1.1 isblack . . . 1389
13.30.1.2 loadrgb_mouse . . . 1390
13.30.1.3 rgbcmp . . . 1390
13.30.1.4 savergb_mouse . . . 1391
13.30.1.5 updatergb_mouse . . . 1392
13.31 src/ckb-daemon/main.c File Reference . . . 1393
13.31.1 Function Documentation . . . 1393
13.31.1.1 localecase . . . 1393
13.31.1.2 main . . . 1394
13.31.1.3 quit . . . 1396
13.31.1.4 quitWithLock . . . 1397
13.31.1.5 restart . . . 1398
13.31.1.6 sighandler . . . 1399
13.31.1.7 sighandler2 . . . 1400
13.31.1.8 timespec_add . . . 1400
13.31.2 Variable Documentation . . . 1401
13.31.2.1 features_mask . . . 1401
13.31.2.2 hwload_mode . . . 1401

13.31.2.3 main_ac . . . 1401
13.31.2.4 main_av . . . 1401
13.31.2.5 reset_stop . . . 1401
13.32 src/ckb-gradient/main.c File Reference . . . 1401
13.32.1 Data Structure Documentation . . . 1402
13.32.1.1 struct keyAnim . . . 1402
13.32.2 Macro Definition Documentation . . . 1403
13.32.2.1 HOLD . . . 1403
13.32.2.2 NONE . . . 1403
13.32.3 Function Documentation . . . 1403
13.32.3.1 ckb_frame . . . 1404
13.32.3.2 ckb_info . . . 1404
13.32.3.3 ckb_init . . . 1405
13.32.3.4 ckb_keypress . . . 1405
13.32.3.5 ckb_parameter . . . 1406
13.32.3.6 ckb_start . . . 1406
13.32.3.7 ckb_time . . . 1407
13.32.4 Variable Documentation . . . 1407
13.32.4.1 anim . . . 1407
13.32.4.2 animcolor . . . 1407
13.32.4.3 kphold . . . 1407
13.32.4.4 kprelease . . . 1407
13.32.4.5 randomize . . . 1407
13.33 src/ckb-heat/main.c File Reference . . . 1408
13.33.1 Data Structure Documentation . . . 1408
13.33.1.1 struct keyanim . . . 1408
13.33.2 Function Documentation . . . 1409
13.33.2.1 anim_add . . . 1409
13.33.2.2 anim_remove . . . 1410
13.33.2.3 ckb_frame . . . 1410
13.33.2.4 ckb_info . . . 1411
13.33.2.5 ckb_init . . . 1411
13.33.2.6 ckb_keypress . . . 1412
13.33.2.7 ckb_parameter . . . 1412
13.33.2.8 ckb_start . . . 1412
13.33.2.9 ckb_time . . . 1413
13.33.3 Variable Documentation . . . 1413
13.33.3.1 animcolor . . . 1413
13.33.3.2 anims . . . 1413
13.33.3.3 ffade . . . 1413

13.33.3.4 pressestofull . . . 1413
13.33.3.5 randomBright . . . 1413
13.34 src/ckb-mviz/main.c File Reference . . . 1413
13.34.1 Function Documentation . . . 1414
13.34.1.1 anim_add . . . 1414
13.34.1.2 anim_remove . . . 1415
13.34.1.3 ckb_frame . . . 1415
13.34.1.4 ckb_info . . . 1415
13.34.1.5 ckb_init . . . 1416
13.34.1.6 ckb_keypress . . . 1416
13.34.1.7 ckb_parameter . . . 1416
13.34.1.8 ckb_start . . . 1416
13.34.1.9 ckb_time . . . 1417
13.34.1.10 getFreqDec . . . 1417
13.34.1.11 max . . . 1418
13.34.1.12 min . . . 1418
13.34.2 Variable Documentation . . . 1419
13.34.2.1 animcolor . . . 1419
13.34.2.2 gcounter . . . 1419
13.34.2.3 inbuf . . . 1419
13.34.2.4 outbuf . . . 1419
13.34.2.5 pas . . . 1419
13.34.2.6 power . . . 1419
13.34.2.7 powers . . . 1419
13.35 src/ckb-pinwheel/main.c File Reference . . . 1419
13.35.1 Macro Definition Documentation . . . 1420
13.35.1.1 ANGLE . . . 1420
13.35.2 Function Documentation . . . 1421
13.35.2.1 ckb_frame . . . 1421
13.35.2.2 ckb_info . . . 1421
13.35.2.3 ckb_init . . . 1422
13.35.2.4 ckb_keypress . . . 1422
13.35.2.5 ckb_parameter . . . 1422
13.35.2.6 ckb_start . . . 1423
13.35.2.7 ckb_time . . . 1423
13.35.3 Variable Documentation . . . 1423
13.35.3.1 animcolor . . . 1423
13.35.3.2 animlength . . . 1423
13.35.3.3 counter_clock . . . 1423
13.35.3.4 frame . . . 1423

13.35.3.5 symmetric . . . 1423
13.35.3.6 x . . . 1424
13.35.3.7 x_offset . . . 1424
13.35.3.8 y . . . 1424
13.35.3.9 y_offset . . . 1424
13.36 src/ckb-rain/main.c File Reference . . . 1424
13.36.1 Macro Definition Documentation . . . 1425
13.36.1.1 DROP_MAX . . . 1425
13.36.2 Function Documentation . . . 1425
13.36.2.1 ckb_frame . . . 1425
13.36.2.2 ckb_info . . . 1426
13.36.2.3 ckb_init . . . 1427
13.36.2.4 ckb_keypress . . . 1427
13.36.2.5 ckb_parameter . . . 1427
13.36.2.6 ckb_start . . . 1428
13.36.2.7 ckb_time . . . 1428
13.36.2.8 drop_add . . . 1428
13.36.3 Variable Documentation . . . 1429
13.36.3.1 aa . . . 1429
13.36.3.2 ab . . . 1429
13.36.3.3 ag . . . 1429
13.36.3.4 ar . . . 1429
13.36.3.5 drop . . . 1429
13.36.3.6 maxsize . . . 1430
13.36.3.7 period . . . 1430
13.36.3.8 spawn . . . 1430
13.36.3.9 speed . . . 1430
13.36.3.10 tick . . . 1430
13.37 src/ckb-random/main.c File Reference . . . 1430
13.37.1 Data Structure Documentation . . . 1431
13.37.1.1 struct rgb . . . 1431
13.37.2 Function Documentation . . . 1432
13.37.2.1 ckb_frame . . . 1432
13.37.2.2 ckb_info . . . 1432
13.37.2.3 ckb_init . . . 1433
13.37.2.4 ckb_keypress . . . 1433
13.37.2.5 ckb_parameter . . . 1433
13.37.2.6 ckb_start . . . 1433
13.37.2.7 ckb_time . . . 1434
13.37.2.8 newtarget . . . 1434

13.37.3 Variable Documentation . . . 1435
13.37.3.1 current . . . 1435
13.37.3.2 fadein . . . 1435
13.37.3.3 phase . . . 1435
13.37.3.4 target . . . 1435
13.37.3.5 useopacity . . . 1435
13.38 src/ckb-ripple/main.c File Reference . . . 1435
13.38.1 Macro Definition Documentation . . . 1437
13.38.1.1 ANIM_MAX . . . 1437
13.38.2 Function Documentation . . . 1437
13.38.2.1 anim_add . . . 1437
13.38.2.2 anim_remove . . . 1437
13.38.2.3 ckb_frame . . . 1437
13.38.2.4 ckb_info . . . 1438
13.38.2.5 ckb_init . . . 1439
13.38.2.6 ckb_keypress . . . 1439
13.38.2.7 ckb_parameter . . . 1439
13.38.2.8 ckb_start . . . 1440
13.38.2.9 ckb_time . . . 1440
13.38.3 Variable Documentation . . . 1440
13.38.3.1 anim . . . 1441
13.38.3.2 animcolor . . . 1441
13.38.3.3 animlength . . . 1441
13.38.3.4 kbsize . . . 1441
13.38.3.5 kprelease . . . 1441
13.38.3.6 randomize . . . 1441
13.38.3.7 symmetric . . . 1441
13.38.3.8 x_offset . . . 1441
13.38.3.9 y_offset . . . 1441
13.39 src/ckb-wave/main.c File Reference . . . 1441
13.39.1 Macro Definition Documentation . . . 1443
13.39.1.1 ANIM_MAX . . . 1443
13.39.2 Function Documentation . . . 1443
13.39.2.1 anim_add . . . 1443
13.39.2.2 anim_remove . . . 1443
13.39.2.3 ckb_frame . . . 1443
13.39.2.4 ckb_info . . . 1444
13.39.2.5 ckb_init . . . 1445
13.39.2.6 ckb_keypress . . . 1446
13.39.2.7 ckb_parameter . . . 1446

13.39.2.8 ckb_start . . . 1447
13.39.2.9 ckb_time . . . 1448
13.39.3 Variable Documentation . . . 1449
13.39.3.1 angle . . . 1449
13.39.3.2 anim . . . 1449
13.39.3.3 animcolor . . . 1449
13.39.3.4 animlength . . . 1449
13.39.3.5 kprelease . . . 1449
13.39.3.6 left . . . 1449
13.39.3.7 symmetric . . . 1449
13.39.3.8 top . . . 1449
13.39.3.9 width . . . 1449
13.40 src/ckb-daemon/notify.c File Reference . . . 1449
13.40.1 Macro Definition Documentation . . . 1450
13.40.1.1 HW_STANDARD . . . 1450
13.40.1.2 HWMODE_OR_RETURN . . . 1451
13.40.2 Function Documentation . . . 1451
13.40.2.1 _cmd_get . . . 1451
13.40.2.2 cmd_get . . . 1453
13.40.2.3 cmd_notify . . . 1454
13.40.2.4 cmd_restart . . . 1454
13.40.2.5 nprintf . . . 1455
13.40.2.6 nprintind . . . 1456
13.40.2.7 nprintkey . . . 1456
13.40.2.8 restart . . . 1457
13.41 src/ckb-daemon/notify.h File Reference . . . 1458
13.41.1 Function Documentation . . . 1459
13.41.1.1 cmd_get . . . 1459
13.41.1.2 cmd_notify . . . 1460
13.41.1.3 cmd_restart . . . 1460
13.41.1.4 nprintf . . . 1460
13.41.1.5 nprintind . . . 1461
13.41.1.6 nprintkey . . . 1462
13.42 src/ckb-daemon/os.h File Reference . . . 1463
13.42.1 Macro Definition Documentation . . . 1463
13.42.1.1 _DEFAULT_SOURCE . . . 1463
13.42.1.2 _GNU_SOURCE . . . 1464
13.42.1.3 euid_guard_start . . . 1464
13.42.1.4 euid_guard_stop . . . 1464
13.42.1.5 UINPUT_VERSION . . . 1464

13.43 src/ckb-daemon/profile.c File Reference . . . 1464
13.43.1 Function Documentation . . . 1465
13.43.1.1 _freeprofile . . . 1465
13.43.1.2 allocprofile . . . 1466
13.43.1.3 cmd_erase . . . 1467
13.43.1.4 cmd_eraseprofile . . . 1467
13.43.1.5 cmd_id . . . 1468
13.43.1.6 cmd_name . . . 1468
13.43.1.7 cmd_profileid . . . 1469
13.43.1.8 cmd_profilename . . . 1469
13.43.1.9 freemode . . . 1470
13.43.1.10 freeprofile . . . 1470
13.43.1.11 gethwmodename . . . 1471
13.43.1.12 gethwprofilename . . . 1471
13.43.1.13 getid . . . 1472
13.43.1.14 getmodename . . . 1473
13.43.1.15 getprofilename . . . 1473
13.43.1.16 hwtonative . . . 1474
13.43.1.17 initmode . . . 1475
13.43.1.18 loadprofile . . . 1476
13.43.1.19 nativetohw . . . 1476
13.43.1.20 printname . . . 1476
13.43.1.21 setid . . . 1477
13.43.1.22 u16dec . . . 1478
13.43.1.23 u16enc . . . 1478
13.43.1.24 urldecode2 . . . 1479
13.43.1.25 urlencode2 . . . 1480
13.43.2 Variable Documentation . . . 1480
13.43.2.1 utf16to8 . . . 1481
13.43.2.2 utf8to16 . . . 1481
13.44 src/ckb-daemon/profile.h File Reference . . . 1481
13.44.1 Macro Definition Documentation . . . 1482
13.44.1.1 hwloadprofile . . . 1482
13.44.2 Function Documentation . . . 1482
13.44.2.1 allocprofile . . . 1482
13.44.2.2 cmd_erase . . . 1483
13.44.2.3 cmd_eraseprofile . . . 1483
13.44.2.4 cmd_hwload_kb . . . 1484
13.44.2.5 cmd_hwload_mouse . . . 1485
13.44.2.6 cmd_hwsave_kb . . . 1486

13.44.2.7 cmd_hwsave_mouse . . . 1487
13.44.2.8 cmd_id . . . 1488
13.44.2.9 cmd_name . . . 1488
13.44.2.10 cmd_profileid . . . 1489
13.44.2.11 cmd_profilename . . . 1489
13.44.2.12 freeprofile . . . 1490
13.44.2.13 gethwmodename . . . 1490
13.44.2.14 gethwprofilename . . . 1491
13.44.2.15 getid . . . 1492
13.44.2.16 getmodename . . . 1492
13.44.2.17 getprofilename . . . 1493
13.44.2.18 hwtonative . . . 1494
13.44.2.19 loadprofile . . . 1494
13.44.2.20 nativetohw . . . 1495
13.44.2.21 setid . . . 1495
13.45 src/ckb-daemon/profile_keyboard.c File Reference . . . 1496
13.45.1 Function Documentation . . . 1496
13.45.1.1 cmd_hwload_kb . . . 1496
13.45.1.2 cmd_hwsave_kb . . . 1497
13.45.1.3 hwloadmode . . . 1498
13.46 src/ckb-daemon/profile_mouse.c File Reference . . . 1499
13.46.1 Function Documentation . . . 1499
13.46.1.1 cmd_hwload_mouse . . . 1500
13.46.1.2 cmd_hwsave_mouse . . . 1501
13.47 src/ckb-daemon/structures.h File Reference . . . 1501
13.47.1 Data Structure Documentation . . . 1503
13.47.1.1 struct usbid . . . 1503
13.47.1.2 struct macroaction . . . 1504
13.47.1.3 struct keymacro . . . 1505
13.47.1.4 struct binding . . . 1506
13.47.1.5 struct dpiset . . . 1507
13.47.1.6 struct lighting . . . 1508
13.47.1.7 struct usbmode . . . 1509
13.47.1.8 struct usbprofile . . . 1510
13.47.1.9 struct hwprofile . . . 1511
13.47.1.10 struct usbinput . . . 1512
13.47.1.11 struct usbdevice . . . 1513
13.47.2 Macro Definition Documentation . . . 1515
13.47.2.1 CLEAR_KEYBIT . . . 1515
13.47.2.2 DPI_COUNT . . . 1515

13.47.2.3 FEAT_ADJRATE . . . 1515
13.47.2.4 FEAT_ANSI . . . 1515
13.47.2.5 FEAT_BIND . . . 1515
13.47.2.6 FEAT_COMMON . . . 1515
13.47.2.7 FEAT_FWUPDATE . . . 1515
13.47.2.8 FEAT_FWVERSION . . . 1516
13.47.2.9 FEAT_HWLOAD . . . 1516
13.47.2.10 FEAT_ISO . . . 1516
13.47.2.11 FEAT_LMASK . . . 1516
13.47.2.12 FEAT_MONOCHROME . . . 1516
13.47.2.13 FEAT_MOUSEACCEL . . . 1516
13.47.2.14 FEAT_NOTIFY . . . 1516
13.47.2.15 FEAT_POLLRATE . . . 1516
13.47.2.16 FEAT_RGB . . . 1516
13.47.2.17 FEAT_STD_NRGB . . . 1517
13.47.2.18 FEAT_STD_RGB . . . 1517
13.47.2.19 HAS_ANY_FEATURE . . . 1517
13.47.2.20 HAS_FEATURES . . . 1517
13.47.2.21 HWMODE_K70 . . . 1517
13.47.2.22 HWMODE_K95 . . . 1517
13.47.2.23 HWMODE_MAX . . . 1517
13.47.2.24 I_CAPS . . . 1517
13.47.2.25 I_NUM . . . 1517
13.47.2.26 I_SCROLL . . . 1517
13.47.2.27 IFACE_MAX . . . 1518
13.47.2.28 KB_NAME_LEN . . . 1518
13.47.2.29 LIFT_MAX . . . 1518
13.47.2.30 LIFT_MIN . . . 1518
13.47.2.31 MACRO_MAX . . . 1518
13.47.2.32 MD_NAME_LEN . . . 1518
13.47.2.33 MODE_COUNT . . . 1518
13.47.2.34 MSG_SIZE . . . 1518
13.47.2.35 NEEDS_FW_UPDATE . . . 1518
13.47.2.36 OUTFIFO_MAX . . . 1519
13.47.2.37 PR_NAME_LEN . . . 1519
13.47.2.38 SCROLL_ACCELERATED . . . 1519
13.47.2.39 SCROLL_MAX . . . 1519
13.47.2.40 SCROLL_MIN . . . 1519
13.47.2.41 SERIAL_LEN . . . 1519
13.47.2.42 SET_KEYBIT . . . 1519

13.47.3 Variable Documentation . . . 1519
13.47.3.1 vtable_keyboard . . . 1519
13.47.3.2 vtable_keyboard_nonrgb . . . 1519
13.47.3.3 vtable_mouse . . . 1520
13.48 src/ckb-daemon/usb.c File Reference . . . 1520
13.48.1 Function Documentation . . . 1521
13.48.1.1 _resetusb . . . 1521
13.48.1.2 _setupusb . . . 1521
13.48.1.3 _usbrecv . . . 1526
13.48.1.4 _usbsend . . . 1527
13.48.1.5 closeusb . . . 1528
13.48.1.6 devmain . . . 1530
13.48.1.7 get_vtable . . . 1532
13.48.1.8 product_str . . . 1533
13.48.1.9 revertusb . . . 1534
13.48.1.10 setupusb . . . 1535
13.48.1.11 usb_tryreset . . . 1536
13.48.1.12 vendor_str . . . 1537
13.48.2 Variable Documentation . . . 1537
13.48.2.1 features_mask . . . 1537
13.48.2.2 hwload_mode . . . 1537
13.48.2.3 reset_stop . . . 1538
13.48.2.4 usbmutex . . . 1538
13.49 src/ckb-daemon/usb.h File Reference . . . 1538
13.49.1 Detailed Description . . . 1542
13.49.2 Macro Definition Documentation . . . 1542
13.49.2.1 DELAY_LONG . . . 1542
13.49.2.2 DELAY_MEDIUM . . . 1542
13.49.2.3 DELAY_SHORT . . . 1542
13.49.2.4 IS_FULLRANGE . . . 1543
13.49.2.5 IS_GLAIVE . . . 1543
13.49.2.6 IS_HARPOON . . . 1543
13.49.2.7 IS_K63 . . . 1543
13.49.2.8 IS_K65 . . . 1543
13.49.2.9 IS_K70 . . . 1543
13.49.2.10 IS_K95 . . . 1543
13.49.2.11 IS_M65 . . . 1543
13.49.2.12 IS_MONOCHROME . . . 1543
13.49.2.13 IS_MONOCHROME_DEV . . . 1544
13.49.2.14 IS_MOUSE . . . 1544

13.49.2.15IS_MOUSE_DEV . . . 1544
13.49.2.16IS_NEW_PROTOCOL . . . 1544
13.49.2.17IS_PLATINUM . . . 1544
13.49.2.18IS_RGB . . . 1544
13.49.2.19IS_RGB_DEV . . . 1544
13.49.2.20IS_SABRE . . . 1544
13.49.2.21IS_SCIMITAR . . . 1544
13.49.2.22IS_STRAFE . . . 1545
13.49.2.23NK95_HWOFF . . . 1545
13.49.2.24NK95_HWON . . . 1545
13.49.2.25NK95_M1 . . . 1545
13.49.2.26NK95_M2 . . . 1545
13.49.2.27NK95_M3 . . . 1545
13.49.2.28nk95cmd . . . 1545
13.49.2.29P_GLAIVE . . . 1545
13.49.2.30P_GLAIVE_STR . . . 1545
13.49.2.31P_HARPOON . . . 1546
13.49.2.32P_HARPOON_STR . . . 1546
13.49.2.33P_K63_NRGB . . . 1546
13.49.2.34P_K63_NRGB_STR . . . 1546
13.49.2.35P_K65 . . . 1546
13.49.2.36P_K65_LUX . . . 1546
13.49.2.37P_K65_LUX_STR . . . 1546
13.49.2.38P_K65_NRGB . . . 1546
13.49.2.39P_K65_NRGB_STR . . . 1546
13.49.2.40P_K65_RFIRE . . . 1546
13.49.2.41P_K65_RFIRE_STR . . . 1547
13.49.2.42P_K65_STR . . . 1547
13.49.2.43P_K70 . . . 1547
13.49.2.44P_K70_LUX . . . 1547
13.49.2.45P_K70_LUX_NRGB . . . 1547
13.49.2.46P_K70_LUX_NRGB_STR . . . 1547
13.49.2.47P_K70_LUX_STR . . . 1547
13.49.2.48P_K70_NRGB . . . 1547
13.49.2.49P_K70_NRGB_STR . . . 1547
13.49.2.50P_K70_RFIRE . . . 1547
13.49.2.51P_K70_RFIRE_NRGB . . . 1548
13.49.2.52P_K70_RFIRE_NRGB_STR . . . 1548
13.49.2.53P_K70_RFIRE_STR . . . 1548
13.49.2.54P_K70_STR . . . 1548

13.49.2.55 P_K95 . . . 1548
13.49.2.56 P_K95_NRGB . . . 1548
13.49.2.57 P_K95_NRGB_STR . . . 1548
13.49.2.58 P_K95_PLATINUM . . . 1548
13.49.2.59 P_K95_PLATINUM_STR . . . 1548
13.49.2.60 P_K95_STR . . . 1548
13.49.2.61 P_M65 . . . 1548
13.49.2.62 P_M65_PRO . . . 1549
13.49.2.63 P_M65_PRO_STR . . . 1549
13.49.2.64 P_M65_STR . . . 1549
13.49.2.65 P_SABRE_L . . . 1549
13.49.2.66 P_SABRE_L_STR . . . 1549
13.49.2.67 P_SABRE_N . . . 1549
13.49.2.68 P_SABRE_N_STR . . . 1549
13.49.2.69 P_SABRE_O . . . 1549
13.49.2.70 P_SABRE_O2 . . . 1549
13.49.2.71 P_SABRE_O2_STR . . . 1549
13.49.2.72 P_SABRE_O_STR . . . 1549
13.49.2.73 P_SCIMITAR . . . 1550
13.49.2.74 P_SCIMITAR_PRO . . . 1550
13.49.2.75 P_SCIMITAR_PRO_STR . . . 1550
13.49.2.76 P_SCIMITAR_STR . . . 1550
13.49.2.77 P_STRAFE . . . 1550
13.49.2.78 P_STRAFE_NRGB . . . 1550
13.49.2.79 P_STRAFE_NRGB_STR . . . 1550
13.49.2.80 P_STRAFE_STR . . . 1550
13.49.2.81 resetusb . . . 1550
13.49.2.82 USB_DELAY_DEFAULT . . . 1550
13.49.2.83 usbrecv . . . 1550
13.49.2.84 usbsend . . . 1551
13.49.2.85 V_CORSAIR . . . 1551
13.49.2.86 V_CORSAIR_STR . . . 1551
13.49.3 Function Documentation . . . 1551
13.49.3.1 _nk95cmd . . . 1551
13.49.3.2 _resetusb . . . 1553
13.49.3.3 _usbrecv . . . 1553
13.49.3.4 _usbsend . . . 1555
13.49.3.5 closeusb . . . 1557
13.49.3.6 os_closeusb . . . 1558
13.49.3.7 os_inputmain . . . 1559

13.49.3.8 os_resetusb . . . 1563
13.49.3.9 os_sendindicators . . . 1564
13.49.3.10 os_setupusb . . . 1565
13.49.3.11 os_usbrecv . . . 1567
13.49.3.12 os_usbsend . . . 1569
13.49.3.13 product_str . . . 1571
13.49.3.14 revertusb . . . 1573
13.49.3.15 setupusb . . . 1574
13.49.3.16 usb_tryreset . . . 1575
13.49.3.17 usbkill . . . 1576
13.49.3.18 usbmain . . . 1577
13.49.3.19 vendor_str . . . 1578
13.50 src/ckb-daemon/usb_linux.c File Reference . . . 1579
13.50.1 Data Structure Documentation . . . 1581
13.50.1.1 struct _model . . . 1581
13.50.2 Macro Definition Documentation . . . 1581
13.50.2.1 DEBUG . . . 1581
13.50.2.2 N_MODELS . . . 1581
13.50.2.3 TEST_RESET . . . 1581
13.50.3 Function Documentation . . . 1582
13.50.3.1 _nk95cmd . . . 1582
13.50.3.2 os_closeusb . . . 1583
13.50.3.3 os_inputmain . . . 1584
13.50.3.4 os_resetusb . . . 1587
13.50.3.5 os_sendindicators . . . 1588
13.50.3.6 os_setupusb . . . 1589
13.50.3.7 os_usbrecv . . . 1591
13.50.3.8 os_usbsend . . . 1592
13.50.3.9 strtrim . . . 1594
13.50.3.10 udev_enum . . . 1594
13.50.3.11 usb_add_device . . . 1596
13.50.3.12 usb_rm_device . . . 1597
13.50.3.13 usbadd . . . 1598
13.50.3.14 usbclaim . . . 1600
13.50.3.15 usbkill . . . 1601
13.50.3.16 usbmain . . . 1602
13.50.3.17 usbunclaim . . . 1603
13.50.4 Variable Documentation . . . 1604
13.50.4.1 kbsyspath . . . 1604
13.50.4.2 models . . . 1604

13.50.4.3 udev . . . 1605
13.50.4.4 udevthread . . . 1605
13.50.4.5 usbthread . . . 1605
13.51 src/ckb-daemon/usb_mac.c File Reference . . . 1605
13.52 src/ckb-mviz/_kiss_fft_guts.h File Reference . . . 1606
13.52.1 Data Structure Documentation . . . 1607
13.52.1.1 struct kiss_fft_state . . . 1607
13.52.2 Macro Definition Documentation . . . 1608
13.52.2.1 C_ADD . . . 1608
13.52.2.2 C_ADDTO . . . 1608
13.52.2.3 C_FIXDIV . . . 1608
13.52.2.4 C_MUL . . . 1608
13.52.2.5 C_MULBYSCALAR . . . 1608
13.52.2.6 C_SUB . . . 1609
13.52.2.7 C_SUBFROM . . . 1609
13.52.2.8 CHECK_OVERFLOW_OP . . . 1609
13.52.2.9 HALF_OF . . . 1609
13.52.2.10 kf_cexp . . . 1609
13.52.2.11 KISS_FFT_COS . . . 1609
13.52.2.12 KISS_FFT_SIN . . . 1610
13.52.2.13 KISS_FFT_TMP_ALLOC . . . 1610
13.52.2.14 KISS_FFT_TMP_FREE . . . 1610
13.52.2.15 MAXFACTORS . . . 1610
13.52.2.16 pcpx . . . 1610
13.52.2.17 S_MUL . . . 1610
13.53 src/ckb-mviz/kiss_fft.c File Reference . . . 1610
13.53.1 Function Documentation . . . 1611
13.53.1.1 kf_bfly2 . . . 1611
13.53.1.2 kf_bfly3 . . . 1612
13.53.1.3 kf_bfly4 . . . 1613
13.53.1.4 kf_bfly5 . . . 1614
13.53.1.5 kf_bfly_generic . . . 1615
13.53.1.6 kf_factor . . . 1616
13.53.1.7 kf_work . . . 1616
13.53.1.8 kiss_fft . . . 1618
13.53.1.9 kiss_fft_alloc . . . 1619
13.53.1.10 kiss_fft_cleanup . . . 1620
13.53.1.11 kiss_fft_next_fast_size . . . 1621
13.53.1.12 kiss_fft_stride . . . 1621
13.54 src/ckb-mviz/kiss_fft.h File Reference . . . 1622

13.54.1 Data Structure Documentation . . . 1624
13.54.1.1 struct kiss_fft_cpx . . . 1624
13.54.2 Macro Definition Documentation . . . 1624
13.54.2.1 KISS_FFT_FREE . . . 1624
13.54.2.2 kiss_fft_free . . . 1624
13.54.2.3 KISS_FFT_MALLOC . . . 1624
13.54.2.4 kiss_fft_scalar . . . 1625
13.54.2.5 kiss_fftr_next_fast_size_real . . . 1625
13.54.3 Typedef Documentation . . . 1625
13.54.3.1 kiss_fft_cfg . . . 1625
13.54.4 Function Documentation . . . 1625
13.54.4.1 kiss_fft . . . 1625
13.54.4.2 kiss_fft_alloc . . . 1626
13.54.4.3 kiss_fft_cleanup . . . 1627
13.54.4.4 kiss_fft_next_fast_size . . . 1627
13.54.4.5 kiss_fft_stride . . . 1628
13.55 src/ckb-mviz/kiss_fftr.c File Reference . . . 1629
13.55.1 Data Structure Documentation . . . 1630
13.55.1.1 struct kiss_fftr_state . . . 1630
13.55.2 Function Documentation . . . 1631
13.55.2.1 kiss_fftr . . . 1631
13.55.2.2 kiss_fftr_alloc . . . 1632
13.55.2.3 kiss_fftri . . . 1633
13.56 src/ckb-mviz/kiss_fftr.h File Reference . . . 1634
13.56.1 Macro Definition Documentation . . . 1635
13.56.1.1 kiss_fftr_free . . . 1635
13.56.2 Typedef Documentation . . . 1635
13.56.2.1 kiss_fftr_cfg . . . 1635
13.56.3 Function Documentation . . . 1635
13.56.3.1 kiss_fftr . . . 1635
13.56.3.2 kiss_fftr_alloc . . . 1637
13.56.3.3 kiss_fftri . . . 1637
13.57 src/ckb/animadddialog.cpp File Reference . . . 1638
13.58 src/ckb/animadddialog.h File Reference . . . 1639
13.59 src/ckb/animscript.cpp File Reference . . . 1639
13.59.1 Function Documentation . . . 1640
13.59.1.1 urlParam . . . 1640
13.59.2 Variable Documentation . . . 1640
13.59.2.1 ONE_DAY . . . 1640
13.60 src/ckb/animscript.h File Reference . . . 1641

13.60.1 Data Structure Documentation . . . 1641
13.60.1.1 struct AnimScript::Param . . . 1641
13.61 src/ckb/animsettingdialog.cpp File Reference . . . 1642
13.61.1 Function Documentation . . . 1643
13.61.1.1 angleFlip . . . 1643
13.62 src/ckb/animsettingdialog.h File Reference . . . 1644
13.63 src/ckb/autorun.cpp File Reference . . . 1645
13.63.1 Variable Documentation . . . 1645
13.63.1.1 settingPath . . . 1645
13.64 src/ckb/autorun.h File Reference . . . 1646
13.65 src/ckb/ckb-anim.h File Reference . . . 1646
13.65.1 Data Structure Documentation . . . 1649
13.65.1.1 struct ckb_key . . . 1649
13.65.1.2 struct ckb_runctx . . . 1650
13.65.1.3 struct ckb_gradient . . . 1651
13.65.2 Macro Definition Documentation . . . 1651
13.65.2.1 CKB_CONTAINER . . . 1651
13.65.2.2 CKB_COPYRIGHT . . . 1651
13.65.2.3 CKB_DESCRIPTION . . . 1652
13.65.2.4 CKB_DOWN . . . 1652
13.65.2.5 CKB_GRAD_MAX . . . 1652
13.65.2.6 CKB_GUID . . . 1652
13.65.2.7 CKB_KEYCLEAR . . . 1652
13.65.2.8 CKB_KEYNAME_MAX . . . 1652
13.65.2.9 CKB_KP_NAME . . . 1652
13.65.2.10 CKB_KP_NONE . . . 1652
13.65.2.11 CKB_KP_POSITION . . . 1652
13.65.2.12 CKB_KPMODE . . . 1653
13.65.2.13 CKB_LICENSE . . . 1653
13.65.2.14 CKB_LIVEPARAMS . . . 1653
13.65.2.15 CKB_MAX_WORD . . . 1653
13.65.2.16 CKB_NAME . . . 1653
13.65.2.17 CKB_PARAM . . . 1653
13.65.2.18 CKB_PARAM_AGRADIENT . . . 1653
13.65.2.19 CKB_PARAM_ANGLE . . . 1653
13.65.2.20 CKB_PARAM_ARGB . . . 1653
13.65.2.21 CKB_PARAM_BOOL . . . 1654
13.65.2.22 CKB_PARAM_DOUBLE . . . 1654
13.65.2.23 CKB_PARAM_GRADIENT . . . 1654
13.65.2.24 CKB_PARAM_LABEL . . . 1654

13.65.2.25 CKB_PARAM_LONG . . . 1654
13.65.2.26 CKB_PARAM_RGB . . . 1654
13.65.2.27 CKB_PARAM_STRING . . . 1654
13.65.2.28 CKB_PARSE_AGRADIENT . . . 1654
13.65.2.29 CKB_PARSE_ANGLE . . . 1654
13.65.2.30 CKB_PARSE_ARGB . . . 1655
13.65.2.31 CKB_PARSE_BOOL . . . 1655
13.65.2.32 CKB_PARSE_DOUBLE . . . 1655
13.65.2.33 CKB_PARSE_GRADIENT . . . 1655
13.65.2.34 CKB_PARSE_LONG . . . 1655
13.65.2.35 CKB_PARSE_RGB . . . 1655
13.65.2.36 CKB_PARSE_STRING . . . 1655
13.65.2.37 CKB_PREEMPT . . . 1655
13.65.2.38 CKB_PRESET_END . . . 1655
13.65.2.39 CKB_PRESET_PARAM . . . 1656
13.65.2.40 CKB_PRESET_START . . . 1656
13.65.2.41 CKB_REAL_ANGLE . . . 1656
13.65.2.42 CKB_REPEAT . . . 1656
13.65.2.43 CKB_TIME_ABSOLUTE . . . 1656
13.65.2.44 CKB_TIME_DURATION . . . 1656
13.65.2.45 CKB_TIMEMODE . . . 1656
13.65.2.46 CKB_UP . . . 1656
13.65.2.47 CKB_VERSION . . . 1656
13.65.2.48 FALSE . . . 1657
13.65.2.49 M_PI . . . 1657
13.65.2.50 TRUE . . . 1657
13.65.3 Function Documentation . . . 1657
13.65.3.1 ckb_alpha_blend . . . 1657
13.65.3.2 ckb_frame . . . 1657
13.65.3.3 ckb_getline . . . 1658
13.65.3.4 ckb_grad_color . . . 1659
13.65.3.5 ckb_info . . . 1660
13.65.3.6 ckb_init . . . 1661
13.65.3.7 ckb_keypress . . . 1661
13.65.3.8 ckb_parameter . . . 1663
13.65.3.9 ckb_read_params . . . 1663
13.65.3.10 ckb_scan_grad . . . 1664
13.65.3.11 ckb_start . . . 1665
13.65.3.12 ckb_time . . . 1666
13.65.3.13 main . . . 1666

13.65.3.14 printurl . . . 1669
13.65.3.15 urldecode . . . 1669
13.66 src/ckb/ckbsettings.cpp File Reference . . . 1670
13.66.1 Macro Definition Documentation . . . 1671
13.66.1.1 lockMutex . . . 1671
13.66.1.2 lockMutexCache . . . 1671
13.66.1.3 lockMutexStatic . . . 1671
13.66.1.4 lockMutexStatic2 . . . 1671
13.66.2 Function Documentation . . . 1671
13.66.2.1 cacheWritesInProgress . . . 1671
13.66.2.2 globalSettings . . . 1671
13.66.2.3 settingsCacheMutex . . . 1672
13.66.2.4 settingsMutex . . . 1672
13.66.3 Variable Documentation . . . 1672
13.66.3.1 _globalSettings . . . 1672
13.66.3.2 globalCache . . . 1672
13.66.3.3 globalThread . . . 1672
13.67 src/ckb/ckbsettings.h File Reference . . . 1673
13.68 src/ckb/ckbsettingswriter.cpp File Reference . . . 1673
13.68.1 Macro Definition Documentation . . . 1674
13.68.1.1 lockMutex . . . 1674
13.68.1.2 lockMutexCache . . . 1674
13.68.1.3 lockMutexStatic . . . 1674
13.68.1.4 lockMutexStatic2 . . . 1674
13.68.2 Variable Documentation . . . 1675
13.68.2.1 cacheWritesInProgress . . . 1675
13.68.2.2 settingsCacheMutex . . . 1675
13.68.2.3 settingsMutex . . . 1675
13.69 src/ckb/ckbsettingswriter.h File Reference . . . 1675
13.70 src/ckb/colorbutton.cpp File Reference . . . 1675
13.71 src/ckb/colorbutton.h File Reference . . . 1676
13.72 src/ckb/colormap.cpp File Reference . . . 1677
13.72.1 Function Documentation . . . 1677
13.72.1.1 qs_strcmp . . . 1677
13.73 src/ckb/colormap.h File Reference . . . 1678
13.73.1 Typedef Documentation . . . 1679
13.73.1.1 QColorMap . . . 1679
13.73.1.2 QColorMapIterator . . . 1679
13.73.1.3 QMutableColorMapIterator . . . 1679
13.74 src/ckb/extrasettingswidget.cpp File Reference . . . 1679

13.74.1 Variable Documentation . . . 1679
13.74.1.1 lastSharedDimming . . . 1679
13.75 src/ckb/extrasettingswidget.h File Reference . . . 1680
13.76 src/ckb/fwupgradedialog.cpp File Reference . . . 1680
13.76.1 Data Structure Documentation . . . 1681
13.76.1.1 struct KbId . . . 1681
13.76.2 Function Documentation . . . 1682
13.76.2.1 DIALOG_HEIGHT_MAX . . . 1682
13.76.2.2 verifyFw . . . 1682
13.76.3 Variable Documentation . . . 1683
13.76.3.1 DIALOG_HEIGHT_MIN . . . 1683
13.76.3.2 DIALOG_WIDTH . . . 1683
13.76.3.3 ids . . . 1683
13.77 src/ckb/fwupgradedialog.h File Reference . . . 1683
13.78 src/ckb/gradientbutton.cpp File Reference . . . 1684
13.79 src/ckb/gradientbutton.h File Reference . . . 1685
13.80 src/ckb/gradientdialog.cpp File Reference . . . 1686
13.80.1 Variable Documentation . . . 1686
13.80.1.1 prefsPath . . . 1686
13.81 src/ckb/gradientdialog.h File Reference . . . 1686
13.82 src/ckb/gradientdialogwidget.cpp File Reference . . . 1687
13.83 src/ckb/gradientdialogwidget.h File Reference . . . 1687
13.84 src/ckb/kb.cpp File Reference . . . 1688
13.84.1 Variable Documentation . . . 1689
13.84.1.1 activeDevices . . . 1689
13.84.1.2 notifyPathMutex . . . 1689
13.84.1.3 notifyPaths . . . 1689
13.85 src/ckb/kb.h File Reference . . . 1689
13.86 src/ckb/kbanim.cpp File Reference . . . 1690
13.86.1 Typedef Documentation . . . 1691
13.86.1.1 blendFunc . . . 1691
13.86.2 Function Documentation . . . 1691
13.86.2.1 blendAdd . . . 1691
13.86.2.2 blendDivide . . . 1691
13.86.2.3 blendMultiply . . . 1691
13.86.2.4 blendNormal . . . 1692
13.86.2.5 blendSubtract . . . 1692
13.86.3 Variable Documentation . . . 1692
13.86.3.1 functions . . . 1692
13.87 src/ckb/kbanim.h File Reference . . . 1692

13.88 src/ckb/kbanimwidget.cpp File Reference . . . 1693
13.89 src/ckb/kbanimwidget.h File Reference . . . 1693
13.90 src/ckb/kbbind.cpp File Reference . . . 1694
13.91 src/ckb/kbbind.h File Reference . . . 1695
13.92 src/ckb/kbbindwidget.cpp File Reference . . . 1696
13.93 src/ckb/kbbindwidget.h File Reference . . . 1696
13.94 src/ckb/kbfirmware.cpp File Reference . . . 1697
13.94.1 Function Documentation . . . 1698
13.94.1.1 tableName . . . 1698
13.94.2 Variable Documentation . . . 1698
13.94.2.1 AUTO_CHECK_TIME . . . 1698
13.95 src/ckb/kbfirmware.h File Reference . . . 1698
13.96 src/ckb/kblight.cpp File Reference . . . 1699
13.96.1 Function Documentation . . . 1700
13.96.1.1 lToS . . . 1700
13.96.1.2 monoRgb . . . 1701
13.96.1.3 sToL . . . 1701
13.96.2 Variable Documentation . . . 1702
13.96.2.1 _shareDimming . . . 1702
13.96.2.2 activeLights . . . 1702
13.97 src/ckb/kblight.h File Reference . . . 1702
13.98 src/ckb/kblightwidget.cpp File Reference . . . 1703
13.99 src/ckb/kblightwidget.h File Reference . . . 1703
13.100 src/ckb/kbmanager.cpp File Reference . . . 1704
13.100.1 Variable Documentation . . . 1705
13.100.1.1 devpath . . . 1705
13.101 src/ckb/kbmanager.h File Reference . . . 1705
13.101.1 Macro Definition Documentation . . . 1706
13.101.1.1 DAEMON_UNAVAILABLE_STR . . . 1706
13.102 src/ckb/kbmode.cpp File Reference . . . 1706
13.103 src/ckb/kbmode.h File Reference . . . 1706
13.104 src/ckb/kbperf.cpp File Reference . . . 1707
13.104.1 Macro Definition Documentation . . . 1707
13.104.1.1 map_last . . . 1707
13.105 src/ckb/kbperf.h File Reference . . . 1707
13.106 src/ckb/kbprofile.cpp File Reference . . . 1708
13.107 src/ckb/kbprofile.h File Reference . . . 1709
13.108 src/ckb/kbprofiledialog.cpp File Reference . . . 1709
13.109 src/ckb/kbprofiledialog.h File Reference . . . 1710
13.110 src/ckb/kbwidget.cpp File Reference . . . 1711

13.111 src/ckb/kbwidget.h File Reference . . . 1711
13.112 src/ckb/keyaction.cpp File Reference . . . 1712
13.112.1 Variable Documentation . . . 1713
13.112.1.1 ANIM_KRSTOP . . . 1713
13.112.1.2 ANIM_ONCE . . . 1713
13.113 src/ckb/keyaction.h File Reference . . . 1713
13.114 src/ckb/keymap.cpp File Reference . . . 1714
13.114.1 Data Structure Documentation . . . 1716
13.114.1.1 struct KeyPatch . . . 1716
13.114.2 Macro Definition Documentation . . . 1716
13.114.2.1 ANSI_ENTER_H . . . 1716
13.114.2.2 ANSI_ENTER_W . . . 1716
13.114.2.3 ANSI_ENTER_X . . . 1716
13.114.2.4 ANSI_ENTER_Y . . . 1717
13.114.2.5 ANSI_LSHIFT_W . . . 1717
13.114.2.6 ANSI_LSHIFT_X . . . 1717
13.114.2.7 GLAIVE_HEIGHT . . . 1717
13.114.2.8 GLAIVE_WIDTH . . . 1717
13.114.2.9 HARPOON_HEIGHT . . . 1717
13.114.2.10 HARPOON_WIDTH . . . 1717
13.114.2.11 K63_HEIGHT . . . 1717
13.114.2.12 K63_TOP_COUNT . . . 1717
13.114.2.13 K63_WIDTH . . . 1717
13.114.2.14 K65_HEIGHT . . . 1717
13.114.2.15 K65_TOP_COUNT . . . 1718
13.114.2.16 K65_WIDTH . . . 1718
13.114.2.17 K70_HEIGHT . . . 1718
13.114.2.18 K70_WIDTH . . . 1718
13.114.2.19 K70_X_START . . . 1718
13.114.2.20 K95_HEIGHT . . . 1718
13.114.2.21 K95_WIDTH . . . 1718
13.114.2.22 KEYCOUNT_GLAIVE . . . 1718
13.114.2.23 KEYCOUNT_HARPOON . . . 1718
13.114.2.24 KEYCOUNT_K95 . . . 1719
13.114.2.25 KEYCOUNT_M65 . . . 1719
13.114.2.26 KEYCOUNT_SABRE . . . 1719
13.114.2.27 KEYCOUNT_SCIM . . . 1719
13.114.2.28 STRAFE_HEIGHT . . . 1719
13.114.2.29 STRAFE_WIDTH . . . 1719
13.114.2.30 STRAFE_X_START . . . 1719

13.114.2.31 M65_HEIGHT . . . 1719
13.114.2.32 M65_WIDTH . . . 1719
13.114.2.33 N_LAYOUTS . . . 1720
13.114.2.34 N_MODELS . . . 1720
13.114.2.35 NS . . . 1720
13.114.2.36 patch . . . 1720
13.114.2.37 PATCH_COUNT . . . 1720
13.114.2.38 SABRE_HEIGHT . . . 1720
13.114.2.39 SABRE_WIDTH . . . 1720
13.114.2.40 SCIM_HEIGHT . . . 1720
13.114.2.41 SCIM_WIDTH . . . 1720
13.114.3 Function Documentation . . . 1720
13.114.3.1 _patch . . . 1720
13.114.3.2 getMap . . . 1721
13.114.3.3 patchANSI . . . 1724
13.114.3.4 patchISO . . . 1725
13.114.3.5 patchJP106 . . . 1726
13.114.3.6 patchJP106fn . . . 1727
13.114.3.7 patchnonJP106 . . . 1727
13.114.4 Variable Documentation . . . 1727
13.114.4.1 GlaiveKeys . . . 1728
13.114.4.2 HarpoonKeys . . . 1728
13.114.4.3 K63TopRow . . . 1728
13.114.4.4 K65TopRow . . . 1728
13.114.4.5 K95BaseMap . . . 1728
13.114.4.6 K95Keys . . . 1729
13.114.4.7 KStrafeKeys . . . 1729
13.114.4.8 M65Keys . . . 1730
13.114.4.9 patchDE . . . 1730
13.114.4.10 patchDK . . . 1730
13.114.4.11 patchDvorak . . . 1730
13.114.4.12 patchES . . . 1731
13.114.4.13 patchEU . . . 1731
13.114.4.14 patchFR . . . 1731
13.114.4.15 patchIT . . . 1731
13.114.4.16 patchJP . . . 1731
13.114.4.17 patchMX . . . 1732
13.114.4.18 patchNO . . . 1732
13.114.4.19 patchSE . . . 1732
13.114.4.20 SabreKeys . . . 1732

13.114.4.23 ScimKeys . . . 1732
13.114.4.24 StandardMaps . . . 1733
13.115 src/ckb/keymap.h File Reference . . . 1733
13.116 src/ckb-daemon/keymap.h File Reference . . . 1734
13.116.1 Data Structure Documentation . . . 1735
13.116.1.1 struct key . . . 1735
13.116.2 Macro Definition Documentation . . . 1736
13.116.2.1 BTN_WHEELDOWN . . . 1736
13.116.2.2 BTN_WHEELUP . . . 1736
13.116.2.3 KEY_BACKSLASH_ISO . . . 1736
13.116.2.4 KEY_CORSAIR . . . 1736
13.116.2.5 KEY_NONE . . . 1737
13.116.2.6 KEY_UNBOUND . . . 1737
13.116.2.7 LED_DPI . . . 1737
13.116.2.8 LED_MOUSE . . . 1737
13.116.2.9 MOUSE_BUTTON_FIRST . . . 1737
13.116.2.10 MOUSE_EXTRA_FIRST . . . 1737
13.116.2.11 N_BUTTONS_EXTENDED . . . 1737
13.116.2.12 N_BUTTONS_HW . . . 1737
13.116.2.13 N_KEY_ZONES . . . 1737
13.116.2.14 N_KEYBYTES_EXTENDED . . . 1737
13.116.2.15 N_KEYBYTES_HW . . . 1738
13.116.2.16 N_KEYBYTES_INPUT . . . 1738
13.116.2.17 N_KEYS_EXTENDED . . . 1738
13.116.2.18 N_KEYS_EXTRA . . . 1738
13.116.2.19 N_KEYS_HW . . . 1738
13.116.2.20 N_KEYS_INPUT . . . 1738
13.116.2.21 N_MOUSE_ZONES . . . 1738
13.116.2.22 N_MOUSE_ZONES_EXTENDED . . . 1738
13.116.2.23 SCAN_KBD . . . 1738
13.116.2.24 SCAN_MOUSE . . . 1738
13.116.2.25 SCAN_SILENT . . . 1739
13.116.3 Function Documentation . . . 1739
13.116.3.1 corsair_kbcopy . . . 1739
13.116.3.2 corsair_mousecopy . . . 1739
13.116.3.3 hid_kb_translate . . . 1740
13.116.3.4 hid_mouse_translate . . . 1741
13.116.4 Variable Documentation . . . 1742
13.116.4.1 keymap . . . 1742
13.117 src/ckb/keywidget.cpp File Reference . . . 1742

13.117.1 Function Documentation . . . 1743
13.117.1.1 monoRgb . . . 1743
13.117.2 Variable Documentation . . . 1744
13.117.2.1 glaiveOverlay . . . 1744
13.117.2.2 harpOverlay . . . 1744
13.117.2.3 KEY_SIZE . . . 1744
13.117.2.4 m65Overlay . . . 1744
13.117.2.5 sabOverlay . . . 1745
13.117.2.6 scimOverlay . . . 1745
13.118 src/ckb/keywidget.h File Reference . . . 1745
13.119 src/ckb/kperfwidget.cpp File Reference . . . 1746
13.120 src/ckb/kperfwidget.h File Reference . . . 1746
13.120.1 Data Structure Documentation . . . 1747
13.120.1.1 struct KPerfWidget::IndicatorUi . . . 1747
13.121 src/ckb/layoutdialog.cpp File Reference . . . 1748
13.122 src/ckb/layoutdialog.h File Reference . . . 1749
13.123 src/ckb/macroreader.cpp File Reference . . . 1750
13.124 src/ckb/macroreader.h File Reference . . . 1750
13.125 src/ckb/main.cpp File Reference . . . 1751
13.125.1 Macro Definition Documentation . . . 1752
13.125.1.1 SHMEM_SIZE . . . 1752
13.125.1.2 SHMEM_SIZE_V015 . . . 1752
13.125.2 Enumeration Type Documentation . . . 1752
13.125.2.1 CommandLineParseResults . . . 1752
13.125.3 Function Documentation . . . 1753
13.125.3.1 appShare . . . 1753
13.125.3.2 isRunning . . . 1753
13.125.3.3 main . . . 1754
13.125.3.4 parseCommandLine . . . 1755
13.125.3.5 pidActive . . . 1757
13.126 src/ckb/mainwindow.cpp File Reference . . . 1757
13.126.1 Variable Documentation . . . 1758
13.126.1.1 appShare . . . 1758
13.126.1.2 configLabel . . . 1758
13.127 src/ckb/mainwindow.h File Reference . . . 1758
13.128 src/ckb/media.h File Reference . . . 1759
13.128.1 Macro Definition Documentation . . . 1760
13.128.1.1 ENUM_C . . . 1760
13.128.1.2 ENUM_END_C . . . 1760
13.128.1.3 EXTERN_C . . . 1760

13.128.2 Enumeration Type Documentation . . . 1760
13.128.2.1 muteState . . . 1760
13.128.3 Function Documentation . . . 1760
13.128.3.1 getMuteState . . . 1760
13.129 src/ckb/media_linux.cpp File Reference . . . 1761
13.129.1 Function Documentation . . . 1762
13.129.1.1 getMuteState . . . 1762
13.129.2 Variable Documentation . . . 1762
13.129.2.1 lastKnown . . . 1762
13.130 src/ckb/media_mac.m File Reference . . . 1762
13.130.1 Function Documentation . . . 1763
13.130.1.1 disableAppNap . . . 1763
13.130.1.2 getMuteState . . . 1763
13.131 src/ckb/modeselectdialog.cpp File Reference . . . 1764
13.132 src/ckb/modeselectdialog.h File Reference . . . 1764
13.133 src/ckb/mperfwidget.cpp File Reference . . . 1765
13.133.1 Macro Definition Documentation . . . 1766
13.133.1.1 SET_END . . . 1766
13.133.1.2 SET_START . . . 1766
13.133.2 Function Documentation . . . 1766
13.133.2.1 dpiExp . . . 1766
13.133.2.2 dpiLog . . . 1767
13.133.2.3 dpiRound . . . 1767
13.133.3 Variable Documentation . . . 1768
13.133.3.1 DPI_BASE . . . 1768
13.133.3.2 xyLinkPath . . . 1768
13.134 src/ckb/mperfwidget.h File Reference . . . 1768
13.134.1 Data Structure Documentation . . . 1769
13.134.1.1 struct MPerfWidget::DpiUi . . . 1769
13.135 src/ckb/quazip/crypt.h File Reference . . . 1770
13.135.1 Macro Definition Documentation . . . 1771
13.135.1.1 CRC32 . . . 1772
13.135.1.2 zdecode . . . 1772
13.135.1.3 zencode . . . 1772
13.135.2 Function Documentation . . . 1772
13.135.2.1 decrypt_byte . . . 1772
13.135.2.2 init_keys . . . 1772
13.135.2.3 update_keys . . . 1773
13.136 src/ckb/quazip/ioapi.h File Reference . . . 1774
13.136.1 Data Structure Documentation . . . 1776

13.136.1.1 struct zlib_filefunc_def_s . . . 1776
13.136.1.2 struct zlib_filefunc64_def_s . . . 1776
13.136.1.3 struct zlib_filefunc64_32_def_s . . . 1777
13.136.2 Macro Definition Documentation . . . 1777
13.136.2.1 __USE_FILE_OFFSET64 . . . 1777
13.136.2.2 __USE_LARGEFILE64 . . . 1777
13.136.2.3 _FILE_OFFSET_BIT . . . 1778
13.136.2.4 _LARGEFILE64_SOURCE . . . 1778
13.136.2.5 OF . . . 1778
13.136.2.6 ZCALLBACK . . . 1778
13.136.2.7 ZCLOSE64 . . . 1778
13.136.2.8 ZERROR64 . . . 1778
13.136.2.9 ZFAKECLOSE64 . . . 1778
13.136.2.10 ZLIB_FILEFUNC_MODE_CREATE . . . 1778
13.136.2.11 ZLIB_FILEFUNC_MODE_EXISTING . . . 1778
13.136.2.12 ZLIB_FILEFUNC_MODE_READ . . . 1778
13.136.2.13 ZLIB_FILEFUNC_MODE_READWRITEFILTER . . . 1779
13.136.2.14 ZLIB_FILEFUNC_MODE_WRITE . . . 1779
13.136.2.15 ZLIB_FILEFUNC_SEEK_CUR . . . 1779
13.136.2.16 ZLIB_FILEFUNC_SEEK_END . . . 1779
13.136.2.17 ZLIB_FILEFUNC_SEEK_SET . . . 1779
13.136.2.18 ZOPEN64 . . . 1779
13.136.2.19 ZREAD64 . . . 1779
13.136.2.20 ZSEEK64 . . . 1779
13.136.2.21 ZTELL64 . . . 1780
13.136.2.22 ZWRITE64 . . . 1780
13.136.3 Typedef Documentation . . . 1780
13.136.3.1 _Z_OF . . . 1780
13.136.3.2 zlib_filefunc64_32_def . . . 1780
13.136.3.3 zlib_filefunc64_def . . . 1780
13.136.3.4 zlib_filefunc_def . . . 1780
13.136.3.5 ZPOS64_T . . . 1780
13.136.4 Function Documentation . . . 1780
13.136.4.1 _Z_OF . . . 1780
13.136.4.2 _Z_OF . . . 1780
13.136.4.3 _Z_OF . . . 1780
13.136.4.4 _Z_OF . . . 1780
13.136.4.5 _Z_OF . . . 1780
13.136.4.6 fill_zlib_filefunc64_32_def_from_filefunc32 . . . 1781
13.137 src/ckb/quazip/JlCompress.cpp File Reference . . . 1781

13.137.1 Function Documentation . . . 1782
13.137.1.1 copyData . . . 1782
13.138 src/ckb/quazip/JlCompress.h File Reference . . . 1783
13.139 src/ckb/quazip/qioapi.cpp File Reference . . . 1783
13.139.1 Macro Definition Documentation . . . 1785
13.139.1.1 SEEK_CUR . . . 1785
13.139.1.2 SEEK_END . . . 1785
13.139.1.3 SEEK_SET . . . 1785
13.139.2 Function Documentation . . . 1785
13.139.2.1 call_zopen64 . . . 1785
13.139.2.2 call_zseek64 . . . 1785
13.139.2.3 call_ztell64 . . . 1785
13.139.2.4 fill_qiodevice64_filefunc . . . 1786
13.139.2.5 fill_qiodevice_filefunc . . . 1787
13.139.2.6 fill_zlib_filefunc64_32_def_from_filefunc32 . . . 1788
13.139.2.7 qiodevice64_seek_file_func . . . 1789
13.139.2.8 qiodevice64_tell_file_func . . . 1790
13.139.2.9 qiodevice_close_file_func . . . 1790
13.139.2.10 qiodevice_error_file_func . . . 1791
13.139.2.11 qiodevice_fakeclose_file_func . . . 1791
13.139.2.12 qiodevice_open_file_func . . . 1792
13.139.2.13 qiodevice_read_file_func . . . 1793
13.139.2.14 qiodevice_seek_file_func . . . 1793
13.139.2.15 qiodevice_tell_file_func . . . 1794
13.139.2.16 qiodevice_write_file_func . . . 1795
13.140 src/ckb/quazip/quaadler32.cpp File Reference . . . 1795
13.141 src/ckb/quazip/quaadler32.h File Reference . . . 1796
13.142 src/ckb/quazip/quachecksum32.h File Reference . . . 1797
13.143 src/ckb/quazip/quacrc32.cpp File Reference . . . 1798
13.144 src/ckb/quazip/quacrc32.h File Reference . . . 1799
13.145 src/ckb/quazip/quagzipfile.cpp File Reference . . . 1800
13.146 src/ckb/quazip/quagzipfile.h File Reference . . . 1801
13.147 src/ckb/quazip/quaziodevice.cpp File Reference . . . 1802
13.147.1 Macro Definition Documentation . . . 1803
13.147.1.1 QUAZIO_INBUFSIZE . . . 1803
13.147.1.2 QUAZIO_OUTBUFSIZE . . . 1803
13.148 src/ckb/quazip/quaziodevice.h File Reference . . . 1803
13.149 src/ckb/quazip/quazip.cpp File Reference . . . 1804
13.149.1 Function Documentation . . . 1805
13.149.1.1 QuaZip_getFileInfo . . . 1805

13.149.1.2 QuaZip_getFileInfo . . . 1805
13.149.1.3 QuaZip_getFileInfo . . . 1806
13.149.1.4 QuaZip_getFileInfo . . . 1806
13.150 src/ckb/quazip/quazip.h File Reference . . . 1806
13.150.1 Macro Definition Documentation . . . 1807
13.150.1.1 UNZ_OPENERROR . . . 1807
13.151 src/ckb/quazip/quazip_global.h File Reference . . . 1807
13.151.1 Macro Definition Documentation . . . 1808
13.151.1.1 QUAZIP_EXPORT . . . 1808
13.151.1.2 QUAZIP_EXTRA_NTFS_MAGIC . . . 1808
13.151.1.3 QUAZIP_EXTRA_NTFS_TIME_MAGIC . . . 1808
13.151.1.4 UNUSED . . . 1809
13.152 src/ckb/quazip/quazipdir.cpp File Reference . . . 1809
13.152.1 Function Documentation . . . 1809
13.152.1.1 QuaZipDir_convertInfoList . . . 1809
13.152.1.2 QuaZipDir_convertInfoList . . . 1809
13.152.1.3 QuaZipDir_convertInfoList . . . 1810
13.152.1.4 QuaZipDir_getFileInfo . . . 1810
13.153 src/ckb/quazip/quazipdir.h File Reference . . . 1811
13.154 src/ckb/quazip/quazipfile.cpp File Reference . . . 1811
13.155 src/ckb/quazip/quazipfile.h File Reference . . . 1812
13.156 src/ckb/quazip/quazipfileinfo.cpp File Reference . . . 1813
13.156.1 Function Documentation . . . 1813
13.156.1.1 getNTFSTime . . . 1814
13.156.1.2 permissionsFromExternalAttr . . . 1815
13.157 src/ckb/quazip/quazipfileinfo.h File Reference . . . 1815
13.158 src/ckb/quazip/quazipnewinfo.cpp File Reference . . . 1816
13.158.1 Function Documentation . . . 1817
13.158.1.1 QuaZipNewInfo_init . . . 1817
13.158.1.2 QuaZipNewInfo_setPermissions . . . 1818
13.158.1.3 setNTFSTime . . . 1818
13.159 src/ckb/quazip/quazipnewinfo.h File Reference . . . 1820
13.160 src/ckb/quazip/unzip.c File Reference . . . 1821
13.160.1 Data Structure Documentation . . . 1824
13.160.1.1 struct unz_file_info64_internal_s . . . 1824
13.160.1.2 struct file_in_zip64_read_info_s . . . 1825
13.160.1.3 struct unz64_s . . . 1825
13.160.2 Macro Definition Documentation . . . 1826
13.160.2.1 ALLOC . . . 1826
13.160.2.2 BUFREADCOMMENT . . . 1827

13.160.2.3 CASESENSITIVITYDEFAULT_NO . . . 1827
13.160.2.4 CASESENSITIVITYDEFAULTVALUE . . . 1827
13.160.2.5 local . . . 1827
13.160.2.6 SIZECENTRALDIRITEM . . . 1827
13.160.2.7 SIZEZIPLOCALHEADER . . . 1827
13.160.2.8 STRCMPCASENOSENTIVEFUNCTION . . . 1827
13.160.2.9 TRYFREE . . . 1827
13.160.2.10 UNZ_BUFSIZE . . . 1827
13.160.2.11 UNZ_MAXFILENAMEINZIP . . . 1828
13.160.3 Typedef Documentation . . . 1828
13.160.3.1 unz_file_info64_internal . . . 1828
13.160.3.2 z_crc_t . . . 1828
13.160.4 Function Documentation . . . 1828
13.160.4.1 _Z_OF . . . 1828
13.160.4.2 _Z_OF . . . 1828
13.160.4.3 _Z_OF . . . 1828
13.160.4.4 _Z_OF . . . 1828
13.160.4.5 _Z_OF . . . 1828
13.160.4.6 strcmpcasenosensitive_internal . . . 1828
13.160.4.7 unz64local_CheckCurrentFileCoherencyHeader . . . 1828
13.160.4.8 unz64local_DosDateToTmuDate . . . 1830
13.160.4.9 unz64local_getByte . . . 1831
13.160.4.10 unz64local_GetCurrentFileInfoInternal . . . 1832
13.160.4.11 unz64local_getLong . . . 1835
13.160.4.12 unz64local_getLong64 . . . 1836
13.160.4.13 unz64local_getShort . . . 1838
13.160.4.14 unz64local_SearchCentralDir . . . 1839
13.160.4.15 unz64local_SearchCentralDir64 . . . 1840
13.160.4.16 unzClearFlags . . . 1841
13.160.4.17 unzClose . . . 1842
13.160.4.18 unzCloseCurrentFile . . . 1843
13.160.4.19 unzeof . . . 1844
13.160.4.20 unzGetCurrentFileInfo . . . 1844
13.160.4.21 unzGetCurrentFileInfo64 . . . 1845
13.160.4.22 unzGetCurrentFileZStreamPos64 . . . 1846
13.160.4.23 unzGetFilePos . . . 1846
13.160.4.24 unzGetFilePos64 . . . 1847
13.160.4.25 unzGetGlobalComment . . . 1847
13.160.4.26 unzGetGlobalInfo . . . 1848
13.160.4.27 unzGetGlobalInfo64 . . . 1848

13.160.4.28 unzGetLocalExtrafield . . . 1849
13.160.4.29 unzGetOffset . . . 1850
13.160.4.30 unzGetOffset64 . . . 1850
13.160.4.31 unzGoToFilePos . . . 1851
13.160.4.32 unzGoToFilePos64 . . . 1851
13.160.4.33 unzGoToFirstFile . . . 1852
13.160.4.34 unzGoToNextFile . . . 1853
13.160.4.35 unzLocateFile . . . 1854
13.160.4.36 unzOpen . . . 1855
13.160.4.37 unzOpen2 . . . 1855
13.160.4.38 unzOpen2_64 . . . 1856
13.160.4.39 unzOpen64 . . . 1857
13.160.4.40 unzOpenCurrentFile . . . 1858
13.160.4.41 unzOpenCurrentFile2 . . . 1858
13.160.4.42 unzOpenCurrentFile3 . . . 1858
13.160.4.43 unzOpenCurrentFilePassword . . . 1861
13.160.4.44 unzOpenInternal . . . 1862
13.160.4.45 unzReadCurrentFile . . . 1865
13.160.4.46 unzSetFlags . . . 1868
13.160.4.47 unzSetOffset . . . 1869
13.160.4.48 unzSetOffset64 . . . 1869
13.160.4.49 unzStringFileNameCompare . . . 1870
13.160.4.50 unztell . . . 1870
13.160.4.51 unztell64 . . . 1871
13.160.5 Variable Documentation . . . 1871
13.160.5.1 unz_copyright . . . 1871
13.161 src/ckb/quazip/unzip.h File Reference . . . 1872
13.161.1 Data Structure Documentation . . . 1874
13.161.1.1 struct tm_unz_s . . . 1874
13.161.1.2 struct unz_global_info64_s . . . 1874
13.161.1.3 struct unz_global_info_s . . . 1875
13.161.1.4 struct unz_file_info64_s . . . 1876
13.161.1.5 struct unz_file_info_s . . . 1877
13.161.1.6 struct unz_file_pos_s . . . 1879
13.161.1.7 struct unz64_file_pos_s . . . 1880
13.161.2 Macro Definition Documentation . . . 1880
13.161.2.1 UNZ_AUTO_CLOSE . . . 1880
13.161.2.2 UNZ_BADZIPFILE . . . 1880
13.161.2.3 UNZ_CRCERROR . . . 1880
13.161.2.4 UNZ_DEFAULT_FLAGS . . . 1881

13.161.2.5 UNZ_END_OF_LIST_OF_FILE . . . 1881
13.161.2.6 UNZ_EOF . . . 1881
13.161.2.7 UNZ_ERRNO . . . 1881
13.161.2.8 UNZ_INTERNALERROR . . . 1881
13.161.2.9 UNZ_OK . . . 1881
13.161.2.10 UNZ_PARAMERROR . . . 1881
13.161.2.11 Z_BZIP2ED . . . 1882
13.161.3 Typedef Documentation . . . 1882
13.161.3.1 tm_unz . . . 1882
13.161.3.2 unz64_file_pos . . . 1882
13.161.3.3 unz_file_info . . . 1882
13.161.3.4 unz_file_info64 . . . 1882
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13.161.4.13 _Z_OF . . . 1883
13.161.4.14 _Z_OF . . . 1883
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13.195.3.1 qt_meta_data_MainWindow . . . 2038
13.195.3.2 qt_meta_stringdata_MainWindow . . . 2039
13.196 src/ckb/release/moc_modeselectdialog.cpp File Reference . . . 2039
13.196.1 Data Structure Documentation . . . 2039
13.196.1.1 struct qt_meta_stringdata_ModeSelectDialog_t . . . 2039
13.196.2 Macro Definition Documentation . . . 2040
13.196.2.1 QT_MOC_LITERAL . . . 2040
13.196.3 Variable Documentation . . . 2040
13.196.3.1 qt_meta_data_ModeSelectDialog . . . 2040
13.196.3.2 qt_meta_stringdata_ModeSelectDialog . . . 2041
13.197 src/ckb/release/moc_mperfwidget.cpp File Reference . . . 2041
13.197.1 Data Structure Documentation . . . 2042
13.197.1.1 struct qt_meta_stringdata_MPerfWidget_t . . . 2042
13.197.2 Macro Definition Documentation . . . 2042
13.197.2.1 QT_MOC_LITERAL . . . 2042
13.197.3 Variable Documentation . . . 2043
13.197.3.1 qt_meta_data_MPerfWidget . . . 2043
13.197.3.2 qt_meta_stringdata_MPerfWidget . . . 2043
13.198 src/ckb/release/moc_quagzipfile.cpp File Reference . . . 2044
13.198.1 Data Structure Documentation . . . 2044
13.198.1.1 struct qt_meta_stringdata_QuaGzipFile_t . . . 2044

13.198.2 Macro Definition Documentation . . . 2045
13.198.2.1 QT_MOC_LITERAL . . . 2045
13.198.3 Variable Documentation . . . 2045
13.198.3.1 qt_meta_data_QuaGzipFile . . . 2045
13.198.3.2 qt_meta_stringdata_QuaGzipFile . . . 2046
13.199 src/ckb/release/moc_quaziodevice.cpp File Reference . . . 2046
13.199.1 Data Structure Documentation . . . 2047
13.199.1.1 struct qt_meta_stringdata_QuaZIODevice_t . . . 2047
13.199.2 Macro Definition Documentation . . . 2047
13.199.2.1 QT_MOC_LITERAL . . . 2047
13.199.3 Variable Documentation . . . 2048
13.199.3.1 qt_meta_data_QuaZIODevice . . . 2048
13.199.3.2 qt_meta_stringdata_QuaZIODevice . . . 2048
13.200 src/ckb/release/moc_quazipfile.cpp File Reference . . . 2048
13.200.1 Data Structure Documentation . . . 2049
13.200.1.1 struct qt_meta_stringdata_QuaZipFile_t . . . 2049
13.200.2 Macro Definition Documentation . . . 2049
13.200.2.1 QT_MOC_LITERAL . . . 2049
13.200.3 Variable Documentation . . . 2050
13.200.3.1 qt_meta_data_QuaZipFile . . . 2050
13.200.3.2 qt_meta_stringdata_QuaZipFile . . . 2050
13.201 src/ckb/release/moc_rebindwidget.cpp File Reference . . . 2050
13.201.1 Data Structure Documentation . . . 2051
13.201.1.1 struct qt_meta_stringdata_RebindWidget_t . . . 2051
13.201.2 Macro Definition Documentation . . . 2052
13.201.2.1 QT_MOC_LITERAL . . . 2052
13.201.3 Variable Documentation . . . 2052
13.201.3.1 qt_meta_data_RebindWidget . . . 2052
13.201.3.2 qt_meta_stringdata_RebindWidget . . . 2052
13.202 src/ckb/release/moc_rlistwidget.cpp File Reference . . . 2053
13.202.1 Data Structure Documentation . . . 2053
13.202.1.1 struct qt_meta_stringdata_RListWidget_t . . . 2053
13.202.2 Macro Definition Documentation . . . 2054
13.202.2.1 QT_MOC_LITERAL . . . 2054
13.202.3 Variable Documentation . . . 2054
13.202.3.1 qt_meta_data_RListWidget . . . 2054
13.202.3.2 qt_meta_stringdata_RListWidget . . . 2054
13.203 src/ckb/release/moc_settingswidget.cpp File Reference . . . 2055
13.203.1 Data Structure Documentation . . . 2056
13.203.1.1 struct qt_meta_stringdata_SettingsWidget_t . . . 2056

13.203.2 Macro Definition Documentation . . . 2056
13.203.2.1 QT_MOC_LITERAL . . . 2056
13.203.3 Variable Documentation . . . 2057
13.203.3.1 qt_meta_data_SettingsWidget . . . 2057
13.203.3.2 qt_meta_stringdata_SettingsWidget . . . 2057
13.204 src/ckb/release/qrc_binary.cpp File Reference . . . 2057
13.204.1 Macro Definition Documentation . . . 2058
13.204.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2058
13.204.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2058
13.204.2 Function Documentation . . . 2058
13.204.2.1 qCleanupResources_binary . . . 2058
13.204.2.2 qInitResources_binary . . . 2059
13.204.2.3 qRegisterResourceData . . . 2059
13.204.2.4 qUnregisterResourceData . . . 2059
13.204.3 Variable Documentation . . . 2060
13.204.3.1 qt_resource_data . . . 2060
13.204.3.2 qt_resource_name . . . 2060
13.204.3.3 qt_resource_struct . . . 2060
13.205 src/ckb/release/qrc_image.cpp File Reference . . . 2060
13.205.1 Macro Definition Documentation . . . 2061
13.205.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2061
13.205.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2061
13.205.2 Function Documentation . . . 2061
13.205.2.1 qCleanupResources_image . . . 2061
13.205.2.2 qInitResources_image . . . 2061
13.205.2.3 qRegisterResourceData . . . 2062
13.205.2.4 qUnregisterResourceData . . . 2062
13.205.3 Variable Documentation . . . 2062
13.205.3.1 qt_resource_data . . . 2062
13.205.3.2 qt_resource_name . . . 2062
13.205.3.3 qt_resource_struct . . . 2063
13.206 src/ckb/release/qrc_text.cpp File Reference . . . 2063
13.206.1 Macro Definition Documentation . . . 2063
13.206.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2063
13.206.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2063
13.206.2 Function Documentation . . . 2063
13.206.2.1 qCleanupResources_text . . . 2063
13.206.2.2 qInitResources_text . . . 2064
13.206.2.3 qRegisterResourceData . . . 2064
13.206.2.4 qUnregisterResourceData . . . 2065

13.206.3 Variable Documentation . . . 2065
13.206.3.1 qt_resource_data . . . 2065
13.206.3.2 qt_resource_name . . . 2065
13.206.3.3 qt_resource_struct . . . 2065
13.207 src/ckb/rlistwidget.cpp File Reference . . . 2066
13.208 src/ckb/rlistwidget.h File Reference . . . 2066
13.209 src/ckb/settingswidget.cpp File Reference . . . 2067
13.209.1 Function Documentation . . . 2068
13.209.1.1 right . . . 2068
13.209.2 Variable Documentation . . . 2068
13.209.2.1 devpath . . . 2068
13.209.2.2 modKeys . . . 2068
13.209.2.3 modNames . . . 2069
13.210 src/ckb/settingswidget.h File Reference . . . 2069
13.211 src/ckb/ui_animadddialog.h File Reference . . . 2070
13.212 src/ckb/ui_animsettingdialog.h File Reference . . . 2070
13.213 src/ckb/ui_extrasettingswidget.h File Reference . . . 2071
13.214 src/ckb/ui_fwupgradedialog.h File Reference . . . 2072
13.215 src/ckb/ui_gradientdialog.h File Reference . . . 2073
13.216 src/ckb/ui_kbanimwidget.h File Reference . . . 2074
13.217 src/ckb/ui_kbbindwidget.h File Reference . . . 2075
13.218 src/ckb/ui_kblightwidget.h File Reference . . . 2076
13.219 src/ckb/ui_kbprofiledialog.h File Reference . . . 2077
13.220 src/ckb/ui_kbwidget.h File Reference . . . 2078
13.221 src/ckb/ui_kperfwidget.h File Reference . . . 2079
13.222 src/ckb/ui_layoutdialog.h File Reference . . . 2080
13.223 src/ckb/ui_mainwindow.h File Reference . . . 2081
13.224 src/ckb/ui_modeselectdialog.h File Reference . . . 2082
13.225 src/ckb/ui_mperfwidget.h File Reference . . . 2083
13.226 src/ckb/ui_rebindwidget.h File Reference . . . 2084
13.227 src/ckb/ui_settingswidget.h File Reference . . . 2085

Index **2087**

Chapter 1

ckb-next: RGB Driver for Linux and macOS

ckb-next is an open-source driver for Corsair keyboards and mice. It aims to bring the features of their proprietary CUE software to the Linux and Mac operating systems. This project is currently a work in progress, but it already supports much of the same functionality, including full RGB animations. More features are coming soon. Testing and bug reports are appreciated!

Disclaimer: ckb-next is not an official Corsair product. It is licensed under the GNU General Public License (version 2) in the hope that it will be useful, but with NO WARRANTY of any kind.

- Device Support
  - Keyboards
  - Mice
- Linux Installation
  - Pre-made packages
  - Preparation
  - Installing
  - Upgrading
  - Uninstalling
- OS X/macOS Installation
  - Binary download
  - Building from source
  - Upgrading (binary)
  - Upgrading (source)
  - Uninstalling
- Usage
  - Major features
  - Roadmap
- Troubleshooting
  - Linux
  - OS X/macOS
  - General
  - Reporting issues
- Known issues

- Contributing
- Contact us
- What happened to the original ckb

See also:

- https://github.com/mattanger/ckb-next/blob/master/DAEMON.md "Manual for the driver daemon"

Device Support

Keyboards

- K63
- K65:
  - RGB
  - non-RGB
  - LUX RGB
  - RGB RAPIDFIRE
- K70:
  - RGB
  - non-RGB
  - LUX RGB
  - LUX non-RGB
  - RGB RAPIDFIRE
  - non-RGB RAPIDFIRE
- K95:
  - RGB
  - non-RGB∗
  - Platinum∗∗
- Strafe:
  - RGB
  - non-RGB
- = hardware playback not supported. Settings will be saved to software only.

∗∗ = partial support, static hardware playback only and inability to control some lights.

Mice

- M65:
  - non-RGB
  - PRO RGB
- Sabre:
  - Optical RGB

  - Laser RGB
- Scimitar:
  - RGB
  - PRO RGB
- Harpoon
- Glaive

Linux Installation

Pre-made packages

- Fedora 24/25, CentOS/RHEL 7 (maintained by):
  - `johanh/ckb` - based on `master` branch
- Arch Linux (maintained by ,):
  - `aur/ckb-next` - based on GitHub releases
  - `aur/ckb-next-git` - based on `master` branch
  - `aur/ckb-next-latest-git` - based on `newdev` branch

If you are a package maintainer or want to discuss something with package maintainers let us know in #5, so we can have an accountable and centralized communication about this. *If you would like to maintain a package for your favorite distro/OS, please let us know as well.*

Preparation

ckb-next requires Qt5 (Qt 5.9 is recommended), libudev, zlib, gcc, g++, and glibc.

- Ubuntu: `sudo apt-get install build-essential libudev-dev qt5-default zlib1g-dev libappindicator-dev`
- Fedora: `sudo dnf install zlib-devel qt5-qtbase-devel libgudev-devel libappindicator-de systemd-devel gcc-c++`
- Arch: `sudo pacman -S base-devel qt5-base zlib`
- Other distros: Look for `qt5` or `libqt5*-devel`

Note: If you build your own kernels, ckb-next requires the `CONFIG_INPUT_UINPUT` flag to be enabled. It is located in `Device Drivers -> Input Device Support -> Miscellaneous devices -> User level driver support`. If you don't know what this means, you can ignore this.

Installing

You can download ckb-next using the "Download zip" option on the right or clone it using `git clone`. Extract it and open the ckb-master directory in a terminal. Run `./quickinstall`. It will attempt to build ckb and then ask if you'd like to install/run the application. If the build doesn't succeed, or if you'd like to hand-tune the compilation of ckb, see https://github.com/mattanger/ckb-next/blob/master/BUILD.md "'BUILD.md'" for instructions.

Upgrading

To install a new version of ckb, or to reinstall the same version, first delete the ckb-master directory and the zip file from your previous download. Then download the source code again and re-run `./quickinstall`. The script will automatically replace the previous installation. You may need to reboot afterward.

Uninstalling

First, stop the ckb-daemon service and remove the service file.

- If you have systemd (Ubuntu versions starting with 15.04): “‘ sudo systemctl stop ckb-daemon sudo rm -f /usr/lib/systemd/system/ckb-daemon.service “‘
- If you have Upstart (Ubuntu versions earlier than 15.04): “‘ sudo service ckb-daemon stop sudo rm -f /etc/init/ckb-daemon.conf “‘
- If you have OpenRC: “‘ sudo rc-service ckb-daemon stop sudo rc-update del ckb-daemon default sudo rm -f /etc/init.d/ckb-daemon “
- `If you're not sure, re-run the`quickinstall`script and proceed to the service installation. The script will say`System service: Upstart detected`or`System service: systemd detected‘. Please be aware that OpenRC is currently not detected automatically.

Afterward, remove the applications and related files: “‘ sudo rm -f /usr/bin/ckb /usr/bin/ckb-daemon /usr/share/applications/ckb.desktop /usr/share/icons/hicolor/512x512/apps/ckb.png sudo rm -rf /usr/lib/ckb-animations “‘

Before `https://github.com/mattanger/ckb-next/commit/f347e60df211c60452f95084b6c46dc4ec5f42` animations were located elsewhere, try removing them as well: “‘ sudo rm -rf /usr/bin/ckb-animations “‘

OS X/macOS Installation

Binary download

macOS `pkg` can be downloaded from `GitHub Releases`. It is always built with the last available stable Qt version and tagrets 10.10 SDK. If you run 10.9.x, you'll need to build the project from source and comment out `src/ckb-heat` (and the backslash above it) inside `ckb.pro`.

Building from source

Install the latest version of Xcode from the App Store. While it's downloading, open the Terminal and execute `xcode-select --install` to install Command Line Tools. Then open Xcode, accept the license agreement and wait for it to install any additional components (if necessary). When you see the "Welcome to Xcode" screen, from the top bar choose `Xcode -> Preferences -> Locations -> Command Line Tools` and select an SDK version. Afterwards install `Homebrew` and execute `brew install qt5` in the Terminal.

> **Note**: If you decide to use the official Qt5 package from Qt website instead, you will have to edit the installation script and provide installation paths manually due to a qmake bug.

The easiest way to build the driver is with the `quickinstall` script, which is present in the ckb-master folder. Double-click on `quickinstall` and it will compile the app for you, then ask if you'd like to install it system-wide. If the build fails for any reason, or if you'd like to compile and install manually, see https://github.com/ccMS-C/ckb/blob/master/BUILD.md "‘BUILD.md‘".

Upgrading (binary)

Download the latest `ckb.pkg`, run the installer, and reboot. The newly-installed driver will replace the old one.

Upgrading (source)

Remove the existing ckb-master directory and zip file. Re-download the source code and run the `quickinstall` script again. The script will automatically replace the previous installation. You may need to reboot afterward.

Uninstalling

Drag `ckb.app` into the trash. Then stop and remove the agent:

“‘sh sudo unload /Library/LaunchDaemons/com.ckb.daemon.plist sudo rm /Library/LaunchDaemons/com.ckb.-daemon.plist “‘

Usage

The user interface is still a work in progress.

Major features

- Control multiple devices independently
- United States and European keyboard layouts
- Customizable key bindings
- Per-key lighting and animation
- Reactive lighting
- Multiple profiles/modes with hardware save function
- Adjustable mouse DPI with ability to change DPI on button press

Closing ckb will actually minimize it to the system tray. Use the Quit option from the tray icon or the settings screen to exit the application.

Roadmap

- **v0.3 release:**
- Ability to store profiles separately from devices, import/export them
- More functions for the Win Lock key
- Key macros
- **v0.4 release:**
- Ability to import CUE profiles
- Ability to tie profiles to which application has focus
- **v0.5 release:**
- Key combos
- Timers?
- **v1.0 release:**
- OSD? (Not sure if this can actually be done)
- Extra settings?
- ????

Troubleshooting

Linux

If you have problems connecting the device to your system (device doesn't respond, ckb-daemon doesn't recognize or can't connect it) and/or you experience long boot times when using the keyboard, try adding the following to your kernel's `cmdline`:

- K65 RGB: `usbhid.quirks=0x1B1C:0x1B17:0x20000408`
- K65 LUX: `usbhid.quirks=0x1B1C:0x1B37:0x20000408`
- K70: `usbhid.quirks=0x1B1C:0x1B09:0x20000408`
- K70 LUX: `usbhid.quirks=0x1B1C:0x1B36:0x20000408`
- K70 RGB: `usbhid.quirks=0x1B1C:0x1B13:0x20000408`
- K95: `usbhid.quirks=0x1B1C:0x1B08:0x20000408`
- K95 RGB: `usbhid.quirks=0x1B1C:0x1B11:0x20000408`
- Strafe: `usbhid.quirks=0x1B1C:0x1B15:0x20000408`
- Strafe RGB: `usbhid.quirks=0x1B1C:0x1B20:0x20000408`
- M65 RGB: `usbhid.quirks=0x1B1C:0x1B12:0x20000408`
- Sabre RGB Optical: `usbhid.quirks=0x1B1C:0x1B14:0x20000408`
- Sabre RGB Laser: `usbhid.quirks=0x1B1C:0x1B19:0x20000408`
- Scimitar RGB: `usbhid.quirks=0x1B1C:0x1B1E:0x20000408`

For instructions on adding `cmdline` parameters in Ubuntu, see `https://wiki.ubuntu.com/Kernel/-KernelBootParameters`

If you have multiple devices, combine them with commas, starting after the `=`. For instance, for K70 RGB + M65 RGB: `usbhid.quirks=0x1B1C:0x1B13:0x20000408,0x1B1C:0x1B12:0x20000408`

If it still doesn't work, try replacing `0x20000408` with `0x4`. Note that this will cause the kernel driver to ignore the device(s) completely, so you need to ensure ckb-daemon is running at boot or else you'll have no input. This will not work if you are using full-disk encryption.

If you see **GLib** critical errors like "' GLib-GObject-CRITICAL **: g_type_add_interface_static: assertion 'G_TYPE-_IS_INSTANTIATABLE (instance_type)' failed "' read `this Arch Linux thread` and try different combinations from it. If it doesn't help, you might want get support from your distribution community and tell them you cannot solve the problem in this thread.

If you're using **Unity** and the tray icon doesn't appear correctly, run `sudo apt-get install libappindicator-dev`. Then reinstall ckb.

Fedora 26 Color Changer Freeze Fix

If you're running Fedora 26, a working solution for the color changer freezing issue is to install qt5ct `dnf install qt5ct` then modify your /etc/environment file to contain the line `QT_QPA_PLATFORMTHEME=qt5ct`

OS X/macOS

- **"ckb.pkg" can't be opened because it is from an unidentified developer** Right-click (control-click) on ckb.-pkg and select Open. This new dialog box will give you the option to open anyway, without changing your system preferences.
- **Modifier keys (Shift, Ctrl, etc.) are not rebound correctly** ckb does not recognize modifier keys rebound from System Preferences. You can rebind them again within the application.

- **∼ key prints §±** Check your keyboard layout on ckb's Settings screen. Choose the layout that matches your physical keyboard.
- **Compile problems** Can usually be resolved by rebooting your computer and/or reinstalling Qt. Make sure that Xcode works on its own. If a compile fails, delete the `ckb-master` directory as well as any automatically generated `build-ckb` folders and try again from a new download.
- **Scroll wheel does not scroll** As of #c3474d2 it's now possible to **disable scroll acceleration** from the GUI. You can access it under "OSX tweaks" in the "More settings" screen. Once disabled, the scroll wheel should behave consistently.

General

Please ensure your keyboard firmware is up to date. If you've just bought the keyboard, connect it to a Windows computer first and update the firmware from Corsair's official utility.

Before reporting an issue, connect your keyboard to a Windows computer and see if the problem still occurs. If it does, contact Corsair. Additionally, please check the Corsair user forums to see if your issue has been reported by other users. If so, try their solutions first.

Common issues:

- **Problem:** ckb says "No devices connected" or "Driver inactive"
- **Solution:** Try rebooting the computer and/or reinstalling ckb. Try removing the keyboard and plugging it back in. If the error doesn't go away, try the following:
- **Problem:** Keyboard doesn't work in BIOS, doesn't work at boot
- **Solution:** Some BIOSes have trouble communicating with the keyboard. They may prevent the keyboard from working correctly in the operating system as well. First, try booting the OS *without* the keyboard attached, and plug the keyboard in after logging in. If the keyboard works after the computer is running but does not work at boot, you may need to use the keyboard's BIOS mode option.
- BIOS mode can be activated using the poll rate switch at the back of the keyboard. Slide it all the way to the position marked "BIOS". You should see the scroll lock light blinking to indicate that it is on. (Note: Unfortunately, this has its own problems - see Known Issues. You may need to activate BIOS mode when booting the computer and deactivate it after logging in).
- **Problem:** Keyboard isn't detected when plugged in, even if driver is already running
- **Solution:** Try moving to a different USB port. Be sure to follow `Corsair's USB connection requirements`. Note that the keyboard does not work with some USB3 controllers - if you have problems with USB3 ports, try USB2 instead. If you have any USB hubs on hand, try those as well. You may also have success sliding the poll switch back and forth a few times.

Reporting issues

If you have a problem that you can't solve (and it isn't mentioned in the Known Issues section below), you can report it on `the GitHub issue tracker`. Before opening a new issue, please check to see if someone else has reported your problem already - if so, feel free to leave a comment there.

Known issues

- Using the keyboard in BIOS mode prevents the media keys (including mute and volume wheel), as well as the K95's G-keys from working. This is a hardware limitation.
- The tray icon doesn't appear in some desktop environments. This is a known Qt bug. If you can't see the icon, reopen ckb to bring the window back.

- When starting the driver manually, the Terminal window sometimes gets spammed with enter keys. You can stop it by unplugging and replugging the keyboard or by moving the poll rate switch.
- When stopping the driver manually, the keyboard sometimes stops working completely. You can reconnect it by moving the poll rate switch.
- On newer versions of macOS (i.e. 10.12 and up) CMD/Shift+select does not work, yet. Stopping the daemon and GUI for `ckb` will fix this issue temporarily.

Contributing

You can contribute to the project by `opening a pull request`. It's best if you base your changes off of the `testing` branch as opposed to the `master`, because the pull request will be merged there first. If you'd like to contribute but don't know what you can do, take a look at `the issue tracker` and see if any features/problems are still unresolved. Feel free to ask if you'd like some ideas.

Contact us

There are multiple ways you can get in touch with us:

- `join` `ckb-next` mailing list
- `open` a GitHub Issue
- hop on `#ckb-next` to chat

What happened to the original ckb

Due to time restrictions, the original author of **ckb** `ccMSC` hasn't been able to further develop the software. So the community around it decided to take the project over and continue its development. That's how **ckb-next** was created. Currently it's not rock solid and not very easy to set up on newer systems but we are actively working on this. Nevertheless the project already incorporates a notable amount of fixes and patches in comparison to the original ckb.

Chapter 2

Building ckb

Linux

You can build the project by running `./qmake-auto && make` in a Terminal inside the ckb-master directory. The binaries will be placed in a new `bin` directory assuming they compile successfully. If you get a `No suitable qmake found` error, make sure Qt5 is installed and up to date. You may have to invoke qmake manually, then run `make` on its own. If you have Qt Creator installed, you can open `ckb.pro` (when asked to configure the project, make sure "Desktop" is checked) and use `Build > Build Project "ckb" (Ctrl+B)` to build the application instead.

Running as a service:

First copy the binary and the service files to their system directories:

- Upstart (Ubuntu, prior to 15.04): `sudo cp -R bin/* /usr/bin && sudo cp service/upstart/ckb-daemon conf /etc/init`
- Systemd (Ubuntu 15.04 and later): `sudo cp -R bin/* /usr/bin && sudo cp service/systemd/ckb-daem service /usr/lib/systemd/system`
- OpenRC: `sudo cp -R bin/* /usr/bin && sudo cp service/openrc/ckb-daemon /etc/init.d/`

To launch the driver and enable it at start-up:

- Upstart: `sudo service ckb-daemon start`
- Systemd: `sudo systemctl start ckb-daemon && sudo systemctl enable ckb-daemon`
- OpenRC: `sudo rc-service ckb-daemon start && sudo rc-update add ckb-daemon default`

Open the `bin` directory and double-click on `ckb` to launch the user interface. If you want to run it at login, add `ckb --background` to your Startup Applications.

Running manually:

Open the `bin` directory in a Terminal and run `sudo ./ckb-daemon` to start the driver. To start the user interface, run `./ckb`. Running the driver manually may be useful for testing/debugging purposes, but you must leave the terminal window open and you'll have to re-run it at every reboot, so installing it as a service is the best long-term solution.

OSX

Open ckb.pro in Qt Creator. You should be prompted to configure the project (make sure the "Desktop" configuration is selected and not iOS). Once it's finished loading, press `Cmd+B` or select `Build > Build Project "ckb"` from the menu bar. When it's done, you should see a newly-created `ckb.app` in the project directory. Exit Qt Creator.

Alternatively, open a Terminal in the ckb-master directory and run `./qmake-auto && make`. It will detect Qt automatically if you installed it to one of the standard locations. You should see a newly created `ckb.app` if the build is successful.

Running as a service:

Copy `ckb.app` to your Applications folder. Copy the file `'service/launchd/com.ckb.daemon.plist'` to your computer's `/Library/LaunchDaemons` folder (you can get to it by pressing `Cmd+Shift+G` in Finder and typing the location). Then open a Terminal and run the following commands to launch the driver:

"' sudo chown root:wheel /Library/LaunchDaemons/com.ckb.daemon.plist sudo chmod 0700 /Library/Launch-Daemons/com.ckb.daemon.plist sudo launchctl load /Library/LaunchDaemons/com.ckb.daemon.plist "'

After you're done, open `ckb.app` to launch the user interface.

Running manually:

Open a Terminal in the ckb directory and run `sudo ckb.app/Contents/Resources/ckb-daemon` to start the driver. Open `ckb.app` to start the user interface. Note that you must leave the terminal window open and must re-launch the driver at every boot if you choose this; installing as a service is the better long term solution.

Chapter 3

cbk Improvements Roadmap

Short term plan

- merge existing PR submitted to original ckb repo
- Contact other developers interested in collaboration on a new and improved version of ckb
- Figure out the issues relating to MacOS Sierra and other version
- Device support:
  - Determine which will need support other than just USB id additions
- Address existing bugs. Not help requests.

Chapter 4

DAEMON

The daemon provides devices at `/dev/input/ckb*`, where `*` is the device number, starting at 1. Up to 9 devices may be connected at once and controlled independently. The daemon additionally provides `/dev/input/ckb0`, which stores driver information.

Mac note: The devices on OSX are located at `/var/run/ckb*` and not `/dev/input/ckb*`. So wherever you see `/dev/input` in this document, replace it with `/var/run`.

`/dev/input/ckb0` contains the following files:

- `connected`: A list of all connected devices, one per line. Each line contains a device path followed by the device's serial number and its description.
- `pid`: The process identifier of the daemon.
- `version`: The daemon version.

Other `ckb*` devices contain the following:

- `cmd`: Keyboard controller.
- `notify0`: Keyboard- or mouse notifications.
- `notify1`: Keyboard- or mouse notifications, used for macro recording.
- `features`: Device features.
- `fwversion`: Device firmware version (not present on all devices).
- `model`: Device description/model.
- `pollrate`: Poll rate in milliseconds (not present on all devices).
- `productid`: Contains the USB productID of the hardware
- `serial`: Device serial number. `model` and `serial` will match the info found in `ckb0/connected`

Commands

The `/dev/input/ckb*/cmd` nodes accept input in the form of text commands. They are normally accessible to all users on the system (see Security section). Commands should be given in the following format: `[mode <n>] command1 [paramter1] [command2] [parameter2] [command3] [parameter3] ...`

In a terminal shell, you can do this like `echo mycommand > /dev/input/ckb1/cmd`. Programmatically, you can open and write them as regular files. When programming, you must append a newline character and flush the output before your command(s) will actually be read.

The `mode` parameter is used to group settings. Most (but not all) settings are mode-specific; that is, changing mode 1 will not affect mode 2. By default, all commands affect the current mode. Use `mode <n> switch` to change the current mode.

When plugged in, all devices start in hardware-controlled mode (also known as idle mode) and will not respond to commands. Before issuing any other commands, write `active` to the command node, like `echo active > /dev/input/ckb1/cmd`. To put the device back into hardware mode, issue the `idle` command.

Features

The `features` node describes features supported by the device, which may not be present on all devices. The first two words in the `features` node are always `<vendor> <model>`, like `corsair k70`. After that, any of the following features may appear:

- `adjrate`: Device supports adjustable poll rate.
- `bind`: Device supports key rebinding.
- `fwupdate`: Device supports firmware updates.
- `fwversion`: Device has a detectable firmware version (stored in the `fwversion` node).
- `notify`: Device supports key notifications.
- `pollrate`: Device has a detectable poll rate (stored in the `pollrate` node).
- `rgb`: Device supports RGB lighting.

Keyboard layout

The driver has no concept of keyboard layouts; all keys are referred to by their English names regardless of the underlying hardware. This means that, for instance, in an AZERTY layout the `q` key in ckb-daemon corresponds to A on the physical keyboard. Note that on UK/european (ISO) layouts, the backslash key (beside left shift) is called `bslash_iso`, while `bslash` refers to the backslash on the US keyboard. The key next to Enter on the ISO keyboard is known as `hash`. See `src/ckb-daemon/keymap.c` for the full table of supported keys.

For technical reasons, the OSX driver may swap the `bslash_iso` and `grave` keys if the keyboard layout is not set correctly. To compensate for this, write `layout iso` or `layout ansi` to the command node.

Poll rate

A device's current poll rate can be read from its `pollrate` node, assuming it has one. Keyboards have a hardware switch to control poll rate and cannot be adjusted via software. However, mice have a software-controlled poll rate. You can change it by issuing `pollrate <interval>` to the command node, where `interval` is the time in milliseconds. Valid poll rates are `1`, `2`, `4`, and `8`.

Profiles and modes

Each mode has its own independent binding and lighting setup. When the daemon starts or a keyboard is plugged in, the profile will be loaded from the hardware. By default, all commands will update the currently selected mode. The `mode <n>` command may be used to change the settings for a different mode. Up to 6 modes are available. Each keyboard has one profile, which may be given a name. Mode 1 may be saved to the device hardware, or modes 1-3 in the case of the K95. Modes 4 through 6 are software-only. Profile management commands are as follows:

- `profilename <name>` sets the profile's name. The name must be written without spaces; to add a space, use `%20`.

- `name <name>` sets the current mode's name. Use `mode <n> name <name>` to set a different mode's name.
- `profileid <guid> [<modification>]` sets a profile's ID. The GUID must be written in registry format, like `{12345678-ABCD-EF01-2345-6789ABCDEF01}`. The optional modification number must be written with 8 hex digits, like `ABCDEF01`.
- `id <guid> [<modification>]` sets a mode's ID.
- `mode <n> switch` switches the keyboard to mode N. If the mode does not exist, it will be created with a blank ID, black lighting, and default bindings.
- `hwload` loads the RGB profile from the hardware. Key bindings and non-hardware RGB modes are unaffected.
- `hwsave` saves the RGB profile to the hardware.
- `erase` erases the current mode, resetting its lighting and bindings. Use `mode <n> erase` to erase a different mode.
- `eraseprofile` erases the entire profile, deleting its name, ID, and all of its modes.

Examples:

- `profilename My%20Profile mode 1 name Mode%201 mode 2 name Mode%202 mode 3 name Mode%203` will name the profile "My Profile" and name modes 1-3 "Mode 1", "Mode 2", and "Mode 3".
- `eraseprofile hwload` resets the entire profile to its hardware settings.

LED commands

The backlighting is controlled by the `rgb` commands.

- `rgb <RRGGBB>` sets the entire keyboard to the color specified by the hex constant RRGGBB.
- `rgb <key>:<RRGGBB>` sets the specified key to the specified hex color.

Examples:

- `rgb ffffff` makes the whole keyboard white.
- `rgb 000000` makes the whole keyboard black.
- `rgb esc:ff0000` sets the Esc key red but leaves the rest of the keyboard unchanged.

Multiple keys may be changed to one color when separated with commas, for instance:

- `rgb w,a,s,d:0000ff` sets the WASD keys to blue.

Additionally, multiple commands may be combined into one, for instance:

- `rgb ffffff esc:ff0000 w,a,s,d:0000ff` sets the Esc key red, the WASD keys blue, and the rest of the keyboard white (note the lack of a key name before `ffffff`, implying the whole keyboard is to be set).

By default, the controller runs at 30 FPS, meaning that attempts to animate the LEDs faster than that will be ignored. If you wish to change it, send the command `fps <n>`. The maximum frame rate is 60.

For devices running in 512-color mode, color dithering can be enabled by sending the command `dither 1`. The command `dither 0` disables dithering.

Indicators

The indicator LEDs (Num Lock, Caps Lock, Scroll Lock) are controlled with the `i` commands.

- `ioff <led>` turns an indicator off permanently. Valid LED names are `num`, `caps`, and `scroll`.
- `ion <led>` turns an indicator on permanently.
- `iauto <led>` turns an indicator off or on automatically (default behavior).

Binding keys

Keys may be rebound through use of the `bind` commands. Binding is a 1-to-1 operation that translates one keypress to a different keypress regardless of circumstance.

- `bind <key1>:<key2>` remaps key1 to key2.
- `unbind <key>` unbinds a key, causing it to lose all function.
- `rebind <key>` resets a key, returning it to its default binding.

Examples:

- `bind g1:esc` makes G1 become an alternate Esc key (the actual Esc key is not changed).
- `bind caps:tab tab:caps` switches the functions of the Tab and Caps Lock keys.
- `unbind lwin rwin` disables both Windows keys, even without using the keyboard's Windows Lock function.
- `rebind all` resets the whole keyboard to its default bindings.

Key macros

Macros are a more advanced form of key binding, controlled with the `macro` command.

- `macro <keys>:<command>` binds a key combination to a command, where the command is a series of key presses. To combine keys, separate them with `+`; for instance, `lctrl+a` binds a macro to (left) Ctrl+A. In the command field, enter `+<key>` to trigger a key down or `-<key>` to trigger a key up. To simulate a key press, use `+<key>,-<key>`.
- `macro <keys>:clear` clears commands associated with a key combination. Only one macro may be assigned per combination; assigning a second one will overwrite the first.
- `macro clear` clears all macros.

Examples:

- `macro g1:+lctrl,+a,-a,-lctrl` triggers a Ctrl+A when G1 is pressed.
- `macro g2+g3:+lalt,+f4,-f4,-lalt` triggers an Alt+F4 when G2 and G3 are pressed simultaneously.

Assigning a macro to a key will cause its binding to be ignored; for instance, `macro a:+b,-b` will cause A to generate a B character regardless of its binding. However, `macro lctrl+a:+b,-b` will cause A to generate a B only when Ctrl is also held down.

Macro playback delay

There are two types of playback delay that can be set with macros; global and local. Setting a *global delay* value introduces a time delay between events during macro execution or playback. *Local delay* allows setting the delay after an individual event, overriding the global delay value for that event. Thus global delay can be used to set the overall playback speed of macros and local delays can be used to tune individual events within a macro.

All delay values are specified in microseconds (us) and are positive values from `0` to `UINT_MAX - 1`. This means delays range from 0 to just over 1 hour (4,294,967,294us, 4,294 seconds, 71 minutes, or 1.19 hours). A value of zero (0) represents no delay between actions.

Global macro delay (default delay)

Global delay allows macro playback speed to be changed. It sets the time between (actually after) each recorded macro event. If global delay is set to 1 microsecond then a 1 ms delay will follow each individual macro event when the macro is triggered.

The *global delay* is set with the ckb-daemon's existing (in testing branch) `delay` command followed by an unsigned integer representing the number of microseconds to wait after each macro action and before the next.

Global delay can also be set to `on` which maintains backwards compatibility with the current development of `ckb-daemon` for long macro playback. That is, setting the global delay to `on` introduces a 30us and a 100us delay based on the macro's length during playback.

NOTE: This setting also introduces a delay after the last macro action. This functionality exists in the current testing branch and was left as-is. It is still to be determined if this is a bug or a feature.

Examples:

- `delay 1000` sets a 1,000us delay between action playback.
- `delay on` sets long macro delay; 30us for actions between 20 and 200, 100us for actions > 200.
- `delay off` sets no delay (same as 0).
- `delay 0` sets no delay (same as off).
- `delay spearmint-potato` is invalid input, sets no delay (same as off).

Local macro delay (keystroke delay)

Local Delay allows each macro action to have a post-action delay associated with it. This allows a macro to vary it's playback speed for each event. If no local delay is specified for a macro action, then the global `delay` (above) is used. All delay values are in microsecods (us) as with the global delay setting.

Examples:

- `macro g5:+d,-d,+e=5000,-e,+l,-l=10000,+a,-a,+y,-y=1000000,+enter,-enter` define a macro for `g5` with a 5,000us delay between the `e` down and `e` up actions. A 1,000us delay between `l` up and `a` down, a delay of one second (1,000,000us) after `y` up and before `enter`, and the global delay for all other actions.
- `macro g5:+d,-d=0` use default delay between `d` down and `d` up and no delay (0us) after `d` up. This removes the noted feature/bug (above) where the last action has a trailing delay associated with it.

DPI and mouse settings

DPI settings are stored in a bank. They are controlled with the `dpi` command.

- `dpi <stage>:<x>,<y>` sets the DPI for a given `stage` to `x` by `y`. Valid stages are `0` through `5`. In hardware, `1` is the first (lowest) stage and `5` is the highest. Stage `0` is used for Sniper mode.
- `dpi <stage>:<xy>` sets both X and Y.

- `dpi <stage>:off` disables a DPI stage.
- `dpisel <stage>` sets the current stage selection.

In order to change the mouse's current DPI, first update one of the stages with the value you want, then select that stage. For instance:

- `dpi 1:1000 dpisel 1` sets the current DPI to 1000x1000.

Additional mouse settings:

- `lift <height>` sets the lift height, from `1` (lowest) to `5` (highest)
- `snap <on|off>` enables or disables Angle Snap.

Notifications

The keyboard can be configured to generate user-readable notifications on keypress events. These are controlled with the `notify` commands. In order to see events, read from `/dev/input/ckb*/notify0`. In a terminal, you can do this like `cat /dev/input/ckb1/notify0`. Programmatically, you can open it for reading like a regular file.

Note that the file can only reliably be read by one application: if you try to open it in two different programs, they may both fail to get data. Data will be buffered as long as no programs are reading, so you will receive all unread notifications as soon as you open the file. If you'd like to read notifications from two separate applications, send the command `notifyon <n>` to the keyboard you wish to receive notifications from, where N is a number between 1 and 9. If `/dev/input/ckb*/notify<n>` does not already exist, it will be created, and you can read notifications from there without disrupting any other program. To close a notification node, send `notifyoff <n>`.

`notify0` is always open and will not be affected by `notifyon`/`notifyoff` commands. By default, all notifications are printed to `notify0`. To print output to a different node, prefix your command with `@<node>`.

Notifications are printed with one notification per line. Commands are as follows:

- `notify <key>:on` or simply `notify <key>` enables notifications for a key. Each key will generate two notifications: `key +<key>` when the key is pressed, and `key -<key>` when it is released.
- `notify <key>:off` turns notifications off for a key.

Examples:

- `notify w a s d` sends notifications whenever W, A, S, or D is pressed.
- `notify g1 g2 g3 g4 g5 g6 g7 g8 g9 g10 g11 g12 g13 g14 g15 g16 g17 g18 mr m1 m2 m3 light lock` prints a notification whenever a non-standard key is pressed.
- `notify all:off` turns all key notifications off.
- `@5 notify esc` prints Esc key notifications to `notify5`.

Note: Key notifications are *not* affected by bindings. For instance, if you run `echo bind a:b notify a > /dev/input/ckb1/cmd` and then press the A key, the notifications will read `key +a key -a`, despite the fact that the character printed on screen will be `b`. Likewise, unbinding a key or assigning a macro to a key does not affect the notifications.

Indicator notifications

You can also choose to receive notifications for the indicator LEDs by using the `inotify` command. For instance, `inotify caps:on` or simply `inotify caps` will print notifications whenever the Caps Lock LED is toggled. The notifications will read `i +caps` when the light is turned on and `i -caps` when it is turned off. It is also possible to toggle all indicators at once using `inotify all` or `inotify all:off`.

Like key notifications, indicator notifications are not affected by bindings, nor by the `ion`, `ioff`, or `iauto` commands. The notifications will reflect the state of the LEDs as seen be the event device.

Getting parameters

Parameters can be retrieved using the `get` command. The data will be sent out as a notification. Generally, the syntax to get the data associated with a command is `get :<command>` (note the colon), and the associated data will be returned in the form of `<command> <data>`. The following data may be gotten:

- `get :mode` returns the current mode in the form of a `switch` command. (Note: Do not use this in a line containing a `mode` command or it will return the mode that you selected, rather than the keyboard's current mode.)
- `get :name` returns the current mode's name in the form of `mode <n> name <name>`. To see the name of another mode, use `mode <n> get :name`. The name is URL-encoded; spaces are written as %20. The name may be truncated, so `name <some long string> get :name` may return something shorter than what was entered.
- `get :profilename` returns the profile's name, in the form of `profilename <name>`. As above, it is URL-encoded and may be truncated.
- `get :hwname` and `get :hwprofilename` return the same thing except taken from the current hardware profile instead of the in-memory profile. The output is identical but will read `hwname` instead of `name` and `hwprofilename` instead of `profilename`.
- `get :id` returns the current mode's ID and modification number in the form of `mode <n> id <guid> <modification>`.
- `get :profileid` returns the current profile's ID and modification number in the form of `profileid <guid> <modification>`.
- `get :hwid` and `get :hwprofileid` return the same thing except from the current hardware profile/mode. As before, the ouput will be the same but with `hwid` and `hwprofileid` instead of `id` and `profileid`.
- `get :rgb` returns an `rgb` command equivalent to the current RGB state.
- `get :hwrgb` does the same thing, but retrieves the colors currently stored in the hardware profile. The output will say `hwrgb` instead of `rgb`.
- `get :dpi` returns a `dpi` command equivalent to the current DPI bank.
- `get :dpisel` returns a `dpisel` command for the currently-selected DPI stage.
- `get :lift` returns a `lift` command for the current lift height.
- `get :snap` returns the current angle snap status.
- `get :hwdpi`, `get :hwdpisel`, `get :hwlift`, and `get :hwsnap` return the same properties, but for the current hardware profile.
- `get :keys` and `get :i` return the current keypress status and indicator status, respectively. They will indicate all currently pressed keys and all currently active indicators, like `key +enter` and `i +num`.

Like `notify`, you must prefix your command with `@<node>` to get data printed to a node other than `notify0`.

Firmware updates

WARNING: Improper use of `fwupdate` may brick your device; use this command *at your own risk*. I accept no responsibility for broken keyboards.

The latest firmware versions and their URLs can be found in the `FIRMWARE` document. To update your keyboard's firmware, first extract the contents of the zip file and then issue the command `fwupdate /path/to/fw/file.bin` to the keyboard you wish to update. The path name must be absolute and must not include spaces. If it succeeded, you should see `fwupdate <path> ok` logged to the keyboard's notification node and then the device will disconnect and reconnect. If you see `fwupdate <path> invalid` it means that the firmware file was not valid for the device; more info may be available in the daemon's `stdout`. If you see `fwupdate <path> fail` it means that the file was valid but the update failed at a hardware level. The keyboard may disconnect/reconnect anyway or it may remain in operation.

When the device reconnects you should see the new firmware version in its `fwversion` node; if you see `0000` instead it means that the keyboard did not update successfully and will need another `fwupdate` command in order to function again. If the update fails repeatedly, try connecting the keyboard to a Windows PC and using the official firmware update in CUE.

Restart

Because sometimes the communication between the daemon and the keyboard is corrupted after resuming from standby or suspend, a restart function is implemented. It first calls the quit() function, then it calls main() again with the original parameter list.

There are two ways to restart the daemon:

- send the string "restart some-description-as-one-word" to the cmd-pipe (normally /dev/input/ckb1/cmd or /dev/input/ckb2/cmd, depending on what device gets which ID.
- send SIGUSR1 to the daemon process (as root).

Later on, there may be a user interface in the client for the first method.

Security

By default, all of the `ckb*` nodes may be accessed by any user. For most single-user systems this should not present any security issues, since only one person will have access to the computer anyway. However, if you'd like to restrict the users that can write to the `cmd` nodes or read from the `notify` nodes, you can specify the `--gid=<group>` option at start up. For instance, on most systems you could run `ckb-daemon --gid=1000` to make them accessible only by the system's primary user. `ckb-daemon` must still be run as root, regardless of which `gid` you specify. The `gid` option may be set only at startup and cannot be changed while the daemon is running.

The daemon additionally supports a `--nonotify` option to disable key notifications, to prevent unauthorized programs from logging key input. Note that this will interfere with some of `ckb`'s abilities. It is also highly unlikely to increase security unless you are using the program in a stripped down terminal environment without Xorg. For most use cases there are many other (more likely) ways that a keylogger program could compromise your system. Nevertheless, the option is provided for the sake of paranoia. If you'd like to disable key rebinding as well, launch the daemon with `--nobind`. `--nobind` implies `--nonotify`, so notifications will also be disabled. As with `--gid`, these options must be set at startup and cannot be changed while the daemon is running.

Chapter 5

Todo List

Global _usbsend (usbdevice ∗kb, const uchar ∗messages, int count, const char ∗file, int line)

A lot of different conditions are combined in this code. Don't think, it is good in every combination...

Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

Global closeusb (usbdevice ∗kb)

What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

Global devmain (usbdevice ∗kb)

Hope to find the need for dmutex usage later.

Should this function be declared as pthread_t∗ function, because of the defintion of pthread-create? But void∗ works also...

readcmd() gets a **line**, not **lines**. Have a look on that later.

Is the condition IS_CONNECTED valid? What functions change the condititon for the macro?

Global get_vtable (short vendor, short product)

Is the last point really a good decision and always correct?

Global inputupdate_keys (usbdevice ∗kb)

If we want to get all keys typed while a macro is played, add the code for it here.

Global Kb::Kb (QObject ∗parent, const QString &path)

Is adding notify2 to the notifypaths neccessary?

Global Kb::∼Kb ()

I don't think, that notifypaths is used somewhere. So why do we have it? If we do not need it, searching for an ununsed notify channel can easy be refactored to a private member function.

Global macro_pt_enqueue ()

find a better exit strategy if no more mem available.

Global os_inputmain (void ∗context)

This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

Global os_resetusb (usbdevice ∗kb, const char ∗file, int line)

it seems that no one wants to try the reset again. But I'v seen it somewhere...

Global os_setupusb (usbdevice ∗kb)

in these modules a pullrequest is outstanding

Global os_usbsend (usbdevice ∗kb, const uchar ∗out_msg, int is_recv, const char ∗file, int line)

Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

Global product_str (short product)

There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb*∗, product_str() needs the *product ID*

Global RebindWidget::applyChanges (const QStringList &keys, bool doUnbind)

There is still a bug in the state machine: If you record a macro in asTyped-mode, switch to another mode and change the vontent of the pteMacroBox manually, then the changes are not saved in the timing buffer. But anyhow, let's do more relevant things...

Global RebindWidget::on_btnClearMacro_clicked ()

I do not know what is the better solution with the delay-buttons in case of clicking clear: Reset the button to the default value or do not touch it? Not clear is ignored.

Global revertusb (usbdevice ∗kb)

Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

Global udevthread

These two thread vasriables seem to be unused: usbtread, udevthread

Global udevthread

These two thread vasriables seem to be unused: usbtread, udevthread

Global usb_add_device (struct udev_device ∗dev)

So why the hell not a transformation between the string and the short presentation? Lets check if the string representation is used elsewhere.

Global usb_tryreset (usbdevice ∗kb)

Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

Global usbmain ()

Why isn't missing of uinput a fatal error?

Iae. here the work has to go on...

Global usbmutex

We should have a look why this mutex is never used.

Chapter 6

Deprecated List

Class QuaZipFileInfo

Use QuaZipFileInfo64 instead. Not only it supports large files, but also more convenience methods as well.

Chapter 7

Namespace Index

7.1 Namespace List

Here is a list of all namespaces with brief descriptions:

Ui 41

Chapter 8

Hierarchical Index

8.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

_model . . . 1579
_readlines_ctx . . . 1255
AutoRun . . . 120
binding . . . 1501
ckb_gradient . . . 1646
ckb_key . . . 1646
ckb_runctx . . . 1646
CkbSettings . . . 124
ColorMap . . . 151
curfile64_info . . . 1892
devcmd . . . 1222
devcmd.__unnamed__ . . . 160
dpiset . . . 1501
MPerfWidget::DpiUi . . . 780
file_in_zip64_read_info_s . . . 1821
KbFirmware::FW . . . 183
hwprofile . . . 1501
KPerfWidget::IndicatorUi . . . 704
JlCompress . . . 243
KbId . . . 1680
Key . . . 603
key . . . 1734
keyAnim . . . 1401
keyanim . . . 1408
keymacro . . . 1501
KeyMap . . . 637
KeyPatch . . . 1714
kiss_fft_cpx . . . 1622
kiss_fft_state . . . 1606
kiss_fftr_state . . . 1629
lighting . . . 1501
linkedlist_data_s . . . 1892
linkedlist_datablock_internal_s . . . 1892
macroaction . . . 1501
AnimScript::Param . . . 54
parameter . . . 1315
GradientDialog::Preset . . . 798
ptlist . . . 1315

QDialog . . . 800
AnimAddDialog . . . 48
AnimSettingDialog . . . 99
ExtraSettingsWidget . . . 175
FwUpgradeDialog . . . 184
GradientDialog . . . 214
KbProfileDialog . . . 557
LayoutDialog . . . 722
ModeSelectDialog . . . 756
QIODevice . . . 801
QuaGzipFile . . . 817
QuaZIODevice . . . 824
QuaZipFile . . . 882
QIODevice_descriptor . . . 802
QListWidget . . . 803
RListWidget . . . 1006
QMainWindow . . . 804
MainWindow . . . 737
QObject . . . 805
AnimScript . . . 54
CkbSettingsWriter . . . 139
KbAnim . . . 311
KbBind . . . 366
KbFirmware . . . 414
KbLight . . . 426
KbManager . . . 478
KbMode . . . 490
KbPerf . . . 504
KbProfile . . . 539
KeyAction . . . 606
QPushButton . . . 806
ColorButton . . . 141
GradientButton . . . 200
qt_meta_stringdata_AnimAddDialog_t . . . 1960
qt_meta_stringdata_AnimScript_t . . . 1963
qt_meta_stringdata_AnimSettingDialog_t . . . 1966
qt_meta_stringdata_CkbSettingsWriter_t . . . 1969
qt_meta_stringdata_ColorButton_t . . . 1971
qt_meta_stringdata_ExtraSettingsWidget_t . . . 1973
qt_meta_stringdata_FwUpgradeDialog_t . . . 1976
qt_meta_stringdata_GradientButton_t . . . 1979
qt_meta_stringdata_GradientDialog_t . . . 1982
qt_meta_stringdata_GradientDialogWidget_t . . . 1985
qt_meta_stringdata_Kb_t . . . 1987
qt_meta_stringdata_KbAnim_t . . . 1990
qt_meta_stringdata_KbAnimWidget_t . . . 1992
qt_meta_stringdata_KbBind_t . . . 1995
qt_meta_stringdata_KbBindWidget_t . . . 1997
qt_meta_stringdata_KbFirmware_t . . . 1999
qt_meta_stringdata_KbLight_t . . . 2002
qt_meta_stringdata_KbLightWidget_t . . . 2005
qt_meta_stringdata_KbManager_t . . . 2008
qt_meta_stringdata_KbMode_t . . . 2010
qt_meta_stringdata_KbPerf_t . . . 2012
qt_meta_stringdata_KbProfile_t . . . 2015
qt_meta_stringdata_KbProfileDialog_t . . . 2017
qt_meta_stringdata_KbWidget_t . . . 2021

qt_meta_stringdata_KeyAction_t . . . 2023
qt_meta_stringdata_KeyWidget_t . . . 2025
qt_meta_stringdata_KPerfWidget_t . . . 2027
qt_meta_stringdata_LayoutDialog_t . . . 2030
qt_meta_stringdata_MacroReader_t . . . 2033
qt_meta_stringdata_MacroReaderThread_t . . . 2033
qt_meta_stringdata_MainWindow_t . . . 2037
qt_meta_stringdata_ModeSelectDialog_t . . . 2039
qt_meta_stringdata_MPerfWidget_t . . . 2041
qt_meta_stringdata_QuaGzipFile_t . . . 2044
qt_meta_stringdata_QuaZIODevice_t . . . 2046
qt_meta_stringdata_QuaZipFile_t . . . 2048
qt_meta_stringdata_RebindWidget_t . . . 2050
qt_meta_stringdata_RListWidget_t . . . 2053
qt_meta_stringdata_SettingsWidget_t . . . 2055
QThread . . . 807
  Kb . . . 261
  MacroReader . . . 725
  MacroReaderThread . . . 729
QuaChecksum32 . . . 811
  QuaAdler32 . . . 808
  QuaCrc32 . . . 814
QuaZip . . . 832
QuaZipDir . . . 864
QuaZipFileInfo . . . 905
QuaZipFileInfo64 . . . 908
QuaZipFilePrivate . . . 916
QuaZipNewInfo . . . 921
QuaZipPrivate . . . 929
QWidget . . . 938
  GradientDialogWidget . . . 227
  KbAnimWidget . . . 348
  KbBindWidget . . . 403
  KbLightWidget . . . 465
  KbWidget . . . 571
  KeyWidget . . . 661
  KPerfWidget . . . 704
  MPerfWidget . . . 780
  RebindWidget . . . 970
  SettingsWidget . . . 1011
rgb . . . 1430
SGroup . . . 1035
tm_unz_s . . . 1872
tm_zip_s . . . 1948
Ui_AnimAddDialog . . . 1038
  Ui::AnimAddDialog . . . 43
Ui_AnimSettingDialog . . . 1042
  Ui::AnimSettingDialog . . . 86
Ui_ExtraSettingsWidget . . . 1055
  Ui::ExtraSettingsWidget . . . 162
Ui_FwUpgradeDialog . . . 1067
  Ui::FwUpgradeDialog . . . 193
Ui_GradientDialog . . . 1073
  Ui::GradientDialog . . . 206
Ui_KbAnimWidget . . . 1081
  Ui::KbAnimWidget . . . 338

Ui_KbBindWidget . . . 1090
Ui::KbBindWidget . . . 396
Ui_KbLightWidget . . . 1096
Ui::KbLightWidget . . . 456
Ui_KbProfileDialog . . . 1104
Ui::KbProfileDialog . . . 566
Ui_KbWidget . . . 1108
Ui::KbWidget . . . 593
Ui_KPerfWidget . . . 1118
Ui::KPerfWidget . . . 684
Ui_LayoutDialog . . . 1137
Ui::LayoutDialog . . . 717
Ui_MainWindow . . . 1142
Ui::MainWindow . . . 733
Ui_ModeSelectDialog . . . 1146
Ui::ModeSelectDialog . . . 752
Ui_MPerfWidget . . . 1150
Ui::MPerfWidget . . . 760
Ui_RebindWidget . . . 1169
Ui::RebindWidget . . . 939
Ui_SettingsWidget . . . 1200
Ui::SettingsWidget . . . 1023
unz64_file_pos_s . . . 1872
unz64_s . . . 1821
unz_file_info64_internal_s . . . 1821
unz_file_info64_s . . . 1872
unz_file_info_s . . . 1872
unz_file_pos_s . . . 1872
unz_global_info64_s . . . 1872
unz_global_info_s . . . 1872
usbdevice . . . 1501
UsbId . . . 1212
usbid . . . 1501
usbinput . . . 1501
usbmode . . . 1501
usbprofile . . . 1501
zip64_internal . . . 1892
zip_fileinfo . . . 1948
zlib_filefunc64_32_def_s . . . 1774
zlib_filefunc64_def_s . . . 1774
zlib_filefunc_def_s . . . 1774

Chapter 9

Data Structure Index

9.1 Data Structures

Here are the data structures with brief descriptions:

Ui::AnimAddDialog . . . 43
AnimAddDialog . . . 48
AnimScript . . . 54
Ui::AnimSettingDialog . . . 86
AnimSettingDialog . . . 99
AutoRun . . . 120
CkbSettings . . . 124
CkbSettingsWriter . . . 139
ColorButton . . . 141
ColorMap . . . 151
devcmd.__unnamed__ . . . 160
Ui::ExtraSettingsWidget . . . 162
ExtraSettingsWidget . . . 175
KbFirmware::FW . . . 183
FwUpgradeDialog . . . 184
Ui::FwUpgradeDialog . . . 193
GradientButton . . . 200
Ui::GradientDialog . . . 206
GradientDialog . . . 214
GradientDialogWidget . . . 227
JlCompress
Utility class for typical operations . . . 243
Kb . . . 261
KbAnim . . . 311
Ui::KbAnimWidget . . . 338
KbAnimWidget . . . 348
KbBind . . . 366
Ui::KbBindWidget . . . 396
KbBindWidget . . . 403
KbFirmware . . . 414
KbLight . . . 426
Ui::KbLightWidget . . . 456
KbLightWidget . . . 465
KbManager . . . 478
KbMode . . . 490
KbPerf . . . 504
KbProfile . . . 539
KbProfileDialog . . . 557

Ui::KbProfileDialog . . . 566
KbWidget . . . 571
Ui::KbWidget . . . 593
Key . . . 603
KeyAction . . . 606
KeyMap . . . 637
KeyWidget . . . 661
Ui::KPerfWidget . . . 684
KPerfWidget . . . 704
Ui::LayoutDialog . . . 717
LayoutDialog . . . 722
MacroReader
Creates a worker thread object. It does a connect do delayed deletion of thread local variables in the case the worker thread terminates . . . 725
MacroReaderThread
Responsible for reading Macro Key Values. It is created as a separate thread (worker thread) for reading macro commands from an fresh opened notify channel. Standard notify channel for macro definitions is number 2 . . . 729
Ui::MainWindow . . . 733
MainWindow . . . 737
Ui::ModeSelectDialog . . . 752
ModeSelectDialog . . . 756
Ui::MPerfWidget . . . 760
MPerfWidget . . . 780
GradientDialog::Preset . . . 798
QDialog . . . 800
QIODevice . . . 801
QIODevice_descriptor . . . 802
QListWidget . . . 803
QMainWindow . . . 804
QObject . . . 805
QPushButton . . . 806
QThread . . . 807
QuaAdler32
Adler32 checksum . . . 808
QuaChecksum32
Checksum interface . . . 811
QuaCrc32
CRC32 checksum . . . 814
QuaGzipFile
GZIP file . . . 817
QuaZIODevice
A class to compress/decompress QIODevice . . . 824
QuaZip
ZIP archive . . . 832
QuaZipDir
Provides ZIP archive navigation . . . 864
QuaZipFile
A file inside ZIP archive . . . 882
QuaZipFileInfo
Information about a file inside archive . . . 905
QuaZipFileInfo64
Information about a file inside archive (with zip64 support) . . . 908
QuaZipFilePrivate
The implementation class for QuaZip . . . 916
QuaZipNewInfo
Information about a file to be created . . . 921

QuaZipPrivate
All the internal stuff for the QuaZip class . . . 929
QWidget . . . 938
Ui::RebindWidget . . . 939
RebindWidget . . . 970
RListWidget . . . 1006
SettingsWidget . . . 1011
Ui::SettingsWidget . . . 1023
SGroup . . . 1035
Ui_AnimAddDialog . . . 1038
Ui_AnimSettingDialog . . . 1042
Ui_ExtraSettingsWidget . . . 1055
Ui_FwUpgradeDialog . . . 1067
Ui_GradientDialog . . . 1073
Ui_KbAnimWidget . . . 1081
Ui_KbBindWidget . . . 1090
Ui_KbLightWidget . . . 1096
Ui_KbProfileDialog . . . 1104
Ui_KbWidget . . . 1108
Ui_KPerfWidget . . . 1118
Ui_LayoutDialog . . . 1137
Ui_MainWindow . . . 1142
Ui_ModeSelectDialog . . . 1146
Ui_MPerfWidget . . . 1150
Ui_RebindWidget . . . 1169
Ui_SettingsWidget . . . 1200
UsbId . . . 1212

Chapter 10

File Index

10.1 File List

Here is a list of all files with brief descriptions:

src/ckb-daemon/command.c . . . 1217
src/ckb-daemon/command.h . . . 1222
src/ckb-daemon/device.c . . . 1231
src/ckb-daemon/device.h . . . 1235
src/ckb-daemon/device_keyboard.c . . . 1245
src/ckb-daemon/device_mouse.c . . . 1250
src/ckb-daemon/device_vtable.c . . . 1253
src/ckb-daemon/devnode.c . . . 1255
src/ckb-daemon/devnode.h . . . 1269
src/ckb-daemon/dpi.c . . . 1277
src/ckb-daemon/dpi.h . . . 1283
src/ckb-daemon/extra_mac.c . . . 1289
src/ckb-daemon/firmware.c . . . 1289
src/ckb-daemon/firmware.h . . . 1294
src/ckb-daemon/includes.h . . . 1297
src/ckb-daemon/input.c . . . 1301
src/ckb-daemon/input.h . . . 1315
src/ckb-daemon/input_linux.c . . . 1326
src/ckb-daemon/input_mac.c . . . 1333
src/ckb-daemon/input_mac_mouse.c . . . 1333
src/ckb-daemon/keymap.c . . . 1333
src/ckb-daemon/keymap.h . . . 1734
src/ckb-daemon/keymap_mac.h . . . 1338
src/ckb-daemon/led.c . . . 1339
src/ckb-daemon/led.h . . . 1344
src/ckb-daemon/led_keyboard.c . . . 1356
src/ckb-daemon/led_mouse.c . . . 1389
src/ckb-daemon/main.c . . . 1393
src/ckb-daemon/notify.c . . . 1449
src/ckb-daemon/notify.h . . . 1458
src/ckb-daemon/os.h . . . 1463
src/ckb-daemon/profile.c . . . 1464
src/ckb-daemon/profile.h . . . 1481
src/ckb-daemon/profile_keyboard.c . . . 1496
src/ckb-daemon/profile_mouse.c . . . 1499
src/ckb-daemon/structures.h . . . 1501
src/ckb-daemon/usb.c . . . 1520

src/ckb-daemon/usb.h
Definitions for using USB interface . . . 1538
src/ckb-daemon/usb_linux.c . . . 1579
src/ckb-daemon/usb_mac.c . . . 1605
src/ckb-gradient/main.c . . . 1401
src/ckb-heat/main.c . . . 1408
src/ckb-mviz/_kiss_fft_guts.h . . . 1606
src/ckb-mviz/kiss_fft.c . . . 1610
src/ckb-mviz/kiss_fft.h . . . 1622
src/ckb-mviz/kiss_fftr.c . . . 1629
src/ckb-mviz/kiss_fftr.h . . . 1634
src/ckb-mviz/main.c . . . 1413
src/ckb-pinwheel/main.c . . . 1419
src/ckb-rain/main.c . . . 1424
src/ckb-random/main.c . . . 1430
src/ckb-ripple/main.c . . . 1435
src/ckb-wave/main.c . . . 1441
src/ckb/animadddialog.cpp . . . 1638
src/ckb/animadddialog.h . . . 1639
src/ckb/animscript.cpp . . . 1639
src/ckb/animscript.h . . . 1641
src/ckb/animsettingdialog.cpp . . . 1642
src/ckb/animsettingdialog.h . . . 1644
src/ckb/autorun.cpp . . . 1645
src/ckb/autorun.h . . . 1646
src/ckb/ckb-anim.h . . . 1646
src/ckb/ckbsettings.cpp . . . 1670
src/ckb/ckbsettings.h . . . 1673
src/ckb/ckbsettingswriter.cpp . . . 1673
src/ckb/ckbsettingswriter.h . . . 1675
src/ckb/colorbutton.cpp . . . 1675
src/ckb/colorbutton.h . . . 1676
src/ckb/colormap.cpp . . . 1677
src/ckb/colormap.h . . . 1678
src/ckb/extrasettingswidget.cpp . . . 1679
src/ckb/extrasettingswidget.h . . . 1680
src/ckb/fwupgradedialog.cpp . . . 1680
src/ckb/fwupgradedialog.h . . . 1683
src/ckb/gradientbutton.cpp . . . 1684
src/ckb/gradientbutton.h . . . 1685
src/ckb/gradientdialog.cpp . . . 1686
src/ckb/gradientdialog.h . . . 1686
src/ckb/gradientdialogwidget.cpp . . . 1687
src/ckb/gradientdialogwidget.h . . . 1687
src/ckb/kb.cpp . . . 1688
src/ckb/kb.h . . . 1689
src/ckb/kbanim.cpp . . . 1690
src/ckb/kbanim.h . . . 1692
src/ckb/kbanimwidget.cpp . . . 1693
src/ckb/kbanimwidget.h . . . 1693
src/ckb/kbbind.cpp . . . 1694
src/ckb/kbbind.h . . . 1695
src/ckb/kbbindwidget.cpp . . . 1696
src/ckb/kbbindwidget.h . . . 1696
src/ckb/kbfirmware.cpp . . . 1697
src/ckb/kbfirmware.h . . . 1698
src/ckb/kblight.cpp . . . 1699
src/ckb/kblight.h . . . 1702

src/ckb/kblightwidget.cpp . . . 1703
src/ckb/kblightwidget.h . . . 1703
src/ckb/kbmanager.cpp . . . 1704
src/ckb/kbmanager.h . . . 1705
src/ckb/kbmode.cpp . . . 1706
src/ckb/kbmode.h . . . 1706
src/ckb/kbperf.cpp . . . 1707
src/ckb/kbperf.h . . . 1707
src/ckb/kbprofile.cpp . . . 1708
src/ckb/kbprofile.h . . . 1709
src/ckb/kbprofiledialog.cpp . . . 1709
src/ckb/kbprofiledialog.h . . . 1710
src/ckb/kbwidget.cpp . . . 1711
src/ckb/kbwidget.h . . . 1711
src/ckb/keyaction.cpp . . . 1712
src/ckb/keyaction.h . . . 1713
src/ckb/keymap.cpp . . . 1714
src/ckb/keymap.h . . . 1733
src/ckb/keywidget.cpp . . . 1742
src/ckb/keywidget.h . . . 1745
src/ckb/kperfwidget.cpp . . . 1746
src/ckb/kperfwidget.h . . . 1746
src/ckb/layoutdialog.cpp . . . 1748
src/ckb/layoutdialog.h . . . 1749
src/ckb/macroreader.cpp . . . 1750
src/ckb/macroreader.h . . . 1750
src/ckb/main.cpp . . . 1751
src/ckb/mainwindow.cpp . . . 1757
src/ckb/mainwindow.h . . . 1758
src/ckb/media.h . . . 1759
src/ckb/media_linux.cpp . . . 1761
src/ckb/media_mac.m . . . 1762
src/ckb/modeselectdialog.cpp . . . 1764
src/ckb/modeselectdialog.h . . . 1764
src/ckb/mperfwidget.cpp . . . 1765
src/ckb/mperfwidget.h . . . 1768
src/ckb/rebindwidget.cpp . . . 1959
src/ckb/rebindwidget.h . . . 1959
src/ckb/rlistwidget.cpp . . . 2066
src/ckb/rlistwidget.h . . . 2066
src/ckb/settingswidget.cpp . . . 2067
src/ckb/settingswidget.h . . . 2069
src/ckb/ui_animadddialog.h . . . 2070
src/ckb/ui_animsettingdialog.h . . . 2070
src/ckb/ui_extrasettingswidget.h . . . 2071
src/ckb/ui_fwupgradedialog.h . . . 2072
src/ckb/ui_gradientdialog.h . . . 2073
src/ckb/ui_kbanimwidget.h . . . 2074
src/ckb/ui_kbbindwidget.h . . . 2075
src/ckb/ui_kblightwidget.h . . . 2076
src/ckb/ui_kbprofiledialog.h . . . 2077
src/ckb/ui_kbwidget.h . . . 2078
src/ckb/ui_kperfwidget.h . . . 2079
src/ckb/ui_layoutdialog.h . . . 2080
src/ckb/ui_mainwindow.h . . . 2081
src/ckb/ui_modeselectdialog.h . . . 2082
src/ckb/ui_mperfwidget.h . . . 2083
src/ckb/ui_rebindwidget.h . . . 2084

src/ckb/ui_settingswidget.h . . . 2085
src/ckb/quazip/crypt.h . . . 1770
src/ckb/quazip/ioapi.h . . . 1774
src/ckb/quazip/JlCompress.cpp . . . 1781
src/ckb/quazip/JlCompress.h . . . 1783
src/ckb/quazip/qioapi.cpp . . . 1783
src/ckb/quazip/quaadler32.cpp . . . 1795
src/ckb/quazip/quaadler32.h . . . 1796
src/ckb/quazip/quachecksum32.h . . . 1797
src/ckb/quazip/quacrc32.cpp . . . 1798
src/ckb/quazip/quacrc32.h . . . 1799
src/ckb/quazip/quagzipfile.cpp . . . 1800
src/ckb/quazip/quagzipfile.h . . . 1801
src/ckb/quazip/quaziodevice.cpp . . . 1802
src/ckb/quazip/quaziodevice.h . . . 1803
src/ckb/quazip/quazip.cpp . . . 1804
src/ckb/quazip/quazip.h . . . 1806
src/ckb/quazip/quazip_global.h . . . 1807
src/ckb/quazip/quazipdir.cpp . . . 1809
src/ckb/quazip/quazipdir.h . . . 1811
src/ckb/quazip/quazipfile.cpp . . . 1811
src/ckb/quazip/quazipfile.h . . . 1812
src/ckb/quazip/quazipfileinfo.cpp . . . 1813
src/ckb/quazip/quazipfileinfo.h . . . 1815
src/ckb/quazip/quazipnewinfo.cpp . . . 1816
src/ckb/quazip/quazipnewinfo.h . . . 1820
src/ckb/quazip/unzip.c . . . 1821
src/ckb/quazip/unzip.h . . . 1872
src/ckb/quazip/zip.c . . . 1892
src/ckb/quazip/zip.h . . . 1948
src/ckb/release/moc_animadddialog.cpp . . . 1960
src/ckb/release/moc_animscript.cpp . . . 1963
src/ckb/release/moc_animsettingdialog.cpp . . . 1966
src/ckb/release/moc_ckbsettingswriter.cpp . . . 1969
src/ckb/release/moc_colorbutton.cpp . . . 1971
src/ckb/release/moc_extrasettingswidget.cpp . . . 1973
src/ckb/release/moc_fwupgradedialog.cpp . . . 1976
src/ckb/release/moc_gradientbutton.cpp . . . 1979
src/ckb/release/moc_gradientdialog.cpp . . . 1982
src/ckb/release/moc_gradientdialogwidget.cpp . . . 1985
src/ckb/release/moc_kb.cpp . . . 1987
src/ckb/release/moc_kbanim.cpp . . . 1990
src/ckb/release/moc_kbanimwidget.cpp . . . 1992
src/ckb/release/moc_kbbind.cpp . . . 1995
src/ckb/release/moc_kbbindwidget.cpp . . . 1997
src/ckb/release/moc_kbfirmware.cpp . . . 1999
src/ckb/release/moc_kblight.cpp . . . 2002
src/ckb/release/moc_kblightwidget.cpp . . . 2005
src/ckb/release/moc_kbmanager.cpp . . . 2008
src/ckb/release/moc_kbmode.cpp . . . 2010
src/ckb/release/moc_kbperf.cpp . . . 2012
src/ckb/release/moc_kbprofile.cpp . . . 2015
src/ckb/release/moc_kbprofiledialog.cpp . . . 2017
src/ckb/release/moc_kbwidget.cpp . . . 2021
src/ckb/release/moc_keyaction.cpp . . . 2023
src/ckb/release/moc_keywidget.cpp . . . 2025
src/ckb/release/moc_kperfwidget.cpp . . . 2027
src/ckb/release/moc_layoutdialog.cpp . . . 2030

src/ckb/release/moc_macroreader.cpp 2033
src/ckb/release/moc_mainwindow.cpp 2037
src/ckb/release/moc_modeselectdialog.cpp 2039
src/ckb/release/moc_mperfwidget.cpp 2041
src/ckb/release/moc_quagzipfile.cpp 2044
src/ckb/release/moc_quaziodevice.cpp 2046
src/ckb/release/moc_quazipfile.cpp 2048
src/ckb/release/moc_rebindwidget.cpp 2050
src/ckb/release/moc_rlistwidget.cpp 2053
src/ckb/release/moc_settingswidget.cpp 2055
src/ckb/release/qrc_binary.cpp 2057
src/ckb/release/qrc_image.cpp 2060
src/ckb/release/qrc_text.cpp 2063

Chapter 11

Namespace Documentation

11.1 Ui Namespace Reference

Data Structures

- class AnimAddDialog
- class AnimSettingDialog
- class ExtraSettingsWidget
- class FwUpgradeDialog
- class GradientDialog
- class KbAnimWidget
- class KbBindWidget
- class KbLightWidget
- class KbProfileDialog
- class KbWidget
- class KPerfWidget
- class LayoutDialog
- class MainWindow
- class ModeSelectDialog
- class MPerfWidget
- class RebindWidget
- class SettingsWidget

Chapter 12

Data Structure Documentation

12.1 Ui::AnimAddDialog Class Reference

```
#include <src/ckb/ui_animadddialog.h>
```

Inheritance diagram for Ui::AnimAddDialog:

Collaboration diagram for Ui::AnimAddDialog:

Public Member Functions

- void setupUi (QDialog *AnimAddDialog)
- void retranslateUi (QDialog *AnimAddDialog)

Data Fields

- QGridLayout * gridLayout
- QHBoxLayout * horizontalLayout
- QDialogButtonBox * buttonBox
- QSpacerItem * horizontalSpacer_2
- QComboBox * animBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_2
- QLabel * label
- QSpacerItem * verticalSpacer_3
- QComboBox * presetBox
- QSpacerItem * horizontalSpacer
- QCheckBox * previewBox

12.1.1 Detailed Description

Definition at line 146 of file ui_animadddialog.h.

12.1.2 Member Function Documentation

12.1.2.1 void Ui_AnimAddDialog::retranslateUi (QDialog * *AnimAddDialog*) [inline],[inherited]

Definition at line 135 of file ui_animadddialog.h.

References Ui_AnimAddDialog::label, Ui_AnimAddDialog::label_2, and Ui_AnimAddDialog::previewBox.

Referenced by Ui_AnimAddDialog::setupUi().

```
    {
        AnimAddDialog->setWindowTitle(QApplication::translate("AnimAddDialog", "Add Animation", Q_NULLPTR))
    ;
        label_2->setText(QApplication::translate("AnimAddDialog", "Preset:", Q_NULLPTR));
```

```
        label->setText(QApplication::translate("AnimAddDialog", "Animation:", Q_NULLPTR));
        previewBox->setText(QApplication::translate("AnimAddDialog", "Show preview", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.1.2.2 void Ui_AnimAddDialog::setupUi (QDialog * *AnimAddDialog*) [inline],[inherited]

Definition at line 44 of file ui_animadddialog.h.

References Ui_AnimAddDialog::animBox, Ui_AnimAddDialog::buttonBox, Ui_AnimAddDialog::gridLayout, Ui_AnimAddDialog::horizontalLayout, Ui_AnimAddDialog::horizontalSpacer, Ui_AnimAddDialog::horizontalSpacer_2, Ui_AnimAddDialog::label, Ui_AnimAddDialog::label_2, Ui_AnimAddDialog::presetBox, Ui_AnimAddDialog::previewBox, Ui_AnimAddDialog::retranslateUi(), Ui_AnimAddDialog::verticalSpacer_2, and Ui_AnimAddDialog::verticalSpacer_3.

Referenced by AnimAddDialog::AnimAddDialog().

```
    {
        if (AnimAddDialog->objectName().isEmpty())
            AnimAddDialog->setObjectName(QStringLiteral("AnimAddDialog"));
        AnimAddDialog->resize(350, 205);
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(AnimAddDialog->sizePolicy().hasHeightForWidth());
        AnimAddDialog->setSizePolicy(sizePolicy);
        gridLayout = new QGridLayout(AnimAddDialog);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        buttonBox = new QDialogButtonBox(AnimAddDialog);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Horizontal);
        buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
        buttonBox->setCenterButtons(false);

        horizontalLayout->addWidget(buttonBox);


        gridLayout->addLayout(horizontalLayout, 5, 0, 1, 4);

        horizontalSpacer_2 = new QSpacerItem(50, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);

        animBox = new QComboBox(AnimAddDialog);
        animBox->setObjectName(QStringLiteral("animBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(animBox, 1, 2, 1, 1);

        label_2 = new QLabel(AnimAddDialog);
        label_2->setObjectName(QStringLiteral("label_2"));
        QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Preferred);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
        label_2->setSizePolicy(sizePolicy2);
        label_2->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout->addWidget(label_2, 2, 1, 1, 1);

```

```
        verticalSpacer_2 = new QSpacerItem(20, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer_2, 4, 2, 1, 1);

        label = new QLabel(AnimAddDialog);
        label->setObjectName(QStringLiteral("label"));
         sizePolicy2.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
         label->setSizePolicy(sizePolicy2);
         label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

         gridLayout->addWidget(label, 1, 1, 1, 1);

         verticalSpacer_3 = new QSpacerItem(20, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);

         gridLayout->addItem(verticalSpacer_3, 0, 2, 1, 1);

         presetBox = new QComboBox(AnimAddDialog);
         presetBox->setObjectName(QStringLiteral("presetBox"));
         sizePolicy1.setHeightForWidth(presetBox->sizePolicy().hasHeightForWidth());
         presetBox->setSizePolicy(sizePolicy1);

         gridLayout->addWidget(presetBox, 2, 2, 1, 1);

         horizontalSpacer = new QSpacerItem(50, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

         gridLayout->addItem(horizontalSpacer, 1, 0, 1, 1);

         previewBox = new QCheckBox(AnimAddDialog);
         previewBox->setObjectName(QStringLiteral("previewBox"));
         previewBox->setChecked(true);

         gridLayout->addWidget(previewBox, 3, 2, 1, 1);


         retranslateUi(AnimAddDialog);
         QObject::connect(buttonBox, SIGNAL(accepted()), AnimAddDialog, SLOT(accept()));
         QObject::connect(buttonBox, SIGNAL(rejected()), AnimAddDialog, SLOT(reject()));

         QMetaObject::connectSlotsByName(AnimAddDialog);
     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.1.3 Field Documentation

12.1.3.1 QComboBox* Ui_AnimAddDialog::animBox [inherited]

Definition at line 35 of file ui_animadddialog.h.

Referenced by AnimAddDialog::AnimAddDialog(), AnimAddDialog::chosenScript(), and Ui_AnimAddDialog::setupUi().

12.1.3.2 QDialogButtonBox* Ui_AnimAddDialog::buttonBox [inherited]

Definition at line 33 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.3 QGridLayout* Ui_AnimAddDialog::gridLayout [inherited]

Definition at line 31 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.4 QHBoxLayout* Ui_AnimAddDialog::horizontalLayout [inherited]

Definition at line 32 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.5 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer [inherited]

Definition at line 41 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.6 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer_2 [inherited]

Definition at line 34 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.7 QLabel* Ui_AnimAddDialog::label [inherited]

Definition at line 38 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.8 QLabel* Ui_AnimAddDialog::label_2 [inherited]

Definition at line 36 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.9 QComboBox* Ui_AnimAddDialog::presetBox [inherited]

Definition at line 40 of file ui_animadddialog.h.

Referenced by AnimAddDialog::chosenPreset(), AnimAddDialog::on_animBox_activated(), AnimAddDialog::on_previewBox_clicked(), and Ui_AnimAddDialog::setupUi().

12.1.3.10 QCheckBox* Ui_AnimAddDialog::previewBox [inherited]

Definition at line 42 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.11 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_2 [inherited]

Definition at line 37 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.12 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_3 [inherited]

Definition at line 39 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_animadddialog.h

12.2 AnimAddDialog Class Reference

```
#include <src/ckb/animadddialog.h>
```

Inheritance diagram for AnimAddDialog:

Collaboration diagram for AnimAddDialog:

Public Member Functions

- AnimAddDialog (QWidget *parent, KbLight *light, const QStringList &keys)
- ~AnimAddDialog ()
- const AnimScript * chosenScript ()
- int chosenPreset ()

Private Slots

- void on_animBox_activated (int index)
- void on_presetBox_activated (int index)
- void on_previewBox_clicked (bool checked)

Private Attributes

- Ui::AnimAddDialog * ui
- QList< const AnimScript * > scripts
- KbLight * _light
- QStringList _keys
- bool showPreview

12.2.1 Detailed Description

Definition at line 12 of file animadddialog.h.

12.2.2 Constructor & Destructor Documentation

12.2.2.1 AnimAddDialog::AnimAddDialog (QWidget * *parent*, KbLight * *light*, const QStringList & *keys*) [explicit]

Definition at line 4 of file animadddialog.cpp.

References Ui_AnimAddDialog::animBox, AnimScript::list(), AnimScript::name(), on_animBox_activated(), scripts, Ui_AnimAddDialog::setupUi(), and ui.

```
4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :
5     QDialog(parent),
6     ui(new Ui::AnimAddDialog), _light(light), _keys(keys),
      showPreview(true)
7 {
8     ui->setupUi(this);
9     scripts = AnimScript::list();
10     foreach(const AnimScript* script, scripts)
11         ui->animBox->addItem(script->name());
12     on_animBox_activated(0);
13 }
```

Here is the call graph for this function:

12.2.2.2 AnimAddDialog::~AnimAddDialog ( )

Definition at line 15 of file animadddialog.cpp.

References _light, KbLight::stopPreview(), and ui.

```
15                                {
16     delete ui;
17     _light->stopPreview();
18 }
```

Here is the call graph for this function:

12.2.3 Member Function Documentation

12.2.3.1 int AnimAddDialog::chosenPreset ( )

Definition at line 24 of file animadddialog.cpp.

References Ui_AnimAddDialog::presetBox, and ui.

Referenced by KbLightWidget::on_animButton_clicked().

```
{
    return ui->presetBox->currentIndex();
}
```

Here is the caller graph for this function:

12.2.3.2 const AnimScript * AnimAddDialog::chosenScript ( )

Definition at line 20 of file animadddialog.cpp.

References Ui_AnimAddDialog::animBox, scripts, and ui.

Referenced by on_animBox_activated(), KbLightWidget::on_animButton_clicked(), and on_presetBox_activated().

```
{
    return scripts[ui->animBox->currentIndex()];
}
```

Here is the caller graph for this function:

12.2.3.3 void AnimAddDialog::on_animBox_activated (int *index*) [private],[slot]

Definition at line 28 of file animadddialog.cpp.

References chosenScript(), on_presetBox_activated(), Ui_AnimAddDialog::presetBox, and ui.

Referenced by AnimAddDialog().

```
{
    // Update preset list
    ui->presetBox->clear();
    foreach(const QString& preset, chosenScript()->presets())
        ui->presetBox->addItem(preset);
    ui->presetBox->setCurrentIndex(0);
    on_presetBox_activated(0);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.2.3.4 void AnimAddDialog::on_presetBox_activated (int *index*) [private],[slot]

Definition at line 37 of file animadddialog.cpp.

References _keys, _light, chosenScript(), KbLight::previewAnim(), and showPreview.

Referenced by on_animBox_activated(), and on_previewBox_clicked().

```
37                                                  {
38     // Update preview
39     if(showPreview)
40         _light->previewAnim(chosenScript(), _keys,
     chosenScript()->preset(index));
41 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.2.3.5 void AnimAddDialog::on_previewBox_clicked (bool *checked*) [private], [slot]

Definition at line 43 of file animadddialog.cpp.

References _light, on_presetBox_activated(), Ui_AnimAddDialog::presetBox, showPreview, KbLight::stopPreview(), and ui.

```
43                                                  {
44     showPreview = checked;
45     if(showPreview)
46         on_presetBox_activated(ui->presetBox->currentIndex());
47     else
48         _light->stopPreview();
49 }
```

Here is the call graph for this function:

12.2.4 Field Documentation

12.2.4.1 QStringList AnimAddDialog::_keys [private]

Definition at line 33 of file animadddialog.h.

Referenced by on_presetBox_activated().

12.2.4.2 KbLight* AnimAddDialog::_light [private]

Definition at line 32 of file animadddialog.h.

Referenced by on_presetBox_activated(), on_previewBox_clicked(), and ~AnimAddDialog().

12.2.4.3 QList<const AnimScript*> AnimAddDialog::scripts [private]

Definition at line 30 of file animadddialog.h.

Referenced by AnimAddDialog(), and chosenScript().

12.2.4.4 bool AnimAddDialog::showPreview [private]

Definition at line 34 of file animadddialog.h.

Referenced by on_presetBox_activated(), and on_previewBox_clicked().

12.2.4.5 Ui::AnimAddDialog* AnimAddDialog::ui [private]

Definition at line 29 of file animadddialog.h.

Referenced by AnimAddDialog(), chosenPreset(), chosenScript(), on_animBox_activated(), on_previewBox_clicked(), and ~AnimAddDialog().

The documentation for this class was generated from the following files:

- src/ckb/animadddialog.h
- src/ckb/animadddialog.cpp

12.3 AnimScript Class Reference

```
#include <src/ckb/animscript.h>
```

Inheritance diagram for AnimScript:

Collaboration diagram for AnimScript:

Data Structures

- struct Param

Public Types

- typedef QMap< QString, QVariant > PresetValue

Public Member Functions

- const QUuid & guid () const
- const QString & name () const
- const QString & version () const
- QString copyright () const
- const QString & year () const
- const QString & author () const
- const QString & license () const
- const QString & description () const
- bool hasKeypress () const
- const QStringList & presets () const
- const PresetValue & preset (int index) const
- QListIterator< Param > paramIterator () const
- Param param (const QString &name) const
- bool hasParam (const QString &name) const
- void init (const KeyMap &map, const QStringList &keys, const QMap< QString, QVariant > &paramValues)
- void parameters (const QMap< QString, QVariant > &paramValues)
- void retrigger (quint64 timestamp, bool allowPreempt=false)
- void stop (quint64 timestamp)
- void keypress (const QString &key, bool pressed, quint64 timestamp)

- void frame (quint64 timestamp)
- void end ()
- bool hasFrame () const
- const ColorMap & colors () const
- ~AnimScript ()

Static Public Member Functions

- static QString path ()
- static void scan ()
- static int count ()
- static QList< const AnimScript * > list ()
- static AnimScript * copy (QObject *parent, const QUuid &id)

Private Slots

- void readProcess ()

Private Member Functions

- bool load ()
- void setDuration ()
- void printParams ()
- void begin (quint64 timestamp)
- void advance (quint64 timestamp)
- AnimScript (QObject *parent, const QString &path)
- AnimScript (QObject *parent, const AnimScript &base)

Private Attributes

- struct {
  QUuid **guid**
  QString **name**
  QString **version**
  QString **year**
  QString **author**
  QString **license**
  QString **description**
  QList< Param > **params**
  int **kpMode**:3
  bool **absoluteTime**:1
  bool **repeat**:1
  bool **preempt**:1
  bool **liveParams**:1
  } _info

- QStringList _presets
- QList< PresetValue > _presetValues
- QString _path
- KeyMap _map
- int minX
- int minY
- QStringList _keys

- ColorMap _colors
- PresetValue _paramValues
- quint64 lastFrame
- int durationMsec
- int repeatMsec
- bool initialized:1
- bool firstFrame:1
- bool readFrame:1
- bool readAnyFrame:1
- bool stopped:1
- bool inFrame:1
- QProcess * process
- ColorMap _colorBuffer

Static Private Attributes

- static const int KP_NONE = 0
- static const int KP_NAME = 1
- static const int KP_POSITION = 2
- static QHash< QUuid, AnimScript * > scripts

12.3.1 Detailed Description

Definition at line 16 of file animscript.h.

12.3.2 Data Structure Documentation

12.3.2.1 struct AnimScript::Param

Definition at line 21 of file animscript.h.

Collaboration diagram for AnimScript::Param:

Data Fields

	Type	

Data Fields

QVariant	defaultValue	
QVariant	maximum	
QVariant	minimum	
QString	name	
QString	postfix	
QString	prefix	
Type	type	

12.3.3 Member Typedef Documentation

12.3.3.1 typedef QMap<QString, QVariant> AnimScript::PresetValue

Definition at line 58 of file animscript.h.

12.3.4 Constructor & Destructor Documentation

12.3.4.1 AnimScript::~AnimScript ( )

Definition at line 21 of file animscript.cpp.

References process.

```
21                          {
22      if(process){
23          process->kill();
24          process->waitForFinished(1000);
25          delete process;
26      }
27  }
```

12.3.4.2 AnimScript::AnimScript (QObject * *parent*, const QString & *path*) [private]

Definition at line 11 of file animscript.cpp.

Referenced by copy(), and scan().

```
11                                                          :
12      QObject(parent), _path(path), initialized(false),
       process(0)
13  {
14  }
```

Here is the caller graph for this function:

12.3.4.3 AnimScript::AnimScript (QObject * *parent*, const AnimScript & *base*) [private]

Definition at line 16 of file animscript.cpp.

```
16                                                          :
17     QObject(parent), _info(base._info), _path(base._path),
      initialized(false), process(0)
18 {
19 }
```

12.3.5 Member Function Documentation

12.3.5.1 void AnimScript::advance (quint64 *timestamp*) [private]

Definition at line 445 of file animscript.cpp.

References _info, durationMsec, lastFrame, and process.

Referenced by frame(), keypress(), retrigger(), and stop().

```
445                                          {
446     if(timestamp <= lastFrame || !process)
447         // Don't do anything if the time hasn't actually advanced.
448         return;
449     double delta = (timestamp - lastFrame) / (double)durationMsec;
450     if(!_info.absoluteTime){
451         // Skip any complete durations
452         while(delta > 1.){
453             process->write("time 1\n");
454             delta--;
455         }
456     }
457     process->write(QString("time %1\n").arg(delta).toLatin1());
458     lastFrame = timestamp;
459 }
```

Here is the caller graph for this function:

12.3.5.2 const QString& AnimScript::author ( ) const [inline]

Definition at line 64 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
64 { return _info.author; }
```

Here is the caller graph for this function:

12.3.5.3 void AnimScript::begin (quint64 *timestamp*) [private]

Definition at line 287 of file animscript.cpp.

References _keys, _map, _path, end(), firstFrame, inFrame, initialized, KeyMap::key(), lastFrame, minX, minY, printParams(), process, readAnyFrame, readFrame, readProcess(), stopped, Key::x, and Key::y.

Referenced by frame(), keypress(), retrigger(), and stop().

```
287                                         {
288     if(!initialized)
289         return;
290     end();
291     stopped = firstFrame = readFrame = readAnyFrame =
      inFrame = false;
292     // Determine the upper left corner of the given keys
293     QStringList keysCopy = _keys;
294     minX = INT_MAX;
295     minY = INT_MAX;
296     foreach(const QString& key, keysCopy){
297         const Key& pos = _map.key(key);
298         if(!pos){
299             keysCopy.removeAll(key);
300             continue;
301         }
302         if(pos.x < minX)
303             minX = pos.x;
304         if(pos.y < minY)
305             minY = pos.y;
306     }
307     if(keysCopy.isEmpty()){
308         // If the key list is empty, don't actually start the animation but pretend it's running anyway
309         firstFrame = readFrame = readAnyFrame = true;
310         return;
311     }
312     process = new QProcess(this);
313     connect(process, SIGNAL(readyRead()), this, SLOT(readProcess()));
314     process->start(_path, QStringList("--ckb-run"));
315     qDebug() << "Starting " << _path;
316     // Write the keymap to the process
317     process->write("begin keymap\n");
318     process->write(QString("keycount %1\n").arg(keysCopy.count()).toLatin1());
319     foreach(const QString& key, keysCopy){
320         const Key& pos = _map.key(key);
321         process->write(QString("key %1 %2,%3\n").arg(key).arg(pos.x -
      minX).arg(pos.y - minY).toLatin1());
322     }
323     process->write("end keymap\n");
324     // Write parameters
325     printParams();
326     // Begin animating
327     process->write("begin run\n");
328     lastFrame = timestamp;
329 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.4 const ColorMap& AnimScript::colors ( ) const [inline]

Definition at line 99 of file animscript.h.

References _colors.

Referenced by KbAnim::blend().

```
99 { return _colors; }
```

Here is the caller graph for this function:

12.3.5.5 AnimScript * AnimScript::copy (QObject * *parent*, const QUuid & *id*) [static]

Definition at line 67 of file animscript.cpp.

References AnimScript(), and scripts.

Referenced by KbAnim::KbAnim().

```
67                                                          {
68      return scripts.contains(id) ? new AnimScript(parent, *
    scripts.value(id)) : 0;
69 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.6 QString AnimScript::copyright ( ) const [inline]

Definition at line 62 of file animscript.h.

References _info.

Referenced by KbAnimWidget::setCurrent().

```
62 { return "Copyright © " + _info.year + " " + _info.author; }
```

Here is the caller graph for this function:

12.3.5.7 static int AnimScript::count ( ) [inline], [static]

Definition at line 54 of file animscript.h.

References scripts.

Referenced by KbLightWidget::KbLightWidget(), load(), KbLightWidget::on_animButton_clicked(), and ExtraSettingsWidget::on_animScanButton_clicked().

```
54 { return scripts.count(); }
```

Here is the caller graph for this function:

12.3.5.8 const QString& AnimScript::description ( ) const [inline]

Definition at line 66 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
66 { return _info.description; }
```

Here is the caller graph for this function:

12.3.5.9 void AnimScript::end ( )

Definition at line 387 of file animscript.cpp.

References _colors, ColorMap::clear(), process, and readProcess().

Referenced by begin(), KbAnim::catchUp(), init(), and KbAnim::stop().

```
387                     {
388     _colors.clear();
389     if(process){
390         process->kill();
391         connect(process, SIGNAL(finished(int)), process, SLOT(deleteLater()));
392         disconnect(process, SIGNAL(readyRead()), this, SLOT(readProcess()));
393         process = 0;
394     }
395 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.10 void AnimScript::frame (quint64 *timestamp*)

Definition at line 430 of file animscript.cpp.

References advance(), begin(), firstFrame, initialized, process, readFrame, and stopped.

Referenced by KbAnim::blend(), KbAnim::keypress(), and KbAnim::trigger().

```
430                                     {
431     if(!initialized || stopped)
432         return;
433     // Start the animation if it's not running yet
434     if(!process)
435         begin(timestamp);
436
437     advance(timestamp);
438     if((readFrame || !firstFrame) && process)
439         // Don't ask for a new frame if the animation hasn't delivered the last one yet
440         process->write("frame\n");
441     firstFrame = true;
442     readFrame = false;
443 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.11 const QUuid& AnimScript::guid ( ) const [inline]

Definition at line 59 of file animscript.h.

References _info.

Referenced by KbAnim::KbAnim(), list(), and scan().

```
59 { return _info.guid; }
```

Here is the caller graph for this function:

12.3.5.12 bool AnimScript::hasFrame ( ) const [inline]

Definition at line 96 of file animscript.h.

References initialized, and readAnyFrame.

Referenced by KbAnim::isRunning().

```
96 { return initialized && readAnyFrame; }
```

Here is the caller graph for this function:

12.3.5.13 bool AnimScript::hasKeypress ( ) const [inline]

Definition at line 67 of file animscript.h.

References _info, and KP_NONE.

Referenced by AnimSettingDialog::AnimSettingDialog(), and AnimSettingDialog::updateParam().

```
67 { return _info.kpMode != KP_NONE; }
```

Here is the caller graph for this function:

12.3.5.14 bool AnimScript::hasParam (const QString & *name*) const [inline]

Definition at line 74 of file animscript.h.

References _info, and name().

Referenced by AnimSettingDialog::AnimSettingDialog(), load(), and KbAnim::parameter().

```
74 { QListIterator<Param> i(_info.params); while(i.hasNext()){ if(i.next().name ==
      name) return true; } return false; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.15 void AnimScript::init (const KeyMap & *map,* const QStringList & *keys,* const QMap< QString, QVariant > & *paramValues*)

Definition at line 239 of file animscript.cpp.

References _colorBuffer, _colors, _keys, _map, _paramValues, _path, end(), firstFrame, ColorMap::init(), initialized, setDuration(), and stopped.

Referenced by KbAnim::reInit().

```
239
    {
240     if(_path == "")
241         return;
242     end();
243     _map = map;
244     _colors.init(map);
245     _colorBuffer.init(map);
246     _keys = keys;
247     _paramValues = paramValues;
248     setDuration();
249     stopped = firstFrame = false;
250     initialized = true;
251 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.16 void AnimScript::keypress (const QString & *key,* bool *pressed,* quint64 *timestamp*)

Definition at line 354 of file animscript.cpp.

References _info, _map, _paramValues, advance(), begin(), initialized, KeyMap::key(), KP_NAME, KP_NONE, KP_POSITION, minX, minY, process, retrigger(), stop(), Key::x, and Key::y.

Referenced by KbAnim::catchUp(), and KbAnim::keypress().

```
354                                                                                 {
355     if(!initialized)
356         return;
357     if(!process)
358         begin(timestamp);
359     int kpMode = _info.kpMode;
360     if(_paramValues.value("kpmode", 0).toInt() != 0)
361         // Disable KP mode according to user preferences
362         kpMode = KP_NONE;
363     switch(kpMode){
364     case KP_NONE:
365         // If KPs aren't allowed, call retrigger/stop instead
366         if(pressed)
367             retrigger(timestamp);
368         else if(_paramValues.value("kprelease", false).toBool())
369             stop(timestamp);
370         break;
371     case KP_NAME:
372         // Print keypress by name
373         advance(timestamp);
374         process->write(("key " + key + (pressed ? " down\n" : " up\n")).toLatin1());
375         break;
376     case KP_POSITION:
377         // Print keypress by position
378         const Key& kp = _map.key(key);
379         if(!kp)
380             return;
381         advance(timestamp);
382         process->write(("key " + QString("%1,%2").arg(kp.x - minX).arg(kp.
      y - minY) + (pressed ? " down\n" : " up\n")).toLatin1());
383         break;
384     }
385 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.17 const QString& AnimScript::license ( ) const [inline]

Definition at line 65 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
65 { return _info.license; }
```

Here is the caller graph for this function:

12.3.5.18 QList< const AnimScript * > AnimScript::list ( ) [static]

Definition at line 51 of file animscript.cpp.

References _info, guid(), name(), and scripts.

Referenced by AnimAddDialog::AnimAddDialog().

```
51                                          {
52     // Gather the animations into an alphabetically-sorted list
53     QMap<QString, const AnimScript*> result;
54     foreach(AnimScript* script, scripts.values()){
55         QString name = script->name();
56         if(result.contains(name)){
57             // If duplicate names exist, make them unique by including their GUIDs
58             AnimScript* last = (AnimScript*)result[name];
59             last->_info.name += " " + last->guid().toString().toUpper();
60             script->_info.name += " " + script->guid().toString().toUpper();
61         }
62         result[script->name()] = script;
63     }
64     return result.values();
65 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.19 bool AnimScript::load ( ) [private]

Definition at line 77 of file animscript.cpp.

References _info, _path, _presets, _presetValues, AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, AnimScript::Param::ARGB, AnimScript::Param::BOOL, count(), AnimScript::Param::defaultValue, AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, hasParam(), AnimScript::Param::INVALID, KP_NAME, KP_NONE, KP_POSITION, kprelease, AnimScript::Param::LABEL, AnimScript::Param::LONG, name(), ONE_DAY, param(), preset(), AnimScript::Param::RGB, stop(), AnimScript::Param::STRING, and urlParam().

Referenced by scan().

```
77                      {
78      // Run the process to get script info
79      QProcess infoProcess;
80      infoProcess.start(_path, QStringList("--ckb-info"));
81      qDebug() << "Scanning " << _path;
82      infoProcess.waitForFinished(1000);
83      if(infoProcess.state() == QProcess::Running){
84          // Kill the process if it takes more than 1s
85          infoProcess.kill();
86          return false;
87      }
88      // Set defaults for performance info
89      _info.kpMode = KP_NONE;
90      _info.absoluteTime = _info.preempt = _info.liveParams = false;
91      _info.repeat = true;
92      // Read output
93      QString line;
94      while((line = infoProcess.readLine()) != ""){
95          line = line.trimmed();
96          QStringList components = line.split(" ");
97          int count = components.count();
98          if(count < 2)
99              continue;
100         QString param = components[0].trimmed();
101         if(param == "guid")
102             _info.guid = QUuid(urlParam(components[1]));
```

```
        else if(param == "name")
            _info.name = urlParam(components[1]);
        else if(param == "version")
            _info.version = urlParam(components[1]);
        else if(param == "year")
            _info.year = urlParam(components[1]);
        else if(param == "author")
            _info.author = urlParam(components[1]);
        else if(param == "license")
            _info.license = urlParam(components[1]);
        else if(param == "description")
            _info.description = urlParam(components[1]);
        else if(param == "kpmode")
            _info.kpMode = (components[1] == "position") ? KP_POSITION : (components[1] == "name") ? KP_NAME : KP_NONE;
        else if(param == "time")
            _info.absoluteTime = (components[1] == "absolute");
        else if(param == "repeat")
            _info.repeat = (components[1] == "on");
        else if(param == "preempt")
            _info.preempt = (components[1] == "on");
        else if(param == "parammode")
            _info.liveParams = (components[1] == "live");
        else if(param == "param"){
            // Read parameter
            if(count < 3)
                continue;
            while(components.count() < 8)
                components.append("");
            Param::Type type = Param::INVALID;
            QString sType = components[1].toLower();
            if(sType == "long")
                type = Param::LONG;
            else if(sType == "double")
                type = Param::DOUBLE;
            else if(sType == "bool")
                type = Param::BOOL;
            else if(sType == "rgb")
                type = Param::RGB;
            else if(sType == "argb")
                type = Param::ARGB;
            else if(sType == "gradient")
                type = Param::GRADIENT;
            else if(sType == "agradient")
                type = Param::AGRADIENT;
            else if(sType == "angle")
                type = Param::ANGLE;
            else if(sType == "string")
                type = Param::STRING;
            else if(sType == "label")
                type = Param::LABEL;
            else
                continue;
            // "param <type> <name> <prefix> <postfix> <default>"
            QString name = components[2].toLower();
            // Make sure it's not present already
            if(hasParam(name))
                continue;
            QString prefix = urlParam(components[3]), postfix = urlParam(components[4]);
            QVariant def = urlParam(components[5]), minimum = urlParam(components[6]), maximum = urlParam(components[7]);
            // Don't allow predefined params
            if(name == "trigger" || name == "kptrigger" || name == "kpmode" || name == "duration" || name == "delay" || name == "kpdelay" || name == "repeat" || name == "kprepeat" || name == "stop" || name == "kpstop" || name == "kpmodestop" || name == "kprelease")
                continue;
            Param param = { type, name, prefix, postfix, def, minimum, maximum };
            _info.params.append(param);
        } else if(param == "preset"){
            // Add preset
            QString name = urlParam(components.at(1));
            QMap<QString, QVariant> preset;
            for(int i = 2; i < count; i++){
                // Scan name/value setting pairs
                QString setting = components.at(i);
                QStringList sComponents = setting.split("=");
                if(sComponents.count() != 2)
                    continue;
                QString param = sComponents.first().trimmed();
                QString value = urlParam(sComponents.last());
                preset[param] = value;
            }
            // If the preset contains a duration, set the repeat time to the same value
            if(preset.contains("duration")){
                QVariant duration = preset.value("duration");
                preset["repeat"] = duration;
                preset["kprepeat"] = duration;
```

```
            }
            _presets.append(name);
            _presetValues.append(preset);
        }
    }
    // Make sure the required parameters are filled out
    if(_info.guid.isNull() || _info.name == "" || _info.version == "" || _info.year == "" || _info.author == "" || _info.license == "")
        return false;
    // Add timing parameters
    double defaultDuration = -1.;
    if(!_info.absoluteTime){
        defaultDuration = 1.;
        Param duration = { Param::DOUBLE, "duration", "", "", defaultDuration, 0.1, ONE_DAY };
        _info.params.append(duration);
    }
    Param trigger = { Param::BOOL, "trigger", "", "", true, 0, 0 };
    _info.params.append(trigger);
    Param kptrigger = { Param::BOOL, "kptrigger", "", "", false, 0, 0 };
    _info.params.append(kptrigger);
    if(_info.absoluteTime || !_info.repeat)
        _info.preempt = false;
    Param kpmode = { Param::LONG, "kpmode", "", "", 1, 0, 0 };
    if(_info.kpMode)
        kpmode.defaultValue = 0;
    _info.params.append(kpmode);
    Param delay = { Param::DOUBLE, "delay", "", "", 0., 0., ONE_DAY };
    Param kpdelay = { Param::DOUBLE, "kpdelay", "", "", 0., 0., ONE_DAY };
    _info.params.append(delay);
    _info.params.append(kpdelay);
    Param kpmodestop = { Param::BOOL, "kpmodestop", "", "", false, 0, 0 };
    Param kprelease = { Param::BOOL, "kprelease", "", "", false, 0, 0 };
    _info.params.append(kpmodestop);
    _info.params.append(kprelease);
    if(_info.repeat){
        Param repeat = { Param::DOUBLE, "repeat", "", "", defaultDuration, 0.1, ONE_DAY };
        Param kprepeat = { Param::DOUBLE, "kprepeat", "", "", defaultDuration, 0.1, ONE_DAY };
        // When repeats are enabled, stop and kpstop are LONG values (number of repeats)
        Param stop = { Param::LONG, "stop", "", "", -1, 0, 1000 };
        Param kpstop = { Param::LONG, "kpstop", "", "", 0, 0, 1000 };
        _info.params.append(repeat);
        _info.params.append(kprepeat);
        _info.params.append(stop);
        _info.params.append(kpstop);
    } else {
        // When repeats are disabled, stop and kpstop are DOUBLE values (seconds)
        Param stop = { Param::DOUBLE, "stop", "", "", -1., 0.1, ONE_DAY };
        Param kpstop = { Param::DOUBLE, "kpstop", "", "", -1., 0.1, ONE_DAY };
        _info.params.append(stop);
        _info.params.append(kpstop);
    }
    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.20 const QString& AnimScript::name ( ) const [inline]

Definition at line 60 of file animscript.h.

References _info.

Referenced by AnimAddDialog::AnimAddDialog(), AnimSettingDialog::AnimSettingDialog(), hasParam(), KbAnim::-KbAnim(), list(), load(), and KbAnimWidget::setCurrent().

```
60 { return _info.name; }
```

Here is the caller graph for this function:

12.3.5.21 Param AnimScript::param (const QString & *name*) const [inline]

Definition at line 73 of file animscript.h.

References _info, AnimScript::Param::INVALID, and AnimScript::Param::name.

Referenced by KbAnim::KbAnim(), load(), and AnimSettingDialog::updateParam().

```
73 { QListIterator<Param> i(_info.params); while(i.hasNext()){ Param p = i.next(); if(p.name ==
     name) return p; } return ((Param[]){ { Param::INVALID, "", "", "", 0, 0, 0 } })[0]; }
```

Here is the caller graph for this function:

12.3.5.22 void AnimScript::parameters (const QMap< QString, QVariant > & *paramValues*)

Definition at line 265 of file animscript.cpp.

References _info, _paramValues, initialized, printParams(), process, and setDuration().

Referenced by KbAnim::updateParams().

```
265                                                                    {
266     if(!initialized || !process || !_info.liveParams)
267         return;
268     _paramValues = paramValues;
269     setDuration();
270     printParams();
271 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.23 QListIterator<Param> AnimScript::paramIterator ( ) const [inline]

Definition at line 72 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnim::KbAnim().

```
72 { return _info.params; }
```

Here is the caller graph for this function:

12.3.5.24 QString AnimScript::path ( ) [static]

Definition at line 29 of file animscript.cpp.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and scan().

```
29                          {
30 #ifdef __APPLE__
31     return QDir(QApplication::applicationDirPath() + "/../Resources").absoluteFilePath("ckb-animations");
32 #else
33     return QDir("/usr/lib").absoluteFilePath("ckb-animations");
34 #endif
35 }
```

Here is the caller graph for this function:

12.3.5.25 const PresetValue& AnimScript::preset (int *index*) const [inline]

Definition at line 69 of file animscript.h.

References _presetValues.

Referenced by load(), and KbLightWidget::on_animButton_clicked().

```
69 { return _presetValues[index]; }
```

Here is the caller graph for this function:

12.3.5.26 const QStringList& AnimScript::presets ( ) const [inline]

Definition at line 68 of file animscript.h.

References _presets.

Referenced by KbLightWidget::on_animButton_clicked().

```
68 { return _presets; }
```

Here is the caller graph for this function:

12.3.5.27 void AnimScript::printParams ( ) [private]

Definition at line 273 of file animscript.cpp.

References _paramValues, and process.

Referenced by begin(), and parameters().

```
273                                 {
274     process->write("begin params\n");
275     QMapIterator<QString, QVariant> i(_paramValues);
276     while(i.hasNext()){
277         i.next();
278         process->write("param ");
279         process->write(i.key().toLatin1());
280         process->write(" ");
281         process->write(QUrl::toPercentEncoding(i.value().toString()));
282         process->write("\n");
283     }
284     process->write("end params\n");
285 }
```

Here is the caller graph for this function:

12.3.5.28 void AnimScript::readProcess ( ) [private],[slot]

Definition at line 397 of file animscript.cpp.

References _colorBuffer, _colors, ColorMap::colorForName(), ColorMap::colors(), ColorMap::count(), inFrame, process, readAnyFrame, readFrame, and stopped.

Referenced by begin(), and end().

```
397                                 {
398     while(process->canReadLine()){
399         QByteArray line = process->readLine().trimmed();
400         if(!inFrame){
401             // Ignore anything not between "begin frame" and "end frame", except for "end run", which
        indicates that the program is done.
402             if(line == "begin frame")
403                 inFrame = true;
404             else if(line == "end run"){
405                 stopped = true;
406                 return;
407             }
408             continue;
409         }
410         if(line.startsWith("argb ")){
411             // Add a color to the buffer
412             char keyName[31];
413             QRgb keyColor = 0;
414             if(sscanf(line, "argb %30s %x", keyName, &keyColor) != 2)
415                 continue;
416             QRgb* inMap = _colorBuffer.colorForName(keyName);
417             if(!inMap)
418                 continue;
419             *inMap = keyColor;
420         }
421         if(line == "end frame"){
422             // Frame is finished. Copy color buffer back to the atomic map
423             memcpy(_colors.colors(), _colorBuffer.
      colors(), sizeof(QRgb) * _colors.count());
424             inFrame = false;
425             readFrame = readAnyFrame = true;
426         }
427     }
428 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.29 void AnimScript::retrigger (quint64 *timestamp*, bool *allowPreempt* = `false`)

Definition at line 331 of file animscript.cpp.

References _info, advance(), begin(), initialized, process, and repeatMsec.

Referenced by KbAnim::catchUp(), keypress(), and KbAnim::trigger().

```
331                                                         {
332     if(!initialized)
333         return;
334     if(allowPreempt && _info.preempt && repeatMsec > 0)
335         // If preemption is wanted, trigger the animation 1 duration in the past first
336         retrigger(timestamp - repeatMsec);
337     if(!process)
338         begin(timestamp);
339     advance(timestamp);
340     if(process)
341         process->write("start\n");
342 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.30 void AnimScript::scan ( ) [static]

Definition at line 37 of file animscript.cpp.

References _info, AnimScript(), guid(), load(), path(), and scripts.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked().

```
37                      {
38     QDir dir(path());
39     foreach(AnimScript* script, scripts)
40         delete script;
41     scripts.clear();
42     foreach(QString file, dir.entryList(QDir::Files | QDir::Executable)){
43         AnimScript* script = new AnimScript(qApp, dir.absoluteFilePath(file));
44         if(script->load() && !scripts.contains(script->_info.
      guid))
45             scripts[script->_info.guid] = script;
46         else
47             delete script;
48     }
49 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.31 void AnimScript::setDuration ( ) [private]

Definition at line 253 of file animscript.cpp.

References _info, _paramValues, durationMsec, and repeatMsec.

Referenced by init(), and parameters().

```
253                                 {
254     if(_info.absoluteTime){
255         durationMsec = 1000;
256         repeatMsec = 0;
257     } else {
258         durationMsec = round(_paramValues.value("duration").toDouble() * 1000.);
259         if(durationMsec <= 0)
260             durationMsec = -1;
261         repeatMsec = round(_paramValues.value("repeat").toDouble() * 1000.);
262     }
263 }
```

Here is the caller graph for this function:

12.3.5.32 void AnimScript::stop (quint64 *timestamp*)

Definition at line 344 of file animscript.cpp.

References advance(), begin(), initialized, and process.

Referenced by KbAnim::keypress(), keypress(), and load().

```
344                                     {
345     if(!initialized)
346         return;
347     if(!process)
348         begin(timestamp);
349     advance(timestamp);
350     if(process)
351         process->write("stop\n");
352 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.3.5.33 const QString& AnimScript::version ( ) const [inline]

Definition at line 61 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnimWidget::setCurrent().

```
61 { return _info.version; }
```

Here is the caller graph for this function:

12.3.5.34 const QString& AnimScript::year ( ) const [inline]

Definition at line 63 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
63 { return _info.year; }
```

Here is the caller graph for this function:

12.3.6 Field Documentation

12.3.6.1 ColorMap AnimScript::_colorBuffer [private]

Definition at line 143 of file animscript.h.

Referenced by init(), and readProcess().

12.3.6.2 ColorMap AnimScript::_colors [private]

Definition at line 135 of file animscript.h.

Referenced by colors(), end(), init(), and readProcess().

12.3.6.3 struct { ... } AnimScript::_info [private]

Referenced by advance(), author(), copyright(), description(), guid(), hasKeypress(), hasParam(), keypress(), license(), list(), load(), name(), param(), parameters(), paramIterator(), retrigger(), scan(), setDuration(), version(), and year().

12.3.6.4 QStringList AnimScript::_keys [private]

Definition at line 133 of file animscript.h.

Referenced by begin(), and init().

12.3.6.5 KeyMap AnimScript::_map [private]

Definition at line 130 of file animscript.h.

Referenced by begin(), init(), and keypress().

12.3.6.6 PresetValue AnimScript::_paramValues [private]

Definition at line 136 of file animscript.h.

Referenced by init(), keypress(), parameters(), printParams(), and setDuration().

12.3.6.7 QString AnimScript::_path [private]

Definition at line 128 of file animscript.h.

Referenced by begin(), init(), and load().

12.3.6.8 QStringList AnimScript::_presets [private]

Definition at line 125 of file animscript.h.

Referenced by load(), and presets().

12.3.6.9 QList<PresetValue> AnimScript::_presetValues [private]

Definition at line 126 of file animscript.h.

Referenced by load(), and preset().

12.3.6.10 int AnimScript::durationMsec [private]

Definition at line 140 of file animscript.h.

Referenced by advance(), and setDuration().

12.3.6.11 bool AnimScript::firstFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), and init().

12.3.6.12 bool AnimScript::inFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), and readProcess().

12.3.6.13 bool AnimScript::initialized [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), hasFrame(), init(), keypress(), parameters(), retrigger(), and stop().

12.3.6.14 const int AnimScript::KP_NAME = 1 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by keypress(), and load().

12.3.6.15 const int AnimScript::KP_NONE = 0 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by hasKeypress(), keypress(), and load().

12.3.6.16 const int AnimScript::KP_POSITION = 2 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by keypress(), and load().

12.3.6.17 quint64 AnimScript::lastFrame [private]

Definition at line 139 of file animscript.h.

Referenced by advance(), and begin().

12.3.6.18 int AnimScript::minX [private]

Definition at line 131 of file animscript.h.

Referenced by begin(), and keypress().

12.3.6.19 int AnimScript::minY [private]

Definition at line 131 of file animscript.h.

Referenced by begin(), and keypress().

12.3.6.20 QProcess* AnimScript::process [private]

Definition at line 142 of file animscript.h.

Referenced by advance(), begin(), end(), frame(), keypress(), parameters(), printParams(), readProcess(), retrigger(), stop(), and ~AnimScript().

12.3.6.21 bool AnimScript::readAnyFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), hasFrame(), and readProcess().

12.3.6.22 bool AnimScript::readFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), and readProcess().

12.3.6.23 int AnimScript::repeatMsec [private]

Definition at line 140 of file animscript.h.

Referenced by retrigger(), and setDuration().

12.3.6.24 QHash< QUuid, AnimScript * > AnimScript::scripts [static], [private]

Definition at line 152 of file animscript.h.

Referenced by copy(), count(), list(), and scan().

12.3.6.25 bool AnimScript::stopped [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), init(), and readProcess().

The documentation for this class was generated from the following files:

- src/ckb/animscript.h

- src/ckb/animscript.cpp

12.4 Ui::AnimSettingDialog Class Reference

```
#include <src/ckb/ui_animsettingdialog.h>
```

Inheritance diagram for Ui::AnimSettingDialog:

Collaboration diagram for Ui::AnimSettingDialog:

Public Member Functions

- void setupUi (QDialog *AnimSettingDialog)
- void retranslateUi (QDialog *AnimSettingDialog)

Data Fields

- QGridLayout * gridLayout
- QDialogButtonBox * buttonBox
- QTabWidget * tabWidget
- QWidget * settingTab
- QGridLayout * settingsGrid
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QLineEdit * animName
- QWidget * timeTab
- QGridLayout * timeGrid
- QSpacerItem * horizontalSpacer_5
- QLabel * kpRepeatLabel
- QLabel * repeatLabel
- QDoubleSpinBox * repeatBox
- QLabel * repeatLabel_2
- QFrame * line
- QLabel * kpRepeatLabel_2
- QLabel * label_4
- QLabel * label_8
- QDoubleSpinBox * kpDelayBox
- QLabel * label_13
- QLabel * label_12
- QDoubleSpinBox * delayBox
- QCheckBox * kpModeStopBox
- QLabel * label_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_4

- QCheckBox * kpReleaseBox
- QLabel * label_6
- QDoubleSpinBox * kpRepeatBox
- QSpacerItem * verticalSpacer_2
- QFrame * line_2
- QSpacerItem * horizontalSpacer_6
- QWidget * infoTab
- QGridLayout * gridLayout_2
- QLabel * sNameLabel
- QLabel * label_7
- QLabel * label_11
- QLabel * sAuthorLabel
- QLabel * label_9
- QLabel * label_5
- QLabel * sYearLabel
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- QLabel * sVerLabel
- QLabel * sLicenseLabel
- QLabel * label
- QSpacerItem * verticalSpacer
- QLabel * sDescLabel

12.4.1 Detailed Description

Definition at line 385 of file ui_animsettingdialog.h.

12.4.2 Member Function Documentation

12.4.2.1 void Ui_AnimSettingDialog::retranslateUi (QDialog * *AnimSettingDialog*) [inline],[inherited]

Definition at line 349 of file ui_animsettingdialog.h.

References Ui_AnimSettingDialog::infoTab, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, Ui_AnimSettingDialog::label, Ui_AnimSettingDialog::label_10, Ui_AnimSettingDialog::label_11, Ui_AnimSettingDialog::label_12, Ui_AnimSettingDialog::label_13, Ui_AnimSettingDialog::label_2, Ui_AnimSettingDialog::label_3, Ui_AnimSettingDialog::label_4, Ui_AnimSettingDialog::label_5, Ui_AnimSettingDialog::label_6, Ui_AnimSettingDialog::label_7, Ui_AnimSettingDialog::label_8, Ui_AnimSettingDialog::label_9, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, Ui_AnimSettingDialog::sAuthorLabel, Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingTab, Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::tabWidget, and Ui_AnimSettingDialog::timeTab.

Referenced by Ui_AnimSettingDialog::setupUi().

```
    {
        AnimSettingDialog->setWindowTitle(QApplication::translate("AnimSettingDialog", "Dialog", Q_NULLPTR));
        label_2->setText(QApplication::translate("AnimSettingDialog", "Name:", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(settingTab), QApplication::translate("AnimSettingDialog", "Settings", Q_NULLPTR));
        kpRepeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:", Q_NULLPTR));
        repeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:", Q_NULLPTR));
        repeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
        kpRepeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
```

```
Q_NULLPTR));
        label_4->setText(QApplication::translate("AnimSettingDialog", "<b>On mode start</b>", Q_NULLPTR));
        label_8->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
        label_13->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
        label_12->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
        kpModeStopBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key press", Q_NULLPTR));
        label_10->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
        kpReleaseBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key release", Q_NULLPTR));
        label_6->setText(QApplication::translate("AnimSettingDialog", "<b>On key press</b>", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(timeTab), QApplication::translate("AnimSettingDialog", "Timing", Q_NULLPTR));
        sNameLabel->setText(QApplication::translate("AnimSettingDialog", "Name", Q_NULLPTR));
        label_7->setText(QApplication::translate("AnimSettingDialog", "Year:", Q_NULLPTR));
        label_11->setText(QApplication::translate("AnimSettingDialog", "Description:", Q_NULLPTR));
        sAuthorLabel->setText(QApplication::translate("AnimSettingDialog", "Author", Q_NULLPTR);
        label_9->setText(QApplication::translate("AnimSettingDialog", "License:", Q_NULLPTR));
        label_5->setText(QApplication::translate("AnimSettingDialog", "Version:", Q_NULLPTR));
        sYearLabel->setText(QApplication::translate("AnimSettingDialog", "Year", Q_NULLPTR));
        label_3->setText(QApplication::translate("AnimSettingDialog", "Author:", Q_NULLPTR));
        sVerLabel->setText(QApplication::translate("AnimSettingDialog", "Version", Q_NULLPTR));
        sLicenseLabel->setText(QApplication::translate("AnimSettingDialog", "License", Q_NULLPTR));
        label->setText(QApplication::translate("AnimSettingDialog", "Script name:", Q_NULLPTR));
        sDescLabel->setText(QApplication::translate("AnimSettingDialog", "Description", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(infoTab), QApplication::translate("AnimSettingDialog", "About", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.4.2.2 void Ui_AnimSettingDialog::setupUi (QDialog * *AnimSettingDialog*) [inline],[inherited]

Definition at line 85 of file ui_animsettingdialog.h.

References Ui_AnimSettingDialog::animName, Ui_AnimSettingDialog::buttonBox, Ui_AnimSettingDialog::delayBox, Ui_AnimSettingDialog::gridLayout, Ui_AnimSettingDialog::gridLayout_2, Ui_AnimSettingDialog::horizontalSpacer, Ui_AnimSettingDialog::horizontalSpacer_2, Ui_AnimSettingDialog::horizontalSpacer_3, Ui_AnimSettingDialog::horizontalSpacer_4, Ui_AnimSettingDialog::horizontalSpacer_5, Ui_AnimSettingDialog::horizontalSpacer_6, Ui_AnimSettingDialog::infoTab, Ui_AnimSettingDialog::kpDelayBox, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, Ui_AnimSettingDialog::label, Ui_AnimSettingDialog::label_10, Ui_AnimSettingDialog::label_11, Ui_AnimSettingDialog::label_12, Ui_AnimSettingDialog::label_13, Ui_AnimSettingDialog::label_2, Ui_AnimSettingDialog::label_3, Ui_AnimSettingDialog::label_4, Ui_AnimSettingDialog::label_5, Ui_AnimSettingDialog::label_6, Ui_AnimSettingDialog::label_7, Ui_AnimSettingDialog::label_8, Ui_AnimSettingDialog::label_9, Ui_AnimSettingDialog::line, Ui_AnimSettingDialog::line_2, Ui_AnimSettingDialog::repeatBox, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, Ui_AnimSettingDialog::retranslateUi(), Ui_AnimSettingDialog::sAuthorLabel, Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingsGrid, Ui_AnimSettingDialog::settingTab, Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::tabWidget, Ui_AnimSettingDialog::timeGrid, Ui_AnimSettingDialog::timeTab, Ui_AnimSettingDialog::verticalSpacer, Ui_AnimSettingDialog::verticalSpacer_2, and Ui_AnimSettingDialog::verticalSpacer_3.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
{
    if (AnimSettingDialog->objectName().isEmpty())
        AnimSettingDialog->setObjectName(QStringLiteral("AnimSettingDialog"));
    AnimSettingDialog->resize(480, 457);
    AnimSettingDialog->setMinimumSize(QSize(480, 0));
    AnimSettingDialog->setFocusPolicy(Qt::ClickFocus);
    gridLayout = new QGridLayout(AnimSettingDialog);
    gridLayout->setObjectName(QStringLiteral("gridLayout"));
    buttonBox = new QDialogButtonBox(AnimSettingDialog);
    buttonBox->setObjectName(QStringLiteral("buttonBox"));
    buttonBox->setOrientation(Qt::Horizontal);
    buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);

    gridLayout->addWidget(buttonBox, 2, 0, 1, 1);

     tabWidget = new QTabWidget(AnimSettingDialog);
     tabWidget->setObjectName(QStringLiteral("tabWidget"));
     settingTab = new QWidget();
     settingTab->setObjectName(QStringLiteral("settingTab"));
     settingsGrid = new QGridLayout(settingTab);
     settingsGrid->setSpacing(12);
     settingsGrid->setObjectName(QStringLiteral("settingsGrid"));
     settingsGrid->setContentsMargins(12, 12, 12, 12);
     label_2 = new QLabel(settingTab);
     label_2->setObjectName(QStringLiteral("label_2"));

     settingsGrid->addWidget(label_2, 0, 1, 1, 1);

     horizontalSpacer_3 = new QSpacerItem(5, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

     settingsGrid->addItem(horizontalSpacer_3, 0, 2, 1, 1);

     animName = new QLineEdit(settingTab);
     animName->setObjectName(QStringLiteral("animName"));

     settingsGrid->addWidget(animName, 0, 3, 1, 3);

     tabWidget->addTab(settingTab, QString());
     timeTab = new QWidget();
     timeTab->setObjectName(QStringLiteral("timeTab"));
     timeGrid = new QGridLayout(timeTab);
     timeGrid->setSpacing(12);
     timeGrid->setObjectName(QStringLiteral("timeGrid"));
     timeGrid->setContentsMargins(12, 12, 12, 12);
     horizontalSpacer_5 = new QSpacerItem(15, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

     timeGrid->addItem(horizontalSpacer_5, 3, 2, 1, 1);

     kpRepeatLabel = new QLabel(timeTab);
     kpRepeatLabel->setObjectName(QStringLiteral("kpRepeatLabel"));

     timeGrid->addWidget(kpRepeatLabel, 11, 1, 1, 1);

     repeatLabel = new QLabel(timeTab);
     repeatLabel->setObjectName(QStringLiteral("repeatLabel"));

     timeGrid->addWidget(repeatLabel, 3, 1, 1, 1);

     repeatBox = new QDoubleSpinBox(timeTab);
     repeatBox->setObjectName(QStringLiteral("repeatBox"));
     repeatBox->setDecimals(1);
     repeatBox->setMinimum(0.1);
     repeatBox->setMaximum(86400);

     timeGrid->addWidget(repeatBox, 3, 3, 1, 1);

     repeatLabel_2 = new QLabel(timeTab);
     repeatLabel_2->setObjectName(QStringLiteral("repeatLabel_2"));

     timeGrid->addWidget(repeatLabel_2, 3, 4, 1, 1);

     line = new QFrame(timeTab);
     line->setObjectName(QStringLiteral("line"));
     line->setFrameShape(QFrame::HLine);
     line->setFrameShadow(QFrame::Sunken);

     timeGrid->addWidget(line, 1, 0, 1, 6);

     kpRepeatLabel_2 = new QLabel(timeTab);
     kpRepeatLabel_2->setObjectName(QStringLiteral("kpRepeatLabel_2"));

     timeGrid->addWidget(kpRepeatLabel_2, 11, 4, 1, 1);

     label_4 = new QLabel(timeTab);
     label_4->setObjectName(QStringLiteral("label_4"));
```

```
        timeGrid->addWidget(label_4, 0, 0, 1, 6);

        label_8 = new QLabel(timeTab);
        label_8->setObjectName(QStringLiteral("label_8"));

        timeGrid->addWidget(label_8, 2, 4, 1, 1);

        kpDelayBox = new QDoubleSpinBox(timeTab);
        kpDelayBox->setObjectName(QStringLiteral("kpDelayBox"));
        kpDelayBox->setDecimals(1);
        kpDelayBox->setMaximum(86400);

        timeGrid->addWidget(kpDelayBox, 10, 3, 1, 1);

        label_13 = new QLabel(timeTab);
        label_13->setObjectName(QStringLiteral("label_13"));

        timeGrid->addWidget(label_13, 10, 4, 1, 1);

        label_12 = new QLabel(timeTab);
        label_12->setObjectName(QStringLiteral("label_12"));

        timeGrid->addWidget(label_12, 10, 1, 1, 1);

        delayBox = new QDoubleSpinBox(timeTab);
        delayBox->setObjectName(QStringLiteral("delayBox"));
        delayBox->setDecimals(1);
        delayBox->setMaximum(86400);

        timeGrid->addWidget(delayBox, 2, 3, 1, 1);

        kpModeStopBox = new QCheckBox(timeTab);
        kpModeStopBox->setObjectName(QStringLiteral("kpModeStopBox"));

        timeGrid->addWidget(kpModeStopBox, 5, 1, 1, 3);

        label_10 = new QLabel(timeTab);
        label_10->setObjectName(QStringLiteral("label_10"));

        timeGrid->addWidget(label_10, 2, 1, 1, 1);

        verticalSpacer_3 = new QSpacerItem(0, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        timeGrid->addItem(verticalSpacer_3, 7, 1, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        timeGrid->addItem(horizontalSpacer_4, 2, 5, 1, 1);

        kpReleaseBox = new QCheckBox(timeTab);
        kpReleaseBox->setObjectName(QStringLiteral("kpReleaseBox"));

        timeGrid->addWidget(kpReleaseBox, 14, 1, 1, 3);

        label_6 = new QLabel(timeTab);
        label_6->setObjectName(QStringLiteral("label_6"));

        timeGrid->addWidget(label_6, 8, 0, 1, 6);

        kpRepeatBox = new QDoubleSpinBox(timeTab);
        kpRepeatBox->setObjectName(QStringLiteral("kpRepeatBox"));
        kpRepeatBox->setDecimals(1);
        kpRepeatBox->setMinimum(0.1);
        kpRepeatBox->setMaximum(86400);

        timeGrid->addWidget(kpRepeatBox, 11, 3, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        timeGrid->addItem(verticalSpacer_2, 15, 1, 1, 1);

        line_2 = new QFrame(timeTab);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        timeGrid->addWidget(line_2, 9, 0, 1, 6);

        horizontalSpacer_6 = new QSpacerItem(0, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

        timeGrid->addItem(horizontalSpacer_6, 12, 2, 1, 1);

```

```
        tabWidget->addTab(timeTab, QString());
        infoTab = new QWidget();
        infoTab->setObjectName(QStringLiteral("infoTab"));
        gridLayout_2 = new QGridLayout(infoTab);
        gridLayout_2->setSpacing(12);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(12, 12, 12, 12);
        sNameLabel = new QLabel(infoTab);
        sNameLabel->setObjectName(QStringLiteral("sNameLabel"));

        gridLayout_2->addWidget(sNameLabel, 0, 2, 1, 1);

        label_7 = new QLabel(infoTab);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout_2->addWidget(label_7, 3, 0, 1, 1);

        label_11 = new QLabel(infoTab);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout_2->addWidget(label_11, 5, 0, 1, 1);

        sAuthorLabel = new QLabel(infoTab);
        sAuthorLabel->setObjectName(QStringLiteral("sAuthorLabel"));

        gridLayout_2->addWidget(sAuthorLabel, 2, 2, 1, 1);

        label_9 = new QLabel(infoTab);
        label_9->setObjectName(QStringLiteral("label_9"));

        gridLayout_2->addWidget(label_9, 4, 0, 1, 1);

        label_5 = new QLabel(infoTab);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout_2->addWidget(label_5, 1, 0, 1, 1);

        sYearLabel = new QLabel(infoTab);
        sYearLabel->setObjectName(QStringLiteral("sYearLabel"));

        gridLayout_2->addWidget(sYearLabel, 3, 2, 1, 1);

        label_3 = new QLabel(infoTab);
        label_3->setObjectName(QStringLiteral("label_3"));

        gridLayout_2->addWidget(label_3, 2, 0, 1, 1);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer, 0, 3, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_2, 0, 1, 1, 1);

        sVerLabel = new QLabel(infoTab);
        sVerLabel->setObjectName(QStringLiteral("sVerLabel"));

        gridLayout_2->addWidget(sVerLabel, 1, 2, 1, 1);

        sLicenseLabel = new QLabel(infoTab);
        sLicenseLabel->setObjectName(QStringLiteral("sLicenseLabel"));

        gridLayout_2->addWidget(sLicenseLabel, 4, 2, 1, 1);

        label = new QLabel(infoTab);
        label->setObjectName(QStringLiteral("label"));

        gridLayout_2->addWidget(label, 0, 0, 1, 1);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

        gridLayout_2->addItem(verticalSpacer, 6, 0, 1, 1);

        sDescLabel = new QLabel(infoTab);
        sDescLabel->setObjectName(QStringLiteral("sDescLabel"));
        sDescLabel->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);

        gridLayout_2->addWidget(sDescLabel, 5, 2, 2, 2);

        tabWidget->addTab(infoTab, QString());

        gridLayout->addWidget(tabWidget, 0, 0, 1, 1);

```

```
        retranslateUi(AnimSettingDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), AnimSettingDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), AnimSettingDialog, SLOT(reject()));

        tabWidget->setCurrentIndex(0);


        QMetaObject::connectSlotsByName(AnimSettingDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.4.3 Field Documentation

12.4.3.1 QLineEdit* Ui_AnimSettingDialog::animName [inherited]

Definition at line 41 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), AnimSettingDialog::name(), and Ui_AnimSettingDialog-::setupUi().

12.4.3.2 QDialogButtonBox* Ui_AnimSettingDialog::buttonBox [inherited]

Definition at line 35 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.3 QDoubleSpinBox* Ui_AnimSettingDialog::delayBox [inherited]

Definition at line 56 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.4 QGridLayout* Ui_AnimSettingDialog::gridLayout [inherited]

Definition at line 34 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.5 QGridLayout* Ui_AnimSettingDialog::gridLayout_2 [inherited]

Definition at line 68 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.6 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer [inherited]

Definition at line 77 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.7 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_2 [inherited]

Definition at line 78 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.8 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_3 [inherited]

Definition at line 40 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.9 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_4 [inherited]

Definition at line 60 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.10 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_5 [inherited]

Definition at line 44 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.11 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_6 [inherited]

Definition at line 66 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.12 QWidget* Ui_AnimSettingDialog::infoTab [inherited]

Definition at line 67 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.13 QDoubleSpinBox* Ui_AnimSettingDialog::kpDelayBox [inherited]

Definition at line 53 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.14 QCheckBox* Ui_AnimSettingDialog::kpModeStopBox [inherited]

Definition at line 57 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.15 QCheckBox* Ui_AnimSettingDialog::kpReleaseBox [inherited]

Definition at line 61 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.16 QDoubleSpinBox* Ui_AnimSettingDialog::kpRepeatBox [inherited]

Definition at line 63 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.17 QLabel* Ui_AnimSettingDialog::kpRepeatLabel [inherited]

Definition at line 45 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.18 QLabel* Ui_AnimSettingDialog::kpRepeatLabel_2 [inherited]

Definition at line 50 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.19 QLabel* Ui_AnimSettingDialog::label [inherited]

Definition at line 81 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.20 QLabel* Ui_AnimSettingDialog::label_10 [inherited]

Definition at line 58 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.21 QLabel* Ui_AnimSettingDialog::label_11 [inherited]

Definition at line 71 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.22 QLabel* Ui_AnimSettingDialog::label_12 [inherited]

Definition at line 55 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.23 QLabel* Ui_AnimSettingDialog::label_13 [inherited]

Definition at line 54 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.24 QLabel* Ui_AnimSettingDialog::label_2 [inherited]

Definition at line 39 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.25 QLabel* Ui_AnimSettingDialog::label_3 [inherited]

Definition at line 76 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.26 QLabel* Ui_AnimSettingDialog::label_4 [inherited]

Definition at line 51 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.27 QLabel* Ui_AnimSettingDialog::label_5 [inherited]

Definition at line 74 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.28 QLabel* Ui_AnimSettingDialog::label_6 [inherited]

Definition at line 62 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.29 QLabel* Ui_AnimSettingDialog::label_7 [inherited]

Definition at line 70 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.30 QLabel* Ui_AnimSettingDialog::label_8 [inherited]

Definition at line 52 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.31 QLabel* Ui_AnimSettingDialog::label_9 [inherited]

Definition at line 73 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.32 QFrame* Ui_AnimSettingDialog::line [inherited]

Definition at line 49 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.33 QFrame* Ui_AnimSettingDialog::line_2 [inherited]

Definition at line 65 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.34 QDoubleSpinBox* Ui_AnimSettingDialog::repeatBox [inherited]

Definition at line 47 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.35 QLabel* Ui_AnimSettingDialog::repeatLabel [inherited]

Definition at line 46 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.36 QLabel* Ui_AnimSettingDialog::repeatLabel_2 [inherited]

Definition at line 48 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.37 QLabel* Ui_AnimSettingDialog::sAuthorLabel [inherited]

Definition at line 72 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.38 QLabel* Ui_AnimSettingDialog::sDescLabel [inherited]

Definition at line 83 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.39 QGridLayout* Ui_AnimSettingDialog::settingsGrid [inherited]

Definition at line 38 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.40 QWidget* Ui_AnimSettingDialog::settingTab [inherited]

Definition at line 37 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.41 QLabel* Ui_AnimSettingDialog::sLicenseLabel [inherited]

Definition at line 80 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.42 QLabel* Ui_AnimSettingDialog::sNameLabel [inherited]

Definition at line 69 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.43 QLabel* Ui_AnimSettingDialog::sVerLabel [inherited]

Definition at line 79 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.44 QLabel* Ui_AnimSettingDialog::sYearLabel [inherited]

Definition at line 75 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.45 QTabWidget* Ui_AnimSettingDialog::tabWidget [inherited]

Definition at line 36 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.46 QGridLayout* Ui_AnimSettingDialog::timeGrid [inherited]

Definition at line 43 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.47 QWidget* Ui_AnimSettingDialog::timeTab [inherited]

Definition at line 42 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.48 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer [inherited]

Definition at line 82 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.49 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_2 [inherited]

Definition at line 64 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.50 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_3 [inherited]

Definition at line 59 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_animsettingdialog.h

12.5 AnimSettingDialog Class Reference

```
#include <src/ckb/animsettingdialog.h>
```

Inheritance diagram for AnimSettingDialog:

Collaboration diagram for AnimSettingDialog:

Public Member Functions

- AnimSettingDialog (QWidget *parent, KbAnim *anim)
- ~AnimSettingDialog ()
- QString name () const

Private Slots

- void newDuration (double duration)
- void updateStops ()
- void angleDialChanged (QString name)
- void angleSpinnerChanged (QString name)
- void updateParam (QString name)
- void on_delayBox_valueChanged (double arg1)
- void on_repeatBox_valueChanged (double arg1)
- void on_kpDelayBox_valueChanged (double arg1)
- void on_kpRepeatBox_valueChanged (double arg1)
- void on_kpReleaseBox_stateChanged (int arg1)

Private Member Functions

- QFrame * hLine ()

Private Attributes

- Ui::AnimSettingDialog * ui
- QCheckBox * stopCheck
- QCheckBox * kpStopCheck
- bool hasRepeat
- KbAnim * _anim
- double lastDuration
- QMap< QString, QWidget * > settingWidgets

- QSignalMapper updateMapper
- QMap< QString, QSpinBox * > angleSpinners
- QSignalMapper angleDialMapper
- QSignalMapper angleSpinnerMapper

12.5.1 Detailed Description

Definition at line 15 of file animsettingdialog.h.

12.5.2 Constructor & Destructor Documentation

12.5.2.1 AnimSettingDialog::AnimSettingDialog (QWidget * *parent*, KbAnim * *anim*) [explicit]

Definition at line 19 of file animsettingdialog.cpp.

References AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, angleDialChanged(), angleDialMapper, angleFlip(), angleSpinnerChanged(), angleSpinnerMapper, angleSpinners, Ui_AnimSettingDialog::animName, AnimScript::Param::ARGB, AnimScript::author(), AnimScript::Param::BOOL, Ui_AnimSettingDialog::delayBox, AnimScript::description(), AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, AnimScript::hasKeypress(), AnimScript::hasParam(), KbAnim::hasParameter(), hasRepeat, hLine(), Ui_AnimSettingDialog::kpDelayBox, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, kpStopCheck, AnimScript::Param::LABEL, lastDuration, AnimScript::license(), AnimScript::Param::LONG, AnimScript::Param::maximum, AnimScript::Param::minimum, AnimScript::Param::name, AnimScript::name(), KbAnim::name(), newDuration(), KbAnim::parameter(), AnimScript::paramIterator(), AnimScript::Param::postfix, AnimScript::Param::prefix, Ui_AnimSettingDialog::repeatBox, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, AnimScript::Param::RGB, Ui_AnimSettingDialog::sAuthorLabel, KbAnim::script(), KbAnim::scriptName(), Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingsGrid, settingWidgets, Ui_AnimSettingDialog::setupUi(), Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, stopCheck, AnimScript::Param::STRING, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::timeGrid, AnimScript::Param::type, ui, updateMapper, updateParam(), updateStops(), AnimScript::version(), and AnimScript::year().

```
19                                                                  :
20     QDialog(parent),
21     ui(new Ui::AnimSettingDialog), stopCheck(0),
       kpStopCheck(0),
22     _anim(anim), lastDuration(1.0)
23 {
24     ui->setupUi(this);
25     setWindowTitle(anim->scriptName() + " Animation");
26     ui->animName->setText(anim->name());
27     const AnimScript* script = anim->script();
28
29     connect(&updateMapper, SIGNAL(mapped(QString)), this, SLOT(
       updateParam(QString)));
30     connect(&angleDialMapper, SIGNAL(mapped(QString)), this, SLOT(
       angleDialChanged(QString)));
31     connect(&angleSpinnerMapper, SIGNAL(mapped(QString)), this, SLOT(
       angleSpinnerChanged(QString)));
32
33     // Build settings UI
34     int row = 1;
35     ui->settingsGrid->addItem(new QSpacerItem(0, 10, QSizePolicy::Fixed, QSizePolicy::Fixed),
       row++, 6);
36     ui->settingsGrid->addWidget(new QLabel("<b>Animation</b>", this), row++, 0, 1, 7);
37     ui->settingsGrid->addWidget(hLine(), row++, 0, 1, 7);
38     bool rSpacePlaced = false;
39     QListIterator<AnimScript::Param> i(script->paramIterator());
40     while(i.hasNext()){
41         const AnimScript::Param& param = i.next();
42         // Skip timing/playback params
43         if(param.name == "duration"
44                 || param.name == "trigger" || param.name == "kptrigger"
45                 || param.name == "kpmode"
46                 || param.name == "delay" || param.name == "kpdelay"
47                 || param.name == "repeat" || param.name == "kprepeat"
48                 || param.name == "stop" || param.name == "kpstop"
```

```
                || param.name == "kpmodestop" || param.name == "kprelease")
            continue;
        QVariant value = anim->parameter(param.name);
        // Display prefix label on the left (except for booleans and labels)
        if(param.type != AnimScript::Param::BOOL && param.type != AnimScript::Param::LABEL)
            ui->settingsGrid->addWidget(new QLabel(param.prefix, this), row, 1);
        // Configure and display main widget
        QWidget* widget = 0;
        int colSpan = 1;
        QString postfix = param.postfix;
        switch(param.type){
        case AnimScript::Param::BOOL:
            widget = new QCheckBox(param.prefix, this);
            ((QCheckBox*)widget)->setChecked(value.toBool());
            colSpan = 4;
            connect(widget, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::LONG:
            widget = new QSpinBox(this);
            ((QSpinBox*)widget)->setMinimum(param.minimum.toInt());
            ((QSpinBox*)widget)->setMaximum(param.maximum.toInt());
            ((QSpinBox*)widget)->setValue(value.toInt());
            if(postfix.length() <= 3){
                ((QSpinBox*)widget)->setSuffix(postfix);
                postfix = "";
            }
            connect(widget, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::DOUBLE:
            widget = new QDoubleSpinBox(this);
            ((QDoubleSpinBox*)widget)->setDecimals(1);
            ((QDoubleSpinBox*)widget)->setMinimum(param.minimum.toDouble());
            ((QDoubleSpinBox*)widget)->setMaximum(param.maximum.toDouble());
            ((QDoubleSpinBox*)widget)->setValue(value.toDouble());
            if(postfix.length() <= 3){
                ((QDoubleSpinBox*)widget)->setSuffix(postfix);
                postfix = "";
            }
            connect(widget, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::RGB:
            widget = new ColorButton(this);
            ((ColorButton*)widget)->color(QColor("#" + value.toString()));
            colSpan = 3;
            connect(widget, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::ARGB:{
            widget = new ColorButton(this, true);
            QString val = value.toString();
            QColor color;
            if(val.length() == 8){
                color = "#" + val.right(6);
                color.setAlpha(val.left(2).toInt(0, 16));
            } else
                color = "#" + val;
            ((ColorButton*)widget)->color(color);
            colSpan = 3;
            connect(widget, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
            break;
        }
        case AnimScript::Param::GRADIENT:
            widget = new GradientButton(this);
            ((GradientButton*)widget)->fromString(value.toString());
            colSpan = 3;
            connect(widget, SIGNAL(gradientChanged()), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::AGRADIENT:
            widget = new GradientButton(this, true);
            ((GradientButton*)widget)->fromString(value.toString());
            colSpan = 3;
            connect(widget, SIGNAL(gradientChanged()), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::ANGLE:
            widget = new QDial(this);
            ((QDial*)widget)->setFixedSize(60, 60);
            ((QDial*)widget)->setMinimum(0);
            ((QDial*)widget)->setMaximum(360);
            // this is NOT a typo...     ^
            // Even though 360 shouldn't be valid, the wheel/arrow keys will lose 1 degree at the bottom unless 360 is set as max
            ((QDial*)widget)->setSingleStep(5);
            ((QDial*)widget)->setPageStep(15);
            ((QDial*)widget)->setNotchTarget(6);
            ((QDial*)widget)->setNotchesVisible(true);
            ((QDial*)widget)->setWrapping(true);
            ((QDial*)widget)->setInvertedAppearance(true);
```

```
            ((QDial*)widget)->setValue(angleFlip(value.toInt()));
            angleDialMapper.setMapping(widget, param.name);
            connect(widget, SIGNAL(valueChanged(int)), &angleDialMapper, SLOT(map()));
            break;
        case AnimScript::Param::STRING:
            widget = new QLineEdit(this);
            ((QLineEdit*)widget)->setText(value.toString());
            colSpan = 3;
            connect(widget, SIGNAL(textEdited(const QString&)), &updateMapper, SLOT(map()));
            break;
        case AnimScript::Param::LABEL:
            widget = new QLabel(this);
            ((QLabel*)widget)->setText(param.prefix);
            colSpan = 4;
            break;
        default:
            break;
        }
        if(widget)
            updateMapper.setMapping(widget, param.name);
        if(param.type == AnimScript::Param::BOOL || param.type == AnimScript::Param::LABEL){
            // Boolean values are placed on the left with no prefix or postfix
            settingWidgets[param.name] = widget;
            ui->settingsGrid->addWidget(widget, row, 3, 1, colSpan);
        } else {
            // Display the widget
            if(widget){
                settingWidgets[param.name] = widget;
                ui->settingsGrid->addWidget(widget, row, 3, 1, colSpan);
            }
            // Angles additionally have a spin box
            if(param.type == AnimScript::Param::ANGLE){
                QSpinBox* spinner = new QSpinBox(this);
                spinner->setMinimum(0);
                spinner->setMaximum(359);
                spinner->setWrapping(true);
                spinner->setSuffix("°");
                spinner->setValue(value.toInt());
                angleSpinners[param.name] = spinner;
                angleSpinnerMapper.setMapping(spinner, param.name);
                connect(spinner, SIGNAL(valueChanged(int)), &angleSpinnerMapper, SLOT(map()));
                ui->settingsGrid->addWidget(spinner, row, 4);
                colSpan = 2;
            }
            // Display postfix label on the right
            ui->settingsGrid->addWidget(new QLabel(postfix, this), row, 3 + colSpan, 1, 4 - colSpan);
            if(colSpan < 3 && !rSpacePlaced){
                // Add a spacer to compress short elements to the left
                ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Minimum), row, 4 + colSpan);
                rSpacePlaced = true;
            }
        }
        row++;
    }
    // Add playback info at bottom
    ui->settingsGrid->addItem(new QSpacerItem(0, 10, QSizePolicy::Fixed, QSizePolicy::Fixed), row++, 6);
    ui->settingsGrid->addWidget(new QLabel("<b>Playback</b>", this), row++, 0, 1, 7);
    ui->settingsGrid->addWidget(hLine(), row++, 0, 1, 7);
    if(script->hasParam("duration")){
        // Show duration spinner (if allowed)
        lastDuration = anim->parameter("duration").toDouble();
        ui->settingsGrid->addWidget(new QLabel("Duration:", this), row, 1);
        QDoubleSpinBox* spinner = new QDoubleSpinBox(this);
        spinner->setDecimals(1);
        spinner->setMinimum(0.1);
        spinner->setValue(lastDuration);
        connect(spinner, SIGNAL(valueChanged(double)), this, SLOT(newDuration(double)));
        settingWidgets["duration"] = spinner;
        ui->settingsGrid->addWidget(spinner, row, 3, 1, 1);
        ui->settingsGrid->addWidget(new QLabel("seconds", this), row, 4, 1, 2);
        row++;
    }
    // Show boxes for start with mode/with keypress
    QCheckBox* check = new QCheckBox("Start with mode", this);
    check->setChecked(anim->parameter("trigger").toBool());
    ui->settingsGrid->addWidget(check, row, 3, 1, 4);
    settingWidgets["trigger"] = check;
    connect(check, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
    updateMapper.setMapping(check, "trigger");
    row++;
    check = new QCheckBox("Start with key press", this);
```

```
    check->setChecked(anim->parameter("kptrigger").toBool());
    ui->settingsGrid->addWidget(check, row, 3, 1, 2);
    settingWidgets["kptrigger"] = check;
    connect(check, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
    updateMapper.setMapping(check, "kptrigger");
    // Add an option allowing the user to select keypress mode
    QComboBox* combo = new QComboBox(this);
    int selected = anim->parameter("kpmode").toInt();
    if(script->hasKeypress()){
        // If the script supports keypresses, show the option to handle them that way (default)
        combo->addItem("on pressed key");
        combo->addItem("on whole keyboard");
        combo->addItem("on keyboard (once)");
    } else {
        selected--;
        // Otherwise, just show the choice of whether to start it every time or just once
        combo->addItem("every time");
        combo->addItem("only once");
    }
    if(selected < 0 || selected > combo->count())
        selected = 0;
    combo->setCurrentIndex(selected);
    ui->settingsGrid->addWidget(combo, row, 5, 1, 2);
    settingWidgets["kpmode"] = combo;
    connect(combo, SIGNAL(activated(int)), &updateMapper, SLOT(map()));
    updateMapper.setMapping(combo, "kpmode");
    row++;

    // Add horizontal spacer to compress content to left
    ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Expanding), 0, 6);
    // Add vertical spacer to compress content to top
    ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Minimum,
QSizePolicy::Expanding), row, 0);

    // Add timing fields
    settingWidgets["delay"] = ui->delayBox;
    ui->delayBox->setValue(anim->parameter("delay").toDouble());
    settingWidgets["kpdelay"] = ui->kpDelayBox;
    ui->kpDelayBox->setValue(anim->parameter("kpdelay").toDouble());
    settingWidgets["kpmodestop"] = ui->kpModeStopBox;
    ui->kpModeStopBox->setChecked(anim->parameter("kpmodestop").toBool());
    connect(ui->kpModeStopBox, SIGNAL(clicked(bool)), &
updateMapper, SLOT(map()));
    updateMapper.setMapping(ui->kpModeStopBox, "kpmodestop");
    settingWidgets["kprelease"] = ui->kpReleaseBox;
    ui->kpReleaseBox->setChecked(anim->parameter("kprelease").toBool());
    if(anim->hasParameter("repeat")){
        hasRepeat = true;
        settingWidgets["repeat"] = ui->repeatBox;
        ui->repeatBox->setValue(anim->parameter("repeat").toDouble());
        settingWidgets["kprepeat"] = ui->kpRepeatBox;
        ui->kpRepeatBox->setValue(anim->parameter("kprepeat").toDouble());
        // If repeat is enabled, add repeat counts as integer values
        // Mode repeat
        ui->timeGrid->addWidget(new QLabel("Repeat:", this), 4, 1);
        QSpinBox* spinner = new QSpinBox(this);
        spinner->setMinimum(0);
        spinner->setMaximum(1000000);
        spinner->setValue(anim->parameter("stop").toInt());
        settingWidgets["stop"] = spinner;
        connect(spinner, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
        updateMapper.setMapping(spinner, "stop");
        ui->timeGrid->addWidget(spinner, 4, 3);
        ui->timeGrid->addWidget(new QLabel("times", this), 4, 4);
        // KP repeat
        ui->timeGrid->addWidget(new QLabel("Repeat:", this), 12, 1);
        spinner = new QSpinBox(this);
        spinner->setMinimum(0);
        spinner->setMaximum(1000000);
        spinner->setValue(anim->parameter("kpstop").toInt());
        settingWidgets["kpstop"] = spinner;
        connect(spinner, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
        updateMapper.setMapping(spinner, "kpstop");
        ui->timeGrid->addWidget(spinner, 12, 3);
        ui->timeGrid->addWidget(new QLabel("times", this), 12, 4);
        // Infinite repeat toggles
        stopCheck = new QCheckBox("Forever", this);
        stopCheck->setChecked(anim->parameter("stop").toInt() < 0);
        ui->timeGrid->addWidget(stopCheck, 4, 5);
        kpStopCheck = new QCheckBox("Forever", this);
        connect(stopCheck, SIGNAL(clicked()), this, SLOT(updateStops()));
        kpStopCheck->setChecked(anim->parameter("kpstop").toInt() < 0);
        ui->timeGrid->addWidget(kpStopCheck, 12, 5);
        connect(kpStopCheck, SIGNAL(clicked()), this, SLOT(
updateStops()));
    } else {
        hasRepeat = false;
```

```
        // If repeat is not enabled, hide repeat-related fields
        ui->repeatBox->setHidden(true);
        ui->repeatLabel->setHidden(true);
        ui->repeatLabel_2->setHidden(true);
        ui->kpRepeatBox->setHidden(true);
        ui->kpRepeatLabel->setHidden(true);
        ui->kpRepeatLabel_2->setHidden(true);
        // Add stop times as double values
        // Stop time
        QDoubleSpinBox* spinner = new QDoubleSpinBox(this);
        spinner->setDecimals(1);
        spinner->setMinimum(0.1);
        spinner->setMaximum(24. * 60. * 60.);
        double stop = anim->parameter("stop").toDouble();
        if(stop <= 0.)
            spinner->setValue(lastDuration);
        else
            spinner->setValue(stop);
        settingWidgets["stop"] = spinner;
        connect(spinner, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
        updateMapper.setMapping(spinner, "stop");
        ui->timeGrid->addWidget(spinner, 4, 3);
        ui->timeGrid->addWidget(new QLabel("seconds", this), 4, 4);
        // KP stop time
        spinner = new QDoubleSpinBox(this);
        spinner->setDecimals(1);
        spinner->setMinimum(0.1);
        spinner->setMaximum(24. * 60. * 60.);
        double kpstop = anim->parameter("kpstop").toDouble();
        if(kpstop <= 0.)
            spinner->setValue(lastDuration);
        else
            spinner->setValue(kpstop);
        settingWidgets["kpstop"] = spinner;
        connect(spinner, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
        updateMapper.setMapping(spinner, "kpstop");
        ui->timeGrid->addWidget(spinner, 12, 3);
        ui->timeGrid->addWidget(new QLabel("seconds", this), 12, 4);
        // Infinite run toggles
        stopCheck = new QCheckBox("Stop after:", this);
        stopCheck->setChecked(stop > 0.);
        ui->timeGrid->addWidget(stopCheck, 4, 1);
        connect(stopCheck, SIGNAL(clicked()), this, SLOT(updateStops()));
        kpStopCheck = new QCheckBox("Stop after:", this);
        kpStopCheck->setChecked(kpstop > 0.);
        ui->timeGrid->addWidget(kpStopCheck, 12, 1);
        connect(kpStopCheck, SIGNAL(clicked()), this, SLOT(updateStops()));
    }
    updateStops();

    // Set script info UI
    ui->sNameLabel->setText(script->name());
    ui->sVerLabel->setText(script->version());
    ui->sAuthorLabel->setText(script->author());
    ui->sYearLabel->setText(script->year());
    ui->sLicenseLabel->setText(script->license());
    ui->sDescLabel->setText(script->description());

    // Lock dialog size
    setFixedSize(minimumSize());
}
```

Here is the call graph for this function:

12.5.2.2 AnimSettingDialog::~AnimSettingDialog ( )

Definition at line 476 of file animsettingdialog.cpp.

References ui.

```
476                                     {
477     delete ui;
478 }
```

12.5.3 Member Function Documentation

12.5.3.1 void AnimSettingDialog::angleDialChanged (QString *name*) [private],[slot]

Definition at line 389 of file animsettingdialog.cpp.

References angleFlip(), angleSpinners, name(), settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

```
389                                                 {
390     // Dial changed; update spinner value
391     angleSpinners[name]->setValue(angleFlip(((QDial*)
      settingWidgets[name])->value()));
392     updateParam(name);
393 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.5.3.2 void AnimSettingDialog::angleSpinnerChanged (QString *name*) [private],[slot]

Definition at line 395 of file animsettingdialog.cpp.

References angleFlip(), angleSpinners, settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

```
395                                                 {
```

```
    // Spinner changed; update dial value
    ((QDial*)settingWidgets[name])->setValue(angleFlip(angleSpinners[name]->value()));
    updateParam(name);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.5.3.3 QFrame * AnimSettingDialog::hLine ( ) [private]

Definition at line 480 of file animsettingdialog.cpp.

References frame.

Referenced by AnimSettingDialog().

```
480                                 {
481     QFrame* frame = new QFrame(this);
482     frame->setFrameShape(QFrame::HLine);
483     frame->setFrameShadow(QFrame::Sunken);
484     return frame;
485 }
```

Here is the caller graph for this function:

12.5.3.4 QString AnimSettingDialog::name ( ) const

Definition at line 472 of file animsettingdialog.cpp.

References Ui_AnimSettingDialog::animName, and ui.

Referenced by angleDialChanged(), and KbAnimWidget::on_propertyButton_clicked().

```
472                                     {
473     return ui->animName->text();
474 }
```

Here is the caller graph for this function:

12.5.3.5 void AnimSettingDialog::newDuration (double *duration*) [private],[slot]

Definition at line 361 of file animsettingdialog.cpp.

References lastDuration, settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

```
361                                             {
362     // Duration changed. Automatically fix Repeat and KP Repeat to the same values, if they matched before
363     QDoubleSpinBox* rep = (QDoubleSpinBox*)settingWidgets.value("repeat");
364     QDoubleSpinBox* kpRep = (QDoubleSpinBox*)settingWidgets.value("kprepeat");
365     if(rep && rep->value() == lastDuration)
366         rep->setValue(duration);
367     if(kpRep && kpRep->value() == lastDuration)
368         kpRep->setValue(duration);
369     lastDuration = duration;
370     updateParam("duration");
371     updateParam("repeat");
372     updateParam("kprepeat");
373 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.5.3.6 void AnimSettingDialog::on_delayBox_valueChanged (double *arg1*) [private],[slot]

Definition at line 487 of file animsettingdialog.cpp.

References updateParam().

```
487                                                     {
488     updateParam("delay");
489 }
```

Here is the call graph for this function:

12.5.3.7 void AnimSettingDialog::on_kpDelayBox_valueChanged (double *arg1*) [private],[slot]

Definition at line 495 of file animsettingdialog.cpp.

References updateParam().

```
495                                                                 {
496     updateParam("kpdelay");
497 }
```

Here is the call graph for this function:

12.5.3.8 void AnimSettingDialog::on_kpReleaseBox_stateChanged (int *arg1*) [private],[slot]

Definition at line 503 of file animsettingdialog.cpp.

References updateParam().

```
503                                                     {
504     updateParam("kprelease");
505 }
```

Here is the call graph for this function:

12.5.3.9 void AnimSettingDialog::on_kpRepeatBox_valueChanged (double *arg1*) [private],[slot]

Definition at line 499 of file animsettingdialog.cpp.

References updateParam().

```
499                                                     {
500     updateParam("kprepeat");
501 }
```

Here is the call graph for this function:

12.5.3.10 void AnimSettingDialog::on_repeatBox_valueChanged (double *arg1*) [private],[slot]

Definition at line 491 of file animsettingdialog.cpp.

References updateParam().

```
491                                                     {
492     updateParam("repeat");
493 }
```

Here is the call graph for this function:

12.5.3.11 void AnimSettingDialog::updateParam (QString *name*) [private],[slot]

Definition at line 401 of file animsettingdialog.cpp.

References _anim, AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, angleFlip(), AnimScript::Param::ARGB, AnimScript::Param::BOOL, ColorButton::color(), AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, AnimScript::hasKeypress(), hasRepeat, kpStopCheck, AnimScript::Param::LONG, AnimScript::param(), KbAnim::parameter(), AnimScript::Param::RGB, KbAnim::script(), settingWidgets, stopCheck, AnimScript::Param::STRING, GradientButton::toString(), and AnimScript::Param::type.

Referenced by angleDialChanged(), angleSpinnerChanged(), AnimSettingDialog(), newDuration(), on_delayBox_valueChanged(), on_kpDelayBox_valueChanged(), on_kpReleaseBox_stateChanged(), on_kpRepeatBox_valueChanged(), on_repeatBox_valueChanged(), and updateStops().

```
401                                                 {
402     if(!settingWidgets.contains(name))
403         return;
404     // stop and kpstop have defeat switches
405     if((name == "stop" && stopCheck->isChecked() == hasRepeat)
406             || (name == "kpstop" && kpStopCheck->isChecked() ==
    hasRepeat)){
407         _anim->parameter(name, -1);
408         return;
409     } else if(name == "kpmode"){
410         // kpmode uses a drop-down, and selection is inverted
411         QComboBox* widget = (QComboBox*)settingWidgets[name];
412         int selected = widget->currentIndex();
413         if(!_anim->script()->hasKeypress())
414             selected++;
415         _anim->parameter(name, selected);
416         return;
417     }
418     // Read value based on type
```

```
    switch(_anim->script()->param(name).type){
    case AnimScript::Param::BOOL:{
        QCheckBox* widget = (QCheckBox*)settingWidgets[name];
        _anim->parameter(name, (int)widget->isChecked());
        break;
    }
    case AnimScript::Param::LONG:{
        QSpinBox* widget = (QSpinBox*)settingWidgets[name];
        _anim->parameter(name, widget->value());
        break;
    }
    case AnimScript::Param::DOUBLE:{
        QDoubleSpinBox* widget = (QDoubleSpinBox*)settingWidgets[name];
        _anim->parameter(name, widget->value());
        break;
    }
    case AnimScript::Param::RGB:{
        ColorButton* widget = (ColorButton*)settingWidgets[name];
        QColor color = widget->color();
        char hex[7];
        snprintf(hex, sizeof(hex), "%02x%02x%02x", color.red(), color.green(), color.blue());
        _anim->parameter(name, QString(hex));
        break;
    }
    case AnimScript::Param::ARGB:{
        ColorButton* widget = (ColorButton*)settingWidgets[name];
        QColor color = widget->color();
        char hex[9];
        snprintf(hex, sizeof(hex), "%02x%02x%02x%02x", color.alpha(), color.red(), color.green(), color.blue());
        _anim->parameter(name, QString(hex));
        break;
    }
    case AnimScript::Param::GRADIENT:
    case AnimScript::Param::AGRADIENT:{
        GradientButton* widget = (GradientButton*)settingWidgets[name];
        _anim->parameter(name, widget->toString());
        break;
    }
    case AnimScript::Param::ANGLE:{
        QDial* widget = (QDial*)settingWidgets[name];
        _anim->parameter(name, angleFlip(widget->value()));
        break;
    }
    case AnimScript::Param::STRING:{
        QLineEdit* widget = (QLineEdit*)settingWidgets[name];
        _anim->parameter(name, widget->text());
        break;
    }
    default:
        break;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.5.3.12 void AnimSettingDialog::updateStops ( ) [private],[slot]

Definition at line 375 of file animsettingdialog.cpp.

References hasRepeat, kpStopCheck, settingWidgets, stopCheck, and updateParam().

Referenced by AnimSettingDialog().

```
375                                     {
376     if(hasRepeat){
377         // When repeat is enabled, the check box is "repeat forever", so disable stop count if checked
378         settingWidgets.value("stop")->setDisabled(stopCheck->isChecked());
379         settingWidgets.value("kpstop")->setDisabled(kpStopCheck->isChecked());
380     } else {
381         // When repeat is disabled, the check box is "stop after", so disable stop count UNLESS checked
382         settingWidgets.value("stop")->setEnabled(stopCheck->isChecked());
383         settingWidgets.value("kpstop")->setEnabled(kpStopCheck->isChecked());
384     }
385     updateParam("stop");
386     updateParam("kpstop");
387 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.5.4 Field Documentation

12.5.4.1 KbAnim* AnimSettingDialog::_anim [private]

Definition at line 32 of file animsettingdialog.h.

Referenced by updateParam().

12.5.4.2 QSignalMapper AnimSettingDialog::angleDialMapper [private]

Definition at line 38 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

12.5.4.3 QSignalMapper AnimSettingDialog::angleSpinnerMapper [private]

Definition at line 38 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

12.5.4.4 QMap<QString, QSpinBox*> AnimSettingDialog::angleSpinners [private]

Definition at line 37 of file animsettingdialog.h.

Referenced by angleDialChanged(), angleSpinnerChanged(), and AnimSettingDialog().

12.5.4.5 bool AnimSettingDialog::hasRepeat [private]

Definition at line 30 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.6 QCheckBox * AnimSettingDialog::kpStopCheck [private]

Definition at line 29 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.7 double AnimSettingDialog::lastDuration [private]

Definition at line 33 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), and newDuration().

12.5.4.8 QMap<QString, QWidget*> AnimSettingDialog::settingWidgets [private]

Definition at line 34 of file animsettingdialog.h.

Referenced by angleDialChanged(), angleSpinnerChanged(), AnimSettingDialog(), newDuration(), updateParam(), and updateStops().

12.5.4.9 QCheckBox* AnimSettingDialog::stopCheck [private]

Definition at line 29 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.10 Ui::AnimSettingDialog* AnimSettingDialog::ui [private]

Definition at line 28 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), name(), and ~AnimSettingDialog().

12.5.4.11 QSignalMapper AnimSettingDialog::updateMapper [private]

Definition at line 35 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

The documentation for this class was generated from the following files:

- src/ckb/animsettingdialog.h
- src/ckb/animsettingdialog.cpp

12.6 AutoRun Class Reference

`#include <src/ckb/autorun.h>`

Collaboration diagram for AutoRun:

Static Public Member Functions

- static bool available ()
- static bool once ()
- static bool isEnabled ()
- static void enable ()
- static void disable ()

12.6.1 Detailed Description

Definition at line 8 of file autorun.h.

12.6.2 Member Function Documentation

12.6.2.1 bool AutoRun::available ( ) [static]

Definition at line 20 of file autorun.cpp.

Referenced by disable(), enable(), and SettingsWidget::SettingsWidget().

```
20                          {
21     // Allow autostart if the program is located in a system path
22 #ifdef Q_OS_LINUX
23     return QDir::root().absoluteFilePath(QStandardPaths::findExecutable("ckb")) == qApp->
       applicationFilePath();
24 #elif defined(Q_OS_MACX)
25     return qApp->applicationFilePath().startsWith("/Applications/ckb.app", Qt::CaseInsensitive);
26 #endif
27 }
```

Here is the caller graph for this function:

12.6.2.2 void AutoRun::disable ( ) [static]

Definition at line 53 of file autorun.cpp.

References available().

Referenced by SettingsWidget::on_loginItemBox_clicked().

```
53                      {
54      if(!available())
55          return;
56      // Remove file
57      QFile::remove(path.absoluteFilePath(file));
58  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.6.2.3 void AutoRun::enable ( ) [static]

Definition at line 42 of file autorun.cpp.

References available(), and CkbSettings::set().

Referenced by SettingsWidget::on_loginItemBox_clicked(), and SettingsWidget::SettingsWidget().

```
42                      {
43     if(!available())
44         return;
45     // Copy file into place
46     if(!path.exists())
47         QDir::home().mkpath(path.absolutePath());
48     QFile::copy(internalFile, path.absoluteFilePath(file));
49     // Mark once() as done
50     CkbSettings::set(settingPath, true);
51 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.6.2.4 bool AutoRun::isEnabled ( ) [static]

Definition at line 33 of file autorun.cpp.

References CkbSettings::set().

Referenced by SettingsWidget::SettingsWidget().

```
33                      {
34     // Check if the file exists. If not, autostart is disabled.
35     if(!path.exists() || !path.exists(file))
36         return false;
37     // If autostart is enabled, set the flag from once() (in case it hasn't been done yet)
38     CkbSettings::set(settingPath, true);
39     return true;
40 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.6.2.5 bool AutoRun::once ( ) [static]

Definition at line 29 of file autorun.cpp.

References CkbSettings::get().

Referenced by SettingsWidget::SettingsWidget().

```
29                  {
30      return CkbSettings::get(settingPath).toBool();
31  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

The documentation for this class was generated from the following files:

- src/ckb/autorun.h
- src/ckb/autorun.cpp

12.7 CkbSettings Class Reference

```
#include <src/ckb/ckbsettings.h>
```

Collaboration diagram for CkbSettings:

Public Member Functions

- CkbSettings ()
- CkbSettings (const QString &basePath, bool eraseExisting=false)
- CkbSettings (QSettings &settings)
- ~CkbSettings ()
- void beginGroup (const QString &prefix)
- void endGroup ()
- QStringList childGroups () const
- QStringList childKeys () const
- bool contains (const QString &key) const
- bool containsGroup (const QString &group)
- QVariant value (const QString &key, const QVariant &defaultValue=QVariant()) const
- void setValue (const QString &key, const QVariant &value)
- void remove (const QString &key)

Static Public Member Functions

- static QVariant get (const QString &key, const QVariant &defaultValue=QVariant())

- static void set (const QString &key, const QVariant &value)
- static bool isBusy ()
- static void cleanUp ()

Private Member Functions

- QString pwd () const
- QString pwd (const QString &key) const

Private Attributes

- QSettings * backing
- QStringList groups
- QStringList removeCache
- QMap< QString, QVariant > writeCache

12.7.1 Detailed Description

Definition at line 11 of file ckbsettings.h.

12.7.2 Constructor & Destructor Documentation

12.7.2.1 CkbSettings::CkbSettings ( )

Definition at line 61 of file ckbsettings.cpp.

```
61                          :
62     backing(globalSettings()) {
63 }
```

12.7.2.2 CkbSettings::CkbSettings (const QString & *basePath*, bool *eraseExisting* = `false`)

Definition at line 65 of file ckbsettings.cpp.

References beginGroup().

```
65                                                                  :
66     backing(globalSettings()) {
67     if(basePath.isEmpty()){
68         if(eraseExisting)
69             qDebug() << "CkbSettings created with basePath = \"\" and eraseExisting = true. This is a
       mistake.";
70         return;
71     }
72     if(eraseExisting)
73         remove(basePath);
74     beginGroup(basePath);
75 }
```

Here is the call graph for this function:

12.7.2.3 CkbSettings::CkbSettings (QSettings & *settings*)

Definition at line 77 of file ckbsettings.cpp.

```
77                                                  :
78     backing(&settings) {
79 }
```

12.7.2.4 CkbSettings::~CkbSettings ( )

Definition at line 145 of file ckbsettings.cpp.

References backing, removeCache, and writeCache.

```
145                                 {
146     if(removeCache.isEmpty() && writeCache.isEmpty())
147         return;
148     // Save the settings from the settings thread.
149     // They have to be saved from that thread specifically to avoid performance issues
150     CkbSettingsWriter* writer = new CkbSettingsWriter(
      backing, removeCache, writeCache);
151     writer->moveToThread(globalThread);
152     QObject::staticMetaObject.invokeMethod(writer, "run", Qt::QueuedConnection);
153 }
```

12.7.3 Member Function Documentation

12.7.3.1 void CkbSettings::beginGroup (const QString & *prefix*)

Definition at line 81 of file ckbsettings.cpp.

References groups.

Referenced by CkbSettings(), KbAnim::save(), and SGroup::SGroup().

```
81                                                  {
82     groups.append(prefix);
83 }
```

Here is the caller graph for this function:

12.7.3.2 QStringList CkbSettings::childGroups ( ) const

Definition at line 89 of file ckbsettings.cpp.

References backing, current, lockMutex, and pwd().

Referenced by containsGroup(), and GradientDialog::GradientDialog().

```
89                                                  {
90     QString current = pwd();
91     lockMutex;
92     if(!current.isEmpty())
93         backing->beginGroup(current);
94     QStringList res = backing->childGroups();
95     if(!current.isEmpty())
96         backing->endGroup();
97     return res;
98 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.3 QStringList CkbSettings::childKeys ( ) const

Definition at line 100 of file ckbsettings.cpp.

References backing, current, lockMutex, and pwd().

Referenced by GradientDialog::GradientDialog(), KbAnim::KbAnim(), KbBind::load(), KbLight::load(), and KbBind::loadGlobalRemap().

```
100                                         {
101     QString current = pwd();
102     lockMutex;
103     if(!current.isEmpty())
104         backing->beginGroup(current);
105     QStringList res = backing->childKeys();
106     if(!current.isEmpty())
107         backing->endGroup();
108     return res;
109 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.4 void CkbSettings::cleanUp ( ) [static]

Definition at line 46 of file ckbsettings.cpp.

References _globalSettings, cacheWritesInProgress(), and globalThread.

Referenced by MainWindow::cleanup().

```
46                          {
47     if(!_globalSettings)
48         return;
49     // Wait for all writers to finish
50     while(cacheWritesInProgress.load() > 0)
51         QThread::yieldCurrentThread();
52     // Stop thread and delete objects
53     globalThread->quit();
54     globalThread->wait();
55     delete globalThread;
56     delete _globalSettings;
57     globalThread = 0;
58     _globalSettings = 0;
59 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.5 bool CkbSettings::contains (const QString & *key*) const

Definition at line 111 of file ckbsettings.cpp.

References backing, lockMutex, and pwd().

Referenced by KbMode::KbMode(), KbProfile::KbProfile(), and KbPerf::load().

```
111                                                 {
112     lockMutex;
113     return backing->contains(pwd(key));
114 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.6 bool CkbSettings::containsGroup (const QString & *group*)

Definition at line 116 of file ckbsettings.cpp.

References childGroups().

Referenced by KbPerf::load().

```
                                                {
    QStringList components = group.split("/");
    if(components.length() > 1){
        // Find sub-group
        SGroup group(*this, components[0]);
        return containsGroup(QStringList(components.mid(1)).join('/'));
    }
    return childGroups().contains(group);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.7 void CkbSettings::endGroup ( )

Definition at line 85 of file ckbsettings.cpp.

References groups.

Referenced by KbAnim::save(), and SGroup::~SGroup().

```
                        {
    groups.removeLast();
}
```

Here is the caller graph for this function:

12.7.3.8 QVariant CkbSettings::get (const QString & *key*, const QVariant & *defaultValue* = `QVariant()`) `[static]`

Definition at line 155 of file ckbsettings.cpp.

References globalCache, globalSettings(), lockMutexCache, and lockMutexStatic2.

Referenced by MainWindow::closeEvent(), KbLightWidget::KbLightWidget(), MainWindow::MainWindow(), AutoRun::once(), and MainWindow::timerTick().

```
                                                                    {
    // Store these settings in a memory cache
    lockMutexCache;
    if(globalCache.contains(key))
        return globalCache.value(key);
    // If it wasn't found in the memory cache, look for it in QSettings
    lockMutexStatic2;
    QSettings* settings = globalSettings();
    return globalCache[key] = settings->value(key, defaultValue);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.9 bool CkbSettings::isBusy ( ) [static]

Definition at line 42 of file ckbsettings.cpp.

References cacheWritesInProgress().

Referenced by Kb::autoSave(), and ExtraSettingsWidget::pollUpdates().

```
                        {
    return cacheWritesInProgress.load() > 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.10 QString CkbSettings::pwd ( ) const [inline], [private]

Definition at line 51 of file ckbsettings.h.

References groups.

Referenced by childGroups(), childKeys(), contains(), remove(), setValue(), and value().

```
51 { return groups.join("/"); }
```

Here is the caller graph for this function:

12.7.3.11 QString CkbSettings::pwd (const QString & *key*) const [inline], [private]

Definition at line 52 of file ckbsettings.h.

References groups, and pwd().

Referenced by pwd().

```
52 { return pwd() + (groups.isEmpty() ? "" : "/") + key; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.12 void CkbSettings::remove (const QString & *key*)

Definition at line 141 of file ckbsettings.cpp.

References pwd(), and removeCache.

Referenced by SettingsWidget::SettingsWidget().

```
141                                         {
142     removeCache.append(pwd(key));
143 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.13 void CkbSettings::set (const QString & *key*, const QVariant & *value*) [static]

Definition at line 166 of file ckbsettings.cpp.

References globalCache, globalSettings(), lockMutexCache, lockMutexStatic, and value().

Referenced by MainWindow::closeEvent(), AutoRun::enable(), AutoRun::isEnabled(), SettingsWidget::on_autoFWBox_clicked(), ExtraSettingsWidget::on_delayBox_clicked(), ExtraSettingsWidget::on_ditherBox_clicked(), SettingsWidget::on_layoutBox_activated(), ExtraSettingsWidget::on_mAccelBox_clicked(), ExtraSettingsWidget::on_sAccelBox_clicked(), KbLightWidget::on_showAnimBox_clicked(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), ExtraSettingsWidget::on_trayBox_clicked(), MPerfWidget::on_xyBox_clicked(), and ExtraSettingsWidget::pollUpdates().

```
{
    {
        lockMutexCache;
        if(globalCache.value(key) == value)
            return;
        globalCache[key] = value;
    }
    lockMutexStatic;
    globalSettings()->setValue(key, value);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.14 void CkbSettings::setValue (const QString & *key*, const QVariant & *value*)

Definition at line 131 of file ckbsettings.cpp.

References globalCache, lockMutexCache, pwd(), value(), and writeCache.

Referenced by ExtraSettingsWidget::on_fpsBox_valueChanged(), KbProfile::save(), KbPerf::save(), KbAnim::save(), KbBind::save(), KbMode::save(), KbLight::save(), Kb::save(), KbBind::saveGlobalRemap(), SettingsWidget::SettingsWidget(), and GradientDialog::~GradientDialog().

```
131                                                                 {
132     // Cache the write values, save them when the object is destroyed
133     QString realKey = pwd(key);
134     writeCache[realKey] = value;
135     // Update global cache if needed
136     lockMutexCache;
137     if(globalCache.contains(realKey))
138         globalCache[realKey] = value;
139 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.15 QVariant CkbSettings::value (const QString & *key*, const QVariant & *defaultValue* = `QVariant()`) const

Definition at line 126 of file ckbsettings.cpp.

References backing, lockMutex, and pwd().

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), GradientDialog::GradientDialog(), KbAnim::KbAnim(), KbMode::KbMode(), KbProfile::KbProfile(), KbPerf::load(), KbBind::load(), KbLight::load(), Kb::load(), KbBind::loadGlobalRemap(), set(), SettingsWidget::SettingsWidget(), and setValue().

```
126                                                                 {
127     lockMutex;
128     return backing->value(pwd(key), defaultValue);
129 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.4 Field Documentation

12.7.4.1 QSettings* CkbSettings::backing [private]

Definition at line 46 of file ckbsettings.h.

Referenced by childGroups(), childKeys(), contains(), value(), and ~CkbSettings().

12.7.4.2 QStringList CkbSettings::groups [private]

Definition at line 47 of file ckbsettings.h.

Referenced by beginGroup(), endGroup(), and pwd().

12.7.4.3 QStringList CkbSettings::removeCache [private]

Definition at line 48 of file ckbsettings.h.

Referenced by remove(), and ~CkbSettings().

12.7.4.4 QMap<QString, QVariant> CkbSettings::writeCache [private]

Definition at line 49 of file ckbsettings.h.

Referenced by setValue(), and ~CkbSettings().

The documentation for this class was generated from the following files:

- src/ckb/ckbsettings.h
- src/ckb/ckbsettings.cpp

12.8 CkbSettingsWriter Class Reference

```
#include <src/ckb/ckbsettingswriter.h>
```

Inheritance diagram for CkbSettingsWriter:

Collaboration diagram for CkbSettingsWriter:

Public Member Functions

- CkbSettingsWriter (QSettings ∗backing, const QStringList &removals, const QMap< QString, QVariant > &updates)
- ∼CkbSettingsWriter ()
- Q_SLOT void run ()

Private Attributes

- QSettings ∗ _backing
- QStringList _removals
- QMap< QString, QVariant > _updates

12.8.1 Detailed Description

Definition at line 12 of file ckbsettingswriter.h.

12.8.2 Constructor & Destructor Documentation

12.8.2.1 CkbSettingsWriter::CkbSettingsWriter (QSettings ∗ *backing*, const QStringList & *removals*, const QMap< QString, QVariant > & *updates*)

Definition at line 12 of file ckbsettingswriter.cpp.

References cacheWritesInProgress.

```
12
                    :
13     _backing(backing), _removals(removals), _updates(updates) {
14     cacheWritesInProgress.ref();
15 }
```

12.8.2.2 CkbSettingsWriter::~CkbSettingsWriter ( )

Definition at line 17 of file ckbsettingswriter.cpp.

References cacheWritesInProgress.

```
17                                  {
18     cacheWritesInProgress.deref();
19 }
```

12.8.3 Member Function Documentation

12.8.3.1 void CkbSettingsWriter::run ( )

Definition at line 21 of file ckbsettingswriter.cpp.

References _backing, _removals, _updates, and lockMutexStatic.

```
21                              {
22     lockMutexStatic;
23     // Process key removals
24     foreach(const QString& rm, _removals){
25         _backing->remove(rm);
26     }
27     // Process writes
28     QMapIterator<QString, QVariant> i(_updates);
29     while(i.hasNext()){
30         i.next();
31         _backing->setValue(i.key(), i.value());
32         // Updating the global cache was done above
33     }
34     _backing->sync();
35     deleteLater();
36 }
```

12.8.4 Field Documentation

12.8.4.1 QSettings* CkbSettingsWriter::_backing [private]

Definition at line 21 of file ckbsettingswriter.h.

Referenced by run().

12.8.4.2 QStringList CkbSettingsWriter::_removals [private]

Definition at line 22 of file ckbsettingswriter.h.

Referenced by run().

12.8.4.3 QMap<QString, QVariant> CkbSettingsWriter::_updates [private]

Definition at line 23 of file ckbsettingswriter.h.

Referenced by run().

The documentation for this class was generated from the following files:

- src/ckb/ckbsettingswriter.h
- src/ckb/ckbsettingswriter.cpp

12.9 ColorButton Class Reference

```
#include <src/ckb/colorbutton.h>
```

Inheritance diagram for ColorButton:

Collaboration diagram for ColorButton:

Signals

- void colorChanged (QColor newColor)

Public Member Functions

- ColorButton (QWidget *parent=0, bool allowAlpha=false)
- const QColor & color () const
- void color (const QColor &newColor)
- bool allowAlpha () const
- void allowAlpha (bool newAllowAlpha)
- bool setLabel () const
- void setLabel (bool newSetLabel)
- bool bigIcons () const
- void bigIcons (bool newBigIcons)

Private Slots

- void pickColor ()

Private Member Functions

- void updateImage ()

Private Attributes

- QColor _color
- bool _alpha
- bool _setLabel
- bool _bigIcons

12.9.1 Detailed Description

Definition at line 6 of file colorbutton.h.

12.9.2 Constructor & Destructor Documentation

12.9.2.1 ColorButton::ColorButton (QWidget * *parent* = 0, bool *allowAlpha* = false) [explicit]

Definition at line 5 of file colorbutton.cpp.

References pickColor(), and updateImage().

```
5                                                       :
6     QPushButton(parent), _alpha(allowAlpha),
      _setLabel(true), _bigIcons(false)
7 {
8     setAutoDefault(false);
9     setDefault(false);
10     updateImage();
11     // Pick color on click (use queued connection so that any on_*_clicked() events can be processed first)
12     connect(this, SIGNAL(clicked()), this, SLOT(pickColor()), Qt::QueuedConnection);
13 }
```

Here is the call graph for this function:

12.9.3 Member Function Documentation

12.9.3.1 bool ColorButton::allowAlpha ( ) const [inline]

Definition at line 17 of file colorbutton.h.

References _alpha.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
17 { return _alpha; }
```

Here is the caller graph for this function:

12.9.3.2 void ColorButton::allowAlpha (bool *newAllowAlpha*)

Definition at line 22 of file colorbutton.cpp.

References _alpha, and updateImage().

```
22                                                  {
23     _alpha = newAllowAlpha;
24     updateImage();
25 }
```

Here is the call graph for this function:

12.9.3.3 bool ColorButton::bigIcons ( ) const [inline]

Definition at line 23 of file colorbutton.h.

References _bigIcons.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
23 { return _bigIcons; }
```

Here is the caller graph for this function:

12.9.3.4 void ColorButton::bigIcons (bool *newBigIcons*)

Definition at line 27 of file colorbutton.cpp.

References _bigIcons, and updateImage().

```
27                                          {
28     _bigIcons = newBigIcons;
29     updateImage();
30 }
```

Here is the call graph for this function:

12.9.3.5 const QColor& ColorButton::color ( ) const [inline]

Definition at line 13 of file colorbutton.h.

References _color.

Referenced by MPerfWidget::colorChanged(), GradientDialog::currentChanged(), KbLightWidget::newSelection(), GradientDialog::on_stopOpacity_valueChanged(), KPerfWidget::setPerf(), MPerfWidget::setPerf(), KPerfWidget::ui-Updated(), and AnimSettingDialog::updateParam().

```
13 { return _color; }
```

Here is the caller graph for this function:

12.9.3.6 void ColorButton::color (const QColor & *newColor*)

Definition at line 15 of file colorbutton.cpp.

References _alpha, _color, and updateImage().

```
15                                          {
16     _color = newColor;
17     if(!_alpha)
18         _color.setAlpha(255);
19     updateImage();
20 }
```

Here is the call graph for this function:

12.9.3.7 void ColorButton::colorChanged (QColor *newColor*) [signal]

Definition at line 132 of file moc_colorbutton.cpp.

Referenced by pickColor().

```
{
    void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
    QMetaObject::activate(this, &staticMetaObject, 0, _a);
}
```

Here is the caller graph for this function:

12.9.3.8 void ColorButton::pickColor ( ) [private],[slot]

Definition at line 60 of file colorbutton.cpp.

References _alpha, _color, colorChanged(), and updateImage().

Referenced by ColorButton().

```
                            {
    QColor newColor = QColorDialog::getColor(_color, this, QString(),
   QColorDialog::ColorDialogOptions(_alpha ? QColorDialog::ShowAlphaChannel : 0));
    if(newColor.isValid()){
        _color = newColor;
        updateImage();
        emit colorChanged(_color);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.9.3.9 bool ColorButton::setLabel ( ) const [inline]

Definition at line 20 of file colorbutton.h.

References _setLabel.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
20 { return _setLabel; }
```

Here is the caller graph for this function:

12.9.3.10 void ColorButton::setLabel (bool *newSetLabel*) [inline]

Definition at line 21 of file colorbutton.h.

References _setLabel.

```
21 { _setLabel = newSetLabel; }
```

12.9.3.11 void ColorButton::updateImage ( ) [private]

Definition at line 32 of file colorbutton.cpp.

References _alpha, _bigIcons, _color, and _setLabel.

Referenced by allowAlpha(), bigIcons(), color(), ColorButton(), and pickColor().

```
32                                {
33     if(!_color.isValid()){
34         setIcon(QIcon());
35         if(_setLabel)
36             setText("Change color...");
37         return;
38     }
39     const int w = 24, h = _bigIcons ? 24 : 12;
40     QImage image(w, h, QImage::Format_RGB888);
41     QPainter painter(&image);
42     painter.setPen(Qt::NoPen);
43     painter.fillRect(0, 0, w, h, QColor(0, 0, 0));
44     if(_alpha && _color.alpha() != 255){
45         painter.fillRect(1, 1, w / 2 - 1, h / 2 - 1, QColor(255, 255, 255));
46         painter.fillRect(w / 2, 1, w / 2 - 1, h / 2 - 1, QColor(192, 192, 192));
47         painter.fillRect(1, h / 2, w / 2 - 1, h / 2 - 1, QColor(192, 192, 192));
48         painter.fillRect(w / 2, h / 2, w / 2 - 1, h / 2 - 1, QColor(255, 255, 255));
49     }
50     painter.fillRect(1, 1, w - 2, h - 2, _color);
51     setIcon(QIcon(QPixmap::fromImage(image)));
52     if(_setLabel){
53         QString text = QString(" (%1, %2, %3)").arg(_color.red()).arg(
       _color.green()).arg(_color.blue());
54         if(_alpha)
```

```
            text += QString(", %4%").arg(QString::number(_color.alphaF() * 100., 'f', 0));
        setText(text);
    }
}
```

Here is the caller graph for this function:

12.9.4 Field Documentation

12.9.4.1 bool ColorButton::_alpha [private]

Definition at line 34 of file colorbutton.h.

Referenced by allowAlpha(), color(), pickColor(), and updateImage().

12.9.4.2 bool ColorButton::_bigIcons [private]

Definition at line 34 of file colorbutton.h.

Referenced by bigIcons(), and updateImage().

12.9.4.3 QColor ColorButton::_color [private]

Definition at line 33 of file colorbutton.h.

Referenced by color(), pickColor(), and updateImage().

12.9.4.4 bool ColorButton::_setLabel [private]

Definition at line 34 of file colorbutton.h.

Referenced by setLabel(), and updateImage().

The documentation for this class was generated from the following files:

- src/ckb/colorbutton.h
- src/ckb/colorbutton.cpp
- src/ckb/release/moc_colorbutton.cpp

12.10 ColorMap Class Reference

`#include <src/ckb/colormap.h>`

Collaboration diagram for ColorMap:

Public Member Functions

- ColorMap ()
- ~ColorMap ()
- ColorMap (const ColorMap &rhs)
- const ColorMap & operator= (const ColorMap &rhs)
- bool operator== (const ColorMap &rhs) const
- void init (const KeyMap &map)
- void clear ()
- int count () const
- const char ∗const ∗ keyNames () const
- QRgb ∗ colors ()
- const QRgb ∗ colors () const
- QRgb ∗ colorForName (const char ∗name)
- const QRgb ∗ colorForName (const char ∗name) const

Private Member Functions

- void alloc (int count)
- void deAlloc ()

Private Attributes

- const char ** _keyNames
- QRgb * _colors
- int _count
- int _mapCount

12.10.1 Detailed Description

Definition at line 15 of file colormap.h.

12.10.2 Constructor & Destructor Documentation

12.10.2.1 ColorMap::ColorMap ( )

Definition at line 3 of file colormap.cpp.

```
:
    _keyNames(0), _colors(0), _count(0), _mapCount(0)
{
}
```

12.10.2.2 ColorMap::~ColorMap ( )

Definition at line 8 of file colormap.cpp.

References deAlloc().

```
{
    deAlloc();
}
```

Here is the call graph for this function:

12.10.2.3 ColorMap::ColorMap (const ColorMap & *rhs*)

Definition at line 12 of file colormap.cpp.

```
:
    _keyNames(0), _colors(0), _count(0), _mapCount(0)
{
    *this = rhs;
}
```

12.10.3 Member Function Documentation

12.10.3.1 void ColorMap::alloc (int *count*) [private]

Definition at line 43 of file colormap.cpp.

References _colors, _count, _keyNames, _mapCount, clear(), and deAlloc().

Referenced by init(), and operator=().

```
43                                  {
44     if(newCount > _mapCount){
45         // ^ map never shrinks, only expands
46         deAlloc();
47         _mapCount = newCount;
48         _keyNames = new const char*[_mapCount];
49         _colors = new QRgb[_mapCount];
50     }
51     _count = newCount;
52     clear();
53 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.10.3.2 void ColorMap::clear ( )

Definition at line 61 of file colormap.cpp.

References _colors, and _count.

Referenced by alloc(), AnimScript::end(), and KbLight::resetIndicators().

```
61                          {
62     memset(_colors, 0, _count * sizeof(QRgb));
63 }
```

Here is the caller graph for this function:

12.10.3.3 QRgb ∗ ColorMap::colorForName (const char ∗ *name*)

Definition at line 88 of file colormap.cpp.

References _colors, _count, _keyNames, and qs_strcmp().

Referenced by KbLight::base(), KbLight::color(), KeyWidget::paintEvent(), AnimScript::readProcess(), KbLight::rebuildBaseMap(), and KbLight::setIndicator().

```
88                                          {
89     if(!_keyNames)
90         return 0;
91     const char** namePtr = (const char**)bsearch(&name, _keyNames,
      _count, sizeof(const char*), qs_strcmp);
92     if(!namePtr)
93         return 0;
94     ptrdiff_t position = namePtr - _keyNames;
95     return _colors + position;
96 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.10.3.4 const QRgb * ColorMap::colorForName (const char * *name*) const

Definition at line 98 of file colormap.cpp.

References _colors, _count, _keyNames, and qs_strcmp().

```
98                                                          {
99     if(!_keyNames)
100         return 0;
101     const char** namePtr = (const char**)bsearch(&name, _keyNames,
      _count, sizeof(const char*), qs_strcmp);
102     if(!namePtr)
103         return 0;
104     ptrdiff_t position = namePtr - _keyNames;
105     return _colors + position;
106 }
```

Here is the call graph for this function:

12.10.3.5 QRgb* ColorMap::colors ( ) [inline]

Definition at line 33 of file colormap.h.

References _colors.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
33 { return _colors; }
```

Here is the caller graph for this function:

12.10.3.6 const QRgb* ColorMap::colors ( ) const [inline]

Definition at line 34 of file colormap.h.

References _colors.

```
34 { return _colors; }
```

12.10.3.7 int ColorMap::count ( ) const [inline]

Definition at line 31 of file colormap.h.

References _count.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
31 { return _count; }
```

Here is the caller graph for this function:

12.10.3.8 void ColorMap::deAlloc ( ) [private]

Definition at line 55 of file colormap.cpp.

References _colors, _count, _keyNames, and _mapCount.

Referenced by alloc(), and ~ColorMap().

```
                        {
    _count = _mapCount = 0;
    if(_keyNames) delete[] _keyNames;
    if(_colors) delete[] _colors;
}
```

Here is the caller graph for this function:

12.10.3.9 void ColorMap::init (const KeyMap & *map*)

Definition at line 69 of file colormap.cpp.

References _count, _keyNames, alloc(), Key::hasLed, Key::name, KeyMap::positions(), and qs_strcmp().

Referenced by AnimScript::init(), and KbLight::map().

```
                                    {
    QList<Key> newKeys = map.positions();
    // There's no point including keys that don't have LEDs, so remove them now
    QMutableListIterator<Key> i(newKeys);
    while(i.hasNext()){
        Key key = i.next();
        if(!key.hasLed)
            i.remove();
    }
    // Now that we know how many keys we'll have, check memory
    alloc(newKeys.count());
    // Copy key names
    int keyPos = 0;
    foreach(const Key& key, newKeys)
        _keyNames[keyPos++] = key.name;     // as above, it's safe to copy these since the
strings are constants
    // Sort names for quick access
    qsort(_keyNames, _count, sizeof(const char*), qs_strcmp);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.10.3.10 const char* const* ColorMap::keyNames ( ) const [inline]

Definition at line 32 of file colormap.h.

References _keyNames.

Referenced by KbLight::printRGB().

```
32 { return _keyNames; }
```

Here is the caller graph for this function:

12.10.3.11 const ColorMap & ColorMap::operator= (const ColorMap & *rhs*)

Definition at line 18 of file colormap.cpp.

References _colors, _count, _keyNames, and alloc().

```
18                                                  {
19     alloc(rhs._count);
20     // Copy key names and colors
21     // (Note: it's safe to copy the const char*'s because key names are constants and will never move or be
       deleted)
22     memcpy(_keyNames, rhs._keyNames, sizeof(const char*) *
      _count);
23     memcpy(_colors, rhs._colors, sizeof(QRgb) * _count);
24     return rhs;
25 }
```

Here is the call graph for this function:

12.10.3.12 bool ColorMap::operator== (const ColorMap & *rhs*) const

Definition at line 27 of file colormap.cpp.

References _colors, _count, _keyNames, and x.

```
27                                                  {
28     if(_count != rhs._count)
29         return false;
30
31     // Compare just the pointers because key names are sorted and the strings are constants.
32     if(memcmp(_keyNames, rhs._keyNames, sizeof(const char*) *
      _count) != 0)
33         return false;
34
35     for(int x = 0;x < _count;x++){
36         if(_colors[x] != rhs._colors[x])
37             return false;
38     }
39
40     return true;
41 }
```

12.10.4 Field Documentation

12.10.4.1 QRgb* ColorMap::_colors [private]

Definition at line 45 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), colors(), deAlloc(), operator=(), and operator==().

12.10.4.2 int ColorMap::_count [private]

Definition at line 46 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), count(), deAlloc(), init(), operator=(), and operator==().

12.10.4.3 const char** ColorMap::_keyNames [private]

Definition at line 44 of file colormap.h.

Referenced by alloc(), colorForName(), deAlloc(), init(), keyNames(), operator=(), and operator==().

12.10.4.4 int ColorMap::_mapCount [private]

Definition at line 46 of file colormap.h.

Referenced by alloc(), and deAlloc().

The documentation for this class was generated from the following files:

- src/ckb/colormap.h
- src/ckb/colormap.cpp

12.11 devcmd.__unnamed__ Struct Reference

Collaboration diagram for devcmd.__unnamed__:

Data Fields

- cmdhandler_io hwload
- cmdhandler_io hwsave
- cmdhandler_io fwupdate
- cmdhandler_io pollrate
- cmdhandler_io active
- cmdhandler_io idle
- cmdhandler erase
- cmdhandler eraseprofile
- cmdhandler name
- cmdhandler profilename
- cmdhandler id
- cmdhandler profileid
- cmdhandler rgb
- cmdhandler ioff
- cmdhandler ion
- cmdhandler iauto
- cmdhandler bind
- cmdhandler unbind
- cmdhandler rebind
- cmdhandler_mac macro

- cmdhandler_mac dpi
- cmdhandler dpisel
- cmdhandler lift
- cmdhandler snap
- cmdhandler notify
- cmdhandler inotify
- cmdhandler get
- cmdhandler restart
- int(∗ start)(usbdevice ∗kb, int makeactive)
- void(∗ setmodeindex)(usbdevice ∗kb, int index)
- void(∗ allocprofile)(usbdevice ∗kb)
- int(∗ loadprofile)(usbdevice ∗kb)
- void(∗ freeprofile)(usbdevice ∗kb)
- int(∗ updatergb)(usbdevice ∗kb, int force)
- void(∗ updateindicators)(usbdevice ∗kb, int force)
- int(∗ updatedpi)(usbdevice ∗kb, int force)

12.11.1 Detailed Description

Definition at line 78 of file command.h.

12.11.2 Field Documentation

12.11.2.1

12.11.2.2

12.11.2.3

12.11.2.4

12.11.2.5

12.11.2.6

12.11.2.7

12.11.2.8

12.11.2.9

12.11.2.10

12.11.2.11

12.11.2.12

12.11.2.13

12.11.2.14

12.11.2.15

12.11.2.16

12.11.2.17

12.11.2.18

12.11.2.19

12.11.2.20

12.11.2.21

12.11.2.22

12.11.2.23

12.11.2.24

12.11.2.25

12.11.2.26

12.11.2.27

12.11.2.28

12.11.2.29

12.11.2.30

12.11.2.31

12.11.2.32

12.11.2.33

12.11.2.34

12.11.2.35

12.11.2.36

The documentation for this struct was generated from the following files:

12.12 Ui::ExtraSettingsWidget Class Reference

```
#include <src/ckb/ui_extrasettingswidget.h>
```

Inheritance diagram for Ui::ExtraSettingsWidget:

Collaboration diagram for Ui::ExtraSettingsWidget:

Public Member Functions

- void setupUi (QDialog *ExtraSettingsWidget)
- void retranslateUi (QDialog *ExtraSettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_2
- QLabel * fpsWarnLabel
- QSpacerItem * horizontalSpacer_3
- QLabel * label_3
- QSpinBox * fpsBox
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_9
- QLabel * label_6
- QSpacerItem * verticalSpacer_6
- QSpacerItem * verticalSpacer_5
- QCheckBox * sAccelBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_8
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_11
- QSpacerItem * horizontalSpacer
- QFrame * line_2
- QHBoxLayout * horizontalLayout
- QLabel * animPathLabel
- QLabel * animCountLabel
- QPushButton * animScanButton
- QCheckBox * brightnessBox
- QCheckBox * trayBox
- QLabel * label
- QFrame * line
- QLabel * label_5
- QFrame * line_3
- QLabel * label_2
- QCheckBox * ditherBox
- QCheckBox * delayBox
- QLabel * osxLabel
- QFrame * osxLine
- QCheckBox * mAccelBox
- QWidget * sSpeedWidget
- QHBoxLayout * horizontalLayout_2
- QLabel * label_10
- QSpinBox * sSpeedBox
- QLabel * label_11
- QDialogButtonBox * buttonBox

12.12.1 Detailed Description

Definition at line 366 of file ui_extrasettingswidget.h.

12.12.2 Member Function Documentation

12.12.2.1 void Ui_ExtraSettingsWidget::retranslateUi (QDialog * *ExtraSettingsWidget*) [inline],[inherited]

Definition at line 322 of file ui_extrasettingswidget.h.

References Ui_ExtraSettingsWidget::animCountLabel, Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::animScanButton, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::delayBox, Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Ui_ExtraSettingsWidget::label, Ui_ExtraSettingsWidget::label_10, Ui_ExtraSettingsWidget::label_11, Ui_ExtraSettingsWidget::label_2, Ui_ExtraSettingsWidget::label_3, Ui_ExtraSettingsWidget::label_5, Ui_ExtraSettingsWidget::label_6, Ui_ExtraSettingsWidget::mAccelBox, Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::sAccelBox, and Ui_ExtraSettingsWidget::trayBox.

Referenced by Ui_ExtraSettingsWidget::setupUi().

```
    {
        ExtraSettingsWidget->setWindowTitle(QApplication::translate("ExtraSettingsWidget", "Application Settings", Q_NULLPTR));
        fpsWarnLabel->setText(QApplication::translate("ExtraSettingsWidget", "Warning: high frame rates may cause stability issues", Q_NULLPTR));
        label_3->setText(QApplication::translate("ExtraSettingsWidget", "Frame rate (FPS):", Q_NULLPTR));
        label_6->setText(QApplication::translate("ExtraSettingsWidget", "Location:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        sAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're having problems with the scroll wheel.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        sAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable scroll acceleration", Q_NULLPTR));
        animPathLabel->setText(QApplication::translate("ExtraSettingsWidget", "/path/to/animations", Q_NULLPTR));
        animCountLabel->setText(QApplication::translate("ExtraSettingsWidget", "0 animations found", Q_NULLPTR));
        animScanButton->setText(QApplication::translate("ExtraSettingsWidget", "Re-scan", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        brightnessBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "By default, the same brightness level will be applied to all profiles and all devices. Enable this to store it with the lighting mode instead.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        brightnessBox->setText(QApplication::translate("ExtraSettingsWidget", "Set brightness per-mode", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        trayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "The tray icon will not be displayed. The application will still run in the background; re-launch the app to see the GUI again.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        trayBox->setText(QApplication::translate("ExtraSettingsWidget", "Hide tray icon", Q_NULLPTR));
        label->setText(QApplication::translate("ExtraSettingsWidget", "Behavior", Q_NULLPTR));
        label_5->setText(QApplication::translate("ExtraSettingsWidget", "Animation scripts", Q_NULLPTR));
        label_2->setText(QApplication::translate("ExtraSettingsWidget", "Hardware", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        ditherBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "May improve appearance on some keyboards.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        ditherBox->setText(QApplication::translate("ExtraSettingsWidget", "Use spatial dithering to simulate extra color resolution", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        delayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "When using macros with strings longer than 25 chars, some OS may lose characters (e.g. Mint 17.2). Select to prevent that bug.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        delayBox->setText(QApplication::translate("ExtraSettingsWidget", "Use delay for very long macros", Q_NULLPTR));
        osxLabel->setText(QApplication::translate("ExtraSettingsWidget", "OS X tweaks", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        mAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're having problems with mouse movement.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        mAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable mouse acceleration", Q_NULLPTR));
        label_10->setText(QApplication::translate("ExtraSettingsWidget", "Scroll", Q_NULLPTR));
        label_11->setText(QApplication::translate("ExtraSettingsWidget", "line(s) at a time", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.12.2.2 void Ui_ExtraSettingsWidget::setupUi (QDialog * *ExtraSettingsWidget*) [inline],[inherited]

Definition at line 78 of file ui_extrasettingswidget.h.

References Ui_ExtraSettingsWidget::animCountLabel, Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::animScanButton, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::buttonBox, Ui_ExtraSettingsWidget::delayBox, Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Ui_ExtraSettingsWidget::gridLayout, Ui_ExtraSettingsWidget::horizontalLayout, Ui_ExtraSettingsWidget::horizontalLayout_2, Ui_ExtraSettingsWidget::horizontalSpacer, Ui_ExtraSettingsWidget::horizontalSpacer_2, Ui_ExtraSettingsWidget::horizontalSpacer_3, Ui_ExtraSettingsWidget::label, Ui_ExtraSettingsWidget::label_10, Ui_ExtraSettingsWidget::label_11, Ui_ExtraSettingsWidget::label_2, Ui_ExtraSettingsWidget::label_3, Ui_ExtraSettingsWidget::label_5, Ui_ExtraSettingsWidget::label_6, Ui_ExtraSettingsWidget::line, Ui_ExtraSettingsWidget::line_2, Ui_ExtraSettingsWidget::line_3, Ui_ExtraSettingsWidget::mAccelBox, Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::osxLine, Ui_ExtraSettingsWidget::retranslateUi(), Ui_ExtraSettingsWidget::sAccelBox, Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, Ui_ExtraSettingsWidget::trayBox, Ui_ExtraSettingsWidget::verticalSpacer, Ui_ExtraSettingsWidget::verticalSpacer_10, Ui_ExtraSettingsWidget::verticalSpacer_11, Ui_ExtraSettingsWidget::verticalSpacer_2, Ui_ExtraSettingsWidget::verticalSpacer_3, Ui_ExtraSettingsWidget::verticalSpacer_4, Ui_ExtraSettingsWidget::verticalSpacer_5, Ui_ExtraSettingsWidget::verticalSpacer_6, Ui_ExtraSettingsWidget::verticalSpacer_7, Ui_ExtraSettingsWidget::verticalSpacer_8, and Ui_ExtraSettingsWidget::verticalSpacer_9.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget().

```
79     {
80         if (ExtraSettingsWidget->objectName().isEmpty())
81             ExtraSettingsWidget->setObjectName(QStringLiteral("ExtraSettingsWidget"));
82         ExtraSettingsWidget->resize(650, 515);
83         gridLayout = new QGridLayout(ExtraSettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
86
87         gridLayout->addItem(horizontalSpacer_2, 12, 2, 1, 1);
88
89         verticalSpacer = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);
90
91         gridLayout->addItem(verticalSpacer, 2, 0, 1, 1);
92
93         verticalSpacer_3 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
94
95         gridLayout->addItem(verticalSpacer_3, 3, 0, 1, 1);
96
97         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
98
99         gridLayout->addItem(verticalSpacer_2, 19, 5, 1, 1);
100
101         fpsWarnLabel = new QLabel(ExtraSettingsWidget);
102         fpsWarnLabel->setObjectName(QStringLiteral("fpsWarnLabel"));
103         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
104         sizePolicy.setHorizontalStretch(0);
105         sizePolicy.setVerticalStretch(0);
106         sizePolicy.setHeightForWidth(fpsWarnLabel->sizePolicy().hasHeightForWidth());
107         fpsWarnLabel->setSizePolicy(sizePolicy);
108
109         gridLayout->addWidget(fpsWarnLabel, 12, 5, 1, 1);
110
111         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
```

```
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_3, 12, 4, 1, 1);

        label_3 = new QLabel(ExtraSettingsWidget);
        label_3->setObjectName(QStringLiteral("label_3"));

        gridLayout->addWidget(label_3, 12, 1, 1, 1);

        fpsBox = new QSpinBox(ExtraSettingsWidget);
        fpsBox->setObjectName(QStringLiteral("fpsBox"));
        fpsBox->setMinimum(5);
        fpsBox->setMaximum(60);
        fpsBox->setValue(30);

        gridLayout->addWidget(fpsBox, 12, 3, 1, 1);

        verticalSpacer_4 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_4, 7, 0, 1, 1);

        verticalSpacer_9 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_9, 12, 0, 1, 1);

        label_6 = new QLabel(ExtraSettingsWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 7, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_6, 8, 1, 1, 1);

        verticalSpacer_5 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_5, 4, 1, 1, 1);

        sAccelBox = new QCheckBox(ExtraSettingsWidget);
        sAccelBox->setObjectName(QStringLiteral("sAccelBox"));

        gridLayout->addWidget(sAccelBox, 18, 1, 1, 4);

        verticalSpacer_7 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_7, 14, 1, 1, 1);

        verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 13, 0, 1, 1);

        verticalSpacer_10 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_10, 17, 0, 1, 1);

        verticalSpacer_11 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_11, 18, 0, 1, 1);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 12, 6, 1, 1);

        line_2 = new QFrame(ExtraSettingsWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 10, 0, 1, 7);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        animPathLabel = new QLabel(ExtraSettingsWidget);
        animPathLabel->setObjectName(QStringLiteral("animPathLabel"));

        horizontalLayout->addWidget(animPathLabel);

        animCountLabel = new QLabel(ExtraSettingsWidget);
```

```
        animCountLabel->setObjectName(QStringLiteral("animCountLabel"));
        sizePolicy.setHeightForWidth(animCountLabel->sizePolicy().hasHeightForWidth());
        animCountLabel->setSizePolicy(sizePolicy);
        animCountLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        horizontalLayout->addWidget(animCountLabel);

        animScanButton = new QPushButton(ExtraSettingsWidget);
        animScanButton->setObjectName(QStringLiteral("animScanButton"));

        horizontalLayout->addWidget(animScanButton);


        gridLayout->addLayout(horizontalLayout, 7, 3, 1, 4);

        brightnessBox = new QCheckBox(ExtraSettingsWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));

        gridLayout->addWidget(brightnessBox, 3, 1, 1, 6);

        trayBox = new QCheckBox(ExtraSettingsWidget);
        trayBox->setObjectName(QStringLiteral("trayBox"));

        gridLayout->addWidget(trayBox, 2, 1, 1, 6);

        label = new QLabel(ExtraSettingsWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        gridLayout->addWidget(label, 0, 0, 1, 7);

        line = new QFrame(ExtraSettingsWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 1, 0, 1, 7);

        label_5 = new QLabel(ExtraSettingsWidget);
        label_5->setObjectName(QStringLiteral("label_5"));
        label_5->setFont(font);

        gridLayout->addWidget(label_5, 5, 0, 1, 7);

        line_3 = new QFrame(ExtraSettingsWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 6, 0, 1, 7);

        label_2 = new QLabel(ExtraSettingsWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        gridLayout->addWidget(label_2, 9, 0, 1, 7);

        ditherBox = new QCheckBox(ExtraSettingsWidget);
        ditherBox->setObjectName(QStringLiteral("ditherBox"));

        gridLayout->addWidget(ditherBox, 13, 1, 1, 6);

        delayBox = new QCheckBox(ExtraSettingsWidget);
        delayBox->setObjectName(QStringLiteral("delayBox"));

        gridLayout->addWidget(delayBox, 14, 1, 1, 6);

        osxLabel = new QLabel(ExtraSettingsWidget);
        osxLabel->setObjectName(QStringLiteral("osxLabel"));
        osxLabel->setFont(font);

        gridLayout->addWidget(osxLabel, 15, 0, 1, 7);

        osxLine = new QFrame(ExtraSettingsWidget);
        osxLine->setObjectName(QStringLiteral("osxLine"));
        osxLine->setFrameShape(QFrame::HLine);
        osxLine->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(osxLine, 16, 0, 1, 7);

        mAccelBox = new QCheckBox(ExtraSettingsWidget);
        mAccelBox->setObjectName(QStringLiteral("mAccelBox"));

        gridLayout->addWidget(mAccelBox, 17, 1, 1, 6);
```

```

        sSpeedWidget = new QWidget(ExtraSettingsWidget);
        sSpeedWidget->setObjectName(QStringLiteral("sSpeedWidget"));
        sizePolicy.setHeightForWidth(sSpeedWidget->sizePolicy().hasHeightForWidth());
        sSpeedWidget->setSizePolicy(sizePolicy);
        horizontalLayout_2 = new QHBoxLayout(sSpeedWidget);
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
        label_10 = new QLabel(sSpeedWidget);
        label_10->setObjectName(QStringLiteral("label_10"));

        horizontalLayout_2->addWidget(label_10);

        sSpeedBox = new QSpinBox(sSpeedWidget);
        sSpeedBox->setObjectName(QStringLiteral("sSpeedBox"));
        sSpeedBox->setMinimum(1);
        sSpeedBox->setMaximum(10);
        sSpeedBox->setValue(3);

        horizontalLayout_2->addWidget(sSpeedBox);

        label_11 = new QLabel(sSpeedWidget);
        label_11->setObjectName(QStringLiteral("label_11"));
        sizePolicy.setHeightForWidth(label_11->sizePolicy().hasHeightForWidth());
        label_11->setSizePolicy(sizePolicy);

        horizontalLayout_2->addWidget(label_11);


        gridLayout->addWidget(sSpeedWidget, 18, 5, 1, 2);

        buttonBox = new QDialogButtonBox(ExtraSettingsWidget);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Horizontal);
        buttonBox->setStandardButtons(QDialogButtonBox::Ok);

        gridLayout->addWidget(buttonBox, 20, 0, 1, 7);


        retranslateUi(ExtraSettingsWidget);
        QObject::connect(buttonBox, SIGNAL(accepted()), ExtraSettingsWidget, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), ExtraSettingsWidget, SLOT(reject()));

        QMetaObject::connectSlotsByName(ExtraSettingsWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.12.3 Field Documentation

12.12.3.1 QLabel* Ui_ExtraSettingsWidget::animCountLabel [inherited]

Definition at line 57 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.2 QLabel* Ui_ExtraSettingsWidget::animPathLabel [inherited]

Definition at line 56 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.3 QPushButton* Ui_ExtraSettingsWidget::animScanButton [inherited]

Definition at line 58 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.4 QCheckBox* Ui_ExtraSettingsWidget::brightnessBox [inherited]

Definition at line 59 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.5 QDialogButtonBox* Ui_ExtraSettingsWidget::buttonBox [inherited]

Definition at line 76 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.6 QCheckBox* Ui_ExtraSettingsWidget::delayBox [inherited]

Definition at line 67 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.7 QCheckBox* Ui_ExtraSettingsWidget::ditherBox [inherited]

Definition at line 66 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.8 QSpinBox* Ui_ExtraSettingsWidget::fpsBox [inherited]

Definition at line 42 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.9 QLabel* Ui_ExtraSettingsWidget::fpsWarnLabel [inherited]

Definition at line 39 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_fpsBox_valueChanged(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.10 QGridLayout* Ui_ExtraSettingsWidget::gridLayout [inherited]

Definition at line 34 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.11 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout [inherited]

Definition at line 55 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.12 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout_2 [inherited]

Definition at line 72 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.13 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer [inherited]

Definition at line 53 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.14 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_2 [inherited]

Definition at line 35 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.15 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_3 [inherited]

Definition at line 40 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.16 QLabel* Ui_ExtraSettingsWidget::label [inherited]

Definition at line 61 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.17 QLabel* Ui_ExtraSettingsWidget::label_10 [inherited]

Definition at line 73 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.18 QLabel* Ui_ExtraSettingsWidget::label_11 [inherited]

Definition at line 75 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.19 QLabel* Ui_ExtraSettingsWidget::label_2 [inherited]

Definition at line 65 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.20 QLabel* Ui_ExtraSettingsWidget::label_3 [inherited]

Definition at line 41 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.21 QLabel* Ui_ExtraSettingsWidget::label_5 [inherited]

Definition at line 63 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.22 QLabel* Ui_ExtraSettingsWidget::label_6 [inherited]

Definition at line 45 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.23 QFrame* Ui_ExtraSettingsWidget::line [inherited]

Definition at line 62 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.24 QFrame* Ui_ExtraSettingsWidget::line_2 [inherited]

Definition at line 54 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.25 QFrame* Ui_ExtraSettingsWidget::line_3 [inherited]

Definition at line 64 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.26 QCheckBox* Ui_ExtraSettingsWidget::mAccelBox [inherited]

Definition at line 70 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.27 QLabel* Ui_ExtraSettingsWidget::osxLabel [inherited]

Definition at line 68 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.28 QFrame* Ui_ExtraSettingsWidget::osxLine [inherited]

Definition at line 69 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.29 QCheckBox* Ui_ExtraSettingsWidget::sAccelBox [inherited]

Definition at line 48 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.30 QSpinBox* Ui_ExtraSettingsWidget::sSpeedBox [inherited]

Definition at line 74 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.31 QWidget* Ui_ExtraSettingsWidget::sSpeedWidget [inherited]

Definition at line 71 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.32 QCheckBox* Ui_ExtraSettingsWidget::trayBox [inherited]

Definition at line 60 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.33 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer [inherited]

Definition at line 36 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.34 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_10 [inherited]

Definition at line 51 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.35 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_11 [inherited]

Definition at line 52 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.36 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_2 [inherited]

Definition at line 38 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.37 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_3 [inherited]

Definition at line 37 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.38 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_4 [inherited]

Definition at line 43 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.39 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_5 [inherited]

Definition at line 47 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.40 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_6 [inherited]

Definition at line 46 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.41 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_7 [inherited]

Definition at line 49 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.42 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_8 [inherited]

Definition at line 50 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.43 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_9 [inherited]

Definition at line 44 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_extrasettingswidget.h

12.13 ExtraSettingsWidget Class Reference

```
#include <src/ckb/extrasettingswidget.h>
```

Inheritance diagram for ExtraSettingsWidget:

Collaboration diagram for ExtraSettingsWidget:

Public Member Functions

- ExtraSettingsWidget (QWidget *parent=0)
- ~ExtraSettingsWidget ()
- void pollUpdates ()

Private Slots

- void on_trayBox_clicked (bool checked)
- void on_brightnessBox_clicked (bool checked)
- void on_animScanButton_clicked ()
- void on_fpsBox_valueChanged (int arg1)
- void on_ditherBox_clicked (bool checked)
- void on_mAccelBox_clicked (bool checked)
- void on_sAccelBox_clicked (bool checked)
- void on_sSpeedBox_valueChanged (int arg1)
- void on_delayBox_clicked (bool checked)

Private Attributes

- Ui::ExtraSettingsWidget * ui

12.13.1 Detailed Description

Definition at line 10 of file extrasettingswidget.h.

12.13.2 Constructor & Destructor Documentation

12.13.2.1 ExtraSettingsWidget::ExtraSettingsWidget (QWidget * *parent* = 0) [explicit]

Read Macro Delay setting, update UI and Kb-internal flag

Definition at line 10 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::delayBox, Kb::dither(), Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Kb::frameRate(), lastSharedDimming, Ui_ExtraSettingsWidget::mAccelBox, Kb::macroDelay(), KbLight::MAX_DIM, Kb::mouseAccel(), on_animScanButton_clicked(), Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::osxLine, AnimScript::path(), Ui_ExtraSettingsWidget::sAccelBox, Kb::scrollSpeed(), Ui_ExtraSettingsWidget::setupUi(), KbLight::shareDimming(), Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, Ui_ExtraSettingsWidget::trayBox, ui, and CkbSettings::value().

```
10                                                          :
11     QDialog(parent),
12     ui(new Ui::ExtraSettingsWidget)
13 {
14     ui->setupUi(this);
15     CkbSettings settings("Program");
16
17     // Read frame rate from settings
18     int rate = settings.value("framerate").toInt();
19     if(rate <= 0 || rate > 60)
20         rate = 30;
21     ui->fpsBox->setValue(rate);
22     Kb::frameRate(rate);
23     ui->fpsWarnLabel->setVisible(rate > 30);
24
25     // Read global brightness setting (default = on, 100% brightness)
26     int dimming = settings.value("GlobalBrightness").toInt();
27     if(dimming < -1 || dimming > KbLight::MAX_DIM)
28         dimming = 0;
29     lastSharedDimming = dimming;
30     KbLight::shareDimming(dimming);
31     // Set checkbox value (-1 = don't share)
32     ui->brightnessBox->setChecked(dimming == -1);
33
34     // Read dither
35     bool dither = settings.value("Dither").toBool();
36     Kb::dither(dither);
37     ui->ditherBox->setChecked(dither);
38
39 #ifdef Q_OS_MACX
40     // Read OSX settings
41     bool noAccel = settings.value("DisableMouseAccel").toBool();
42     Kb::mouseAccel(!noAccel);
43     ui->mAccelBox->setChecked(noAccel);
44     bool noScrollAccel = settings.value("DisableScrollAccel").toBool();
45     int scrollSpeed = settings.value("ScrollSpeed", 3).toInt();
46     ui->sAccelBox->setChecked(noScrollAccel);
47     ui->sSpeedBox->setValue(scrollSpeed);
48     Kb::scrollSpeed(noScrollAccel ? scrollSpeed : 0);
49     if(!noScrollAccel)
50         ui->sSpeedWidget->hide();
51 #else
52     // Hide all OSX options on Linux
53     ui->osxLabel->hide();
54     ui->osxLine->hide();
55     ui->mAccelBox->hide();
56     ui->sAccelBox->hide();
57     ui->sSpeedWidget->hide();
58 #endif
59
60     // Read tray icon setting
61     ui->trayBox->setChecked(settings.value("SuppressTrayIcon").toBool());
62
63     // Update animation info
64     ui->animPathLabel->setText(AnimScript::path());
65     on_animScanButton_clicked();
66
68     bool macroDelay = settings.value("MacroDelay").toBool();
69     Kb::macroDelay(macroDelay);
70     ui->delayBox->setChecked(macroDelay);
71 }
```

Here is the call graph for this function:

12.13.2.2 ExtraSettingsWidget::~ExtraSettingsWidget ( )

Definition at line 73 of file extrasettingswidget.cpp.

References ui.

```
73                                          {
74     delete ui;
75 }
```

12.13.3 Member Function Documentation

12.13.3.1 void ExtraSettingsWidget::on_animScanButton_clicked ( ) [private],[slot]

Definition at line 87 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::animCountLabel, AnimScript::count(), AnimScript::scan(), and ui.

Referenced by ExtraSettingsWidget().

```
87                                                  {
88     AnimScript::scan();
89     int count = AnimScript::count();
90     if(count == 0)
91         ui->animCountLabel->setText("No animations found");
92     else if(count == 1)
93         ui->animCountLabel->setText("1 animation found");
94     else
95         ui->animCountLabel->setText(QString("%1 animations found").arg(count));
96 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.13.3.2 void ExtraSettingsWidget::on_brightnessBox_clicked (bool *checked*) [private],[slot]

Definition at line 82 of file extrasettingswidget.cpp.

References pollUpdates(), and KbLight::shareDimming().

```
82                                                          {
83     KbLight::shareDimming(checked ? -1 : 0);
84     pollUpdates();
85 }
```

Here is the call graph for this function:

12.13.3.3 void ExtraSettingsWidget::on_delayBox_clicked (bool *checked*) [private],[slot]

Definition at line 143 of file extrasettingswidget.cpp.

References Kb::macroDelay(), and CkbSettings::set().

```
143                                                         {
144     CkbSettings::set("Program/MacroDelay", checked);
145     Kb::macroDelay(checked);
146 }
```

Here is the call graph for this function:

12.13.3.4 void ExtraSettingsWidget::on_ditherBox_clicked (bool *checked*) [private],[slot]

Definition at line 110 of file extrasettingswidget.cpp.

References Kb::dither(), and CkbSettings::set().

```
110                                                     {
111     CkbSettings::set("Program/Dither", checked);
112     Kb::dither(checked);
113 }
```

Here is the call graph for this function:

12.13.3.5 void ExtraSettingsWidget::on_fpsBox_valueChanged (int *arg1*) [private],[slot]

Definition at line 98 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::fpsWarnLabel, Kb::frameRate(), CkbSettings::setValue(), and ui.

```
98                                                      {
99     // Set FPS
100     CkbSettings settings("Program");
101     settings.setValue("framerate", arg1);
102     Kb::frameRate(arg1);
103     // Show warning label if FPS is above 30
104     if(arg1 > 30)
105         ui->fpsWarnLabel->show();
106     else
107         ui->fpsWarnLabel->hide();
108 }
```

Here is the call graph for this function:

12.13.3.6 void ExtraSettingsWidget::on_mAccelBox_clicked (bool *checked*) [private],[slot]

Definition at line 124 of file extrasettingswidget.cpp.

References Kb::mouseAccel(), and CkbSettings::set().

```
124                                                     {
125     CkbSettings::set("Program/DisableMouseAccel", checked);
126     Kb::mouseAccel(!checked);
127 }
```

Here is the call graph for this function:

12.13.3.7 void ExtraSettingsWidget::on_sAccelBox_clicked (bool *checked*) [private],[slot]

Definition at line 129 of file extrasettingswidget.cpp.

References Kb::scrollSpeed(), CkbSettings::set(), Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, and ui.

```
129                                                         {
130     CkbSettings::set("Program/DisableScrollAccel", checked);
131     Kb::scrollSpeed(checked ? ui->sSpeedBox->value() : 0);
132     if(checked)
133         ui->sSpeedWidget->show();
134     else
135         ui->sSpeedWidget->hide();
136 }
```

Here is the call graph for this function:

12.13.3.8 void ExtraSettingsWidget::on_sSpeedBox_valueChanged (int *arg1*) [private],[slot]

Definition at line 138 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::sAccelBox, Kb::scrollSpeed(), CkbSettings::set(), and ui.

```
138                                                         {
139     CkbSettings::set("Program/ScrollSpeed", arg1);
140     Kb::scrollSpeed(ui->sAccelBox->isChecked() ? arg1 : 0);
141 }
```

Here is the call graph for this function:

12.13.3.9 void ExtraSettingsWidget::on_trayBox_clicked (bool *checked*) [private],[slot]

Definition at line 77 of file extrasettingswidget.cpp.

References MainWindow::mainWindow, CkbSettings::set(), and MainWindow::toggleTrayIcon().

```
77                                                  {
78     CkbSettings::set("Program/SuppressTrayIcon", checked);
79     MainWindow::mainWindow->toggleTrayIcon(!checked);
80 }
```

Here is the call graph for this function:

12.13.3.10 void ExtraSettingsWidget::pollUpdates ( )

Definition at line 115 of file extrasettingswidget.cpp.

References CkbSettings::isBusy(), lastSharedDimming, CkbSettings::set(), and KbLight::shareDimming().

Referenced by on_brightnessBox_clicked(), and SettingsWidget::pollUpdates().

```
115                                     {
116     // Check for changes to shared brightness setting
117     int dimming = KbLight::shareDimming();
118     if(dimming != lastSharedDimming && !CkbSettings::isBusy()){
119         CkbSettings::set("Program/GlobalBrightness", dimming);
120         lastSharedDimming = dimming;
121     }
122 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.13.4 Field Documentation

12.13.4.1 Ui::ExtraSettingsWidget* ExtraSettingsWidget::ui [private]

Definition at line 33 of file extrasettingswidget.h.

Referenced by ExtraSettingsWidget(), on_animScanButton_clicked(), on_fpsBox_valueChanged(), on_sAccelBox_clicked(), on_sSpeedBox_valueChanged(), and ~ExtraSettingsWidget().

The documentation for this class was generated from the following files:

- src/ckb/extrasettingswidget.h
- src/ckb/extrasettingswidget.cpp

12.14 KbFirmware::FW Struct Reference

Collaboration diagram for KbFirmware::FW:

Public Member Functions

- FW ()

Data Fields

- QString url
- QString fileName
- QByteArray hash
- float fwVersion
- float ckbVersion

12.14.1 Detailed Description

Definition at line 37 of file kbfirmware.h.

12.14.2 Constructor & Destructor Documentation

12.14.2.1 KbFirmware::FW::FW ( )

Definition at line 12 of file kbfirmware.cpp.

```
12 : fwVersion(0.f), ckbVersion(0.f) {}
```

12.14.3 Field Documentation

12.14.3.1 float KbFirmware::FW::ckbVersion

Definition at line 40 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.2 QString KbFirmware::FW::fileName

Definition at line 38 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::processDownload().

12.14.3.3 float KbFirmware::FW::fwVersion

Definition at line 40 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.4 QByteArray KbFirmware::FW::hash

Definition at line 39 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.5 QString KbFirmware::FW::url

Definition at line 38 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::processDownload().

The documentation for this struct was generated from the following files:

- src/ckb/kbfirmware.h
- src/ckb/kbfirmware.cpp

12.15 FwUpgradeDialog Class Reference

```
#include <src/ckb/fwupgradedialog.h>
```

Inheritance diagram for FwUpgradeDialog:

Collaboration diagram for FwUpgradeDialog:

Public Member Functions

- FwUpgradeDialog (QWidget *parent, float newV, const QByteArray &fwBlob, Kb *device)
- ~FwUpgradeDialog ()
- int exec ()

Private Slots

- void fwUpdateProgress (int current, int total)
- void fwUpdateFinished (bool succeeded)
- void removeDev ()
- void on_cancelButton_clicked ()
- void on_actionButton_clicked ()

Private Member Functions

- void closeEvent (QCloseEvent *event)
- const QString & saveBlob ()
- void cleanBlob ()

Private Attributes

- Ui::FwUpgradeDialog * ui
- QString savePath
- QByteArray blob
- Kb * kb
- QEventLoop * evLoop
- bool exitSuccess

12.15.1 Detailed Description

Definition at line 13 of file fwupgradedialog.h.

12.15.2 Constructor & Destructor Documentation

12.15.2.1 FwUpgradeDialog::FwUpgradeDialog (QWidget * *parent*, float *newV*, const QByteArray & *fwBlob*, Kb * *device*)

Definition at line 31 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, DIALOG_HEIGHT_MIN, DIALOG_WIDTH, Kb::firmware, fwUpdateFinished(), fwUpdateProgress(), kb, Ui_FwUpgradeDialog::newLabel, removeDev(), Ui_FwUpgradeDialog::setupUi(), ui, and Kb::usbModel.

```
31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :
32     QDialog(parent),
33     ui(new Ui::FwUpgradeDialog),
34     blob(fwBlob), kb(device), evLoop(0), exitSuccess(true)
35 {
36     ui->setupUi(this);
37     ui->curLabel->setText(kb->firmware);
38     ui->newLabel->setText(QString::number(newV, 'f', 2));
39     ui->devLabel->setText(kb->usbModel);
40
41     connect(device, SIGNAL(destroyed()), this, SLOT(removeDev()));
42     connect(device, SIGNAL(fwUpdateProgress(int,int)), this, SLOT(
       fwUpdateProgress(int,int)));
43     connect(device, SIGNAL(fwUpdateFinished(bool)), this, SLOT(
       fwUpdateFinished(bool)));
44
45     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
46 }
```

Here is the call graph for this function:

12.15.2.2 FwUpgradeDialog::~FwUpgradeDialog ( )

Definition at line 48 of file fwupgradedialog.cpp.

References cleanBlob(), and ui.

```
48                                  {
49     cleanBlob();
50     delete ui;
51 }
```

Here is the call graph for this function:

12.15.3 Member Function Documentation

12.15.3.1 void FwUpgradeDialog::cleanBlob ( ) [private]

Definition at line 77 of file fwupgradedialog.cpp.

References savePath.

Referenced by fwUpdateFinished(), and ~FwUpgradeDialog().

```
77                                  {
78     if(savePath.isEmpty())
79         return;
80     QFile(savePath).remove();
81     savePath = "";
82 }
```

Here is the caller graph for this function:

12.15.3.2 void FwUpgradeDialog::closeEvent (QCloseEvent * *event*) [private]

Definition at line 53 of file fwupgradedialog.cpp.

```
53                                                  {
54     event->ignore();
55 }
```

12.15.3.3 int FwUpgradeDialog::exec ( )

Definition at line 107 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, blob, Ui_FwUpgradeDialog::cancelButton, KbFirmware::dataForBoard(), DIALOG_HEIGHT_MAX(), DIALOG_WIDTH, evLoop, exitSuccess, Kb::features, kb, Ui_FwUpgradeDialog::newLabel, Ui_FwUpgradeDialog::progressBar, saveBlob(), Ui_FwUpgradeDialog::statusLabel, ui, and verifyFw().

Referenced by KbWidget::on_fwUpdButton_clicked().

```
107                         {
108     QString features = kb->features;
109     if(!blob.isEmpty()){
110         // If a blob was already specified, check its version and validity
111         float newV = verifyFw(blob, features);
112         if(newV == 0.f){
113             QMessageBox::warning(parentWidget(), "Error", "<center>Not a valid firmware for this
        device.</center>");
114             return QDialog::Rejected;
115         }
116         ui->newLabel->setText(QString::number(newV, 'f', 2));
117     } else {
118         // Download a new blob file
119         ui->progressBar->show();
120         ui->cancelButton->setEnabled(false);
121         ui->actionButton->setEnabled(false);
122         show();
123         // This can take a while
124         blob = KbFirmware::dataForBoard(features);
125         // Check validity
126         float newV = verifyFw(blob, features);
127         if(newV == 0.f){
128             hide();
129             QMessageBox::warning(parentWidget(), "Error", "<center>There was a problem with the downloaded
        file.<br />Please try again later.</center>");
130             return QDialog::Rejected;
131         }
132     }
133     // Save temporary file
134     if(saveBlob().isEmpty()){
135         hide();
136         QMessageBox::warning(parentWidget(), "Error", "<center>Unable to save temporary file.</center>");
137         return QDialog::Rejected;
138     }
139     // Set up UI
140     ui->progressBar->setValue(0);
141     ui->progressBar->setMaximum(1);
142     ui->progressBar->setTextVisible(false);
143     ui->statusLabel->setText("Ready to install new firmware.<br /><br /><b>Disclaimer:</b> ckb
        is not endorsed by Corsair. This is <i>unlikely</i> to brick your device, but I accept no responsibility if
        it does. If you're paranoid, update from Windows.");
144     ui->cancelButton->setEnabled(true);
145     ui->actionButton->setEnabled(true);
146     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MAX);
147     show();
148     // Run modal event loop
149     evLoop = new QEventLoop(this);
150     evLoop->exec();
151     delete evLoop;
152     hide();
153     return exitSuccess ? QDialog::Accepted : QDialog::Rejected;
154 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.15.3.4 void FwUpgradeDialog::fwUpdateFinished (bool *succeeded*) [private],[slot]

Definition at line 170 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, cleanBlob(), evLoop, Ui_FwUpgradeDialog::progressBar, quit(), Ui_FwUpgradeDialog::statusLabel, and ui.

Referenced by FwUpgradeDialog(), and removeDev().

```
170                                                 {
171     cleanBlob();
172     if(succeeded)
173         ui->statusLabel->setText("Update successful!");
174     else
175         ui->statusLabel->setText("Update failed.");
176     ui->actionButton->setText("OK");
177     ui->actionButton->setEnabled(true);
178     ui->progressBar->setMaximum(1);
179     ui->progressBar->setValue(1);
180     // Exit after 10s
181     if(evLoop)
182         QTimer::singleShot(10000, evLoop, SLOT(quit()));
183 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.15.3.5 void FwUpgradeDialog::fwUpdateProgress (int *current*, int *total*) [private],[slot]

Definition at line 163 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::progressBar, and ui.

Referenced by FwUpgradeDialog().

```
163                                                         {
164     if(current > 0 && total > 0){
165         ui->progressBar->setMaximum(total);
166         ui->progressBar->setValue(current);
167     }
168 }
```

Here is the caller graph for this function:

12.15.3.6 void FwUpgradeDialog::on_actionButton_clicked ( ) [private],[slot]

Definition at line 191 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, DIALOG_HEIGHT_MIN, DIALOG_WIDTH, evLoop, Kb::fwUpdate(), kb, Ui_FwUpgradeDialog::progressBar, savePath, Ui_FwUpgradeDialog::statusLabel, and ui.

```
{
    if(!savePath.isEmpty() && kb){
        // Start upgrade
        setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
        ui->progressBar->show();
        ui->progressBar->setValue(0);
        ui->progressBar->setMaximum(0);
        ui->progressBar->setTextVisible(true);
        ui->cancelButton->hide();
        ui->actionButton->setEnabled(false);
        ui->actionButton->setText("Please wait");
        ui->statusLabel->setText("Installing firmware...");
        kb->fwUpdate(savePath);
    } else {
        // Finished, close dialog.
        if(evLoop)
            evLoop->quit();
    }
}
```

Here is the call graph for this function:

12.15.3.7 void FwUpgradeDialog::on_cancelButton_clicked ( ) [private],[slot]

Definition at line 185 of file fwupgradedialog.cpp.

References evLoop, and exitSuccess.

```
{
    exitSuccess = false;
    if(evLoop)
        evLoop->quit();
}
```

12.15.3.8 void FwUpgradeDialog::removeDev ( ) [private],[slot]

Definition at line 156 of file fwupgradedialog.cpp.

References fwUpdateFinished(), kb, and savePath.

Referenced by FwUpgradeDialog().

```
{
    kb = 0;
    // Assume success if upgrade in progress
    if(!savePath.isEmpty())
        fwUpdateFinished(true);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.15.3.9 const QString & FwUpgradeDialog::saveBlob ( ) [private]

Definition at line 57 of file fwupgradedialog.cpp.

References blob, and savePath.

Referenced by exec().

```
57                                          {
58     if(!savePath.isEmpty())
59         return savePath;
60     QDir tmp = QDir::temp();
61     qint64 pid = QCoreApplication::applicationPid();
62     QString path = tmp.absoluteFilePath(QString("ckb-%1-fwblob.bin").arg(pid));
63     QFile output(path);
64     if(!output.open(QIODevice::WriteOnly)){
65         return savePath;
66     }
67     if(!output.write(blob)){
68         output.close();
69         tmp.remove(path);
70         return savePath;
71     }
72     output.close();
73     savePath = path;
74     return savePath;
75 }
```

Here is the caller graph for this function:

12.15.4 Field Documentation

12.15.4.1 QByteArray FwUpgradeDialog::blob [private]

Definition at line 41 of file fwupgradedialog.h.

Referenced by exec(), and saveBlob().

12.15.4.2 QEventLoop* FwUpgradeDialog::evLoop [private]

Definition at line 45 of file fwupgradedialog.h.

Referenced by exec(), fwUpdateFinished(), on_actionButton_clicked(), and on_cancelButton_clicked().

12.15.4.3 bool FwUpgradeDialog::exitSuccess [private]

Definition at line 46 of file fwupgradedialog.h.

Referenced by exec(), and on_cancelButton_clicked().

12.15.4.4 Kb* FwUpgradeDialog::kb [private]

Definition at line 42 of file fwupgradedialog.h.

Referenced by exec(), FwUpgradeDialog(), on_actionButton_clicked(), and removeDev().

12.15.4.5 QString FwUpgradeDialog::savePath [private]

Definition at line 37 of file fwupgradedialog.h.

Referenced by cleanBlob(), on_actionButton_clicked(), removeDev(), and saveBlob().

12.15.4.6 Ui::FwUpgradeDialog* FwUpgradeDialog::ui [private]

Definition at line 32 of file fwupgradedialog.h.

Referenced by exec(), fwUpdateFinished(), fwUpdateProgress(), FwUpgradeDialog(), on_actionButton_clicked(), and ~FwUpgradeDialog().

The documentation for this class was generated from the following files:

- src/ckb/fwupgradedialog.h
- src/ckb/fwupgradedialog.cpp

12.16 Ui::FwUpgradeDialog Class Reference

```
#include <src/ckb/ui_fwupgradedialog.h>
```

Inheritance diagram for Ui::FwUpgradeDialog:

Collaboration diagram for Ui::FwUpgradeDialog:

Public Member Functions

- void setupUi (QDialog ∗FwUpgradeDialog)
- void retranslateUi (QDialog ∗FwUpgradeDialog)

Data Fields

- QGridLayout ∗ gridLayout_2
- QSpacerItem ∗ horizontalSpacer
- QGridLayout ∗ gridLayout
- QSpacerItem ∗ horizontalSpacer_3
- QLabel ∗ label_4
- QSpacerItem ∗ horizontalSpacer_4
- QLabel ∗ label_2
- QLabel ∗ curLabel
- QLabel ∗ newLabel
- QLabel ∗ statusLabel
- QSpacerItem ∗ horizontalSpacer_2
- QLabel ∗ devLabel
- QProgressBar ∗ progressBar
- QPushButton ∗ actionButton
- QPushButton ∗ cancelButton

12.16.1 Detailed Description

Definition at line 171 of file ui_fwupgradedialog.h.

12.16.2 Member Function Documentation

12.16.2.1 void Ui_FwUpgradeDialog::retranslateUi (QDialog * *FwUpgradeDialog*) [inline],[inherited]

Definition at line 155 of file ui_fwupgradedialog.h.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, Ui_FwUpgradeDialog::label_2, Ui_FwUpgradeDialog::label_4, Ui_FwUpgradeDialog::newLabel, and Ui_FwUpgradeDialog::statusLabel.

Referenced by Ui_FwUpgradeDialog::setupUi().

```
156     {
157         FwUpgradeDialog->setWindowTitle(QApplication::translate("FwUpgradeDialog", "Firmware update",
    Q_NULLPTR));
158         label_4->setText(QApplication::translate("FwUpgradeDialog", "New:", Q_NULLPTR));
159         label_2->setText(QApplication::translate("FwUpgradeDialog", "Current:", Q_NULLPTR));
160         curLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
161         newLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
162         statusLabel->setText(QApplication::translate("FwUpgradeDialog", "Downloading new
     firmware, please wait...", Q_NULLPTR));
163         devLabel->setText(QApplication::translate("FwUpgradeDialog", "Device", Q_NULLPTR));
164         actionButton->setText(QApplication::translate("FwUpgradeDialog", "Start", Q_NULLPTR));
165         cancelButton->setText(QApplication::translate("FwUpgradeDialog", "Cancel", Q_NULLPTR));
166     } // retranslateUi
```

Here is the caller graph for this function:

12.16.2.2 void Ui_FwUpgradeDialog::setupUi (QDialog * *FwUpgradeDialog*) [inline],[inherited]

Definition at line 45 of file ui_fwupgradedialog.h.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, Ui_FwUpgradeDialog::gridLayout, Ui_FwUpgradeDialog::gridLayout_2, Ui_FwUpgradeDialog::horizontalSpacer, Ui_FwUpgradeDialog::horizontalSpacer_2, Ui_FwUpgradeDialog::horizontalSpacer_3, Ui_FwUpgradeDialog::horizontalSpacer_4, Ui_FwUpgradeDialog::label_2, Ui_FwUpgradeDialog::label_4, Ui_FwUpgradeDialog::newLabel, Ui_FwUpgradeDialog::progressBar, Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::statusLabel.

Referenced by FwUpgradeDialog::FwUpgradeDialog().

```
46     {
47         if (FwUpgradeDialog->objectName().isEmpty())
48             FwUpgradeDialog->setObjectName(QStringLiteral("FwUpgradeDialog"));
49         FwUpgradeDialog->resize(420, 240);
50         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
51         sizePolicy.setHorizontalStretch(0);
52         sizePolicy.setVerticalStretch(0);
53         sizePolicy.setHeightForWidth(FwUpgradeDialog->sizePolicy().hasHeightForWidth());
54         FwUpgradeDialog->setSizePolicy(sizePolicy);
55         gridLayout_2 = new QGridLayout(FwUpgradeDialog);
56         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
57         horizontalSpacer = new QSpacerItem(127, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
58
59         gridLayout_2->addItem(horizontalSpacer, 1, 0, 1, 1);
60
61         gridLayout = new QGridLayout();
62         gridLayout->setObjectName(QStringLiteral("gridLayout"));
63         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
```

```
        gridLayout->addItem(horizontalSpacer_3, 1, 0, 1, 1);

        label_4 = new QLabel(FwUpgradeDialog);
        label_4->setObjectName(QStringLiteral("label_4"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label_4->setFont(font);

        gridLayout->addWidget(label_4, 1, 4, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_4, 1, 6, 1, 1);

        label_2 = new QLabel(FwUpgradeDialog);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        gridLayout->addWidget(label_2, 1, 1, 1, 1);

        curLabel = new QLabel(FwUpgradeDialog);
        curLabel->setObjectName(QStringLiteral("curLabel"));

        gridLayout->addWidget(curLabel, 1, 2, 1, 1);

        newLabel = new QLabel(FwUpgradeDialog);
        newLabel->setObjectName(QStringLiteral("newLabel"));

        gridLayout->addWidget(newLabel, 1, 5, 1, 1);

        statusLabel = new QLabel(FwUpgradeDialog);
        statusLabel->setObjectName(QStringLiteral("statusLabel"));
        QSizePolicy sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(0);
         sizePolicy1.setVerticalStretch(0);
         sizePolicy1.setHeightForWidth(statusLabel->sizePolicy().hasHeightForWidth());
         statusLabel->setSizePolicy(sizePolicy1);
         statusLabel->setAlignment(Qt::AlignCenter);
         statusLabel->setWordWrap(true);

         gridLayout->addWidget(statusLabel, 2, 0, 1, 7);

         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

         gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);

         devLabel = new QLabel(FwUpgradeDialog);
         devLabel->setObjectName(QStringLiteral("devLabel"));
         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Minimum);
         sizePolicy2.setHorizontalStretch(0);
         sizePolicy2.setVerticalStretch(0);
         sizePolicy2.setHeightForWidth(devLabel->sizePolicy().hasHeightForWidth());
         devLabel->setSizePolicy(sizePolicy2);
         devLabel->setFont(font);
         devLabel->setAlignment(Qt::AlignCenter);

         gridLayout->addWidget(devLabel, 0, 0, 1, 7);

         progressBar = new QProgressBar(FwUpgradeDialog);
         progressBar->setObjectName(QStringLiteral("progressBar"));
         progressBar->setMaximum(0);
         progressBar->setValue(0);

         gridLayout->addWidget(progressBar, 3, 0, 1, 7);


         gridLayout_2->addLayout(gridLayout, 0, 0, 1, 3);

         actionButton = new QPushButton(FwUpgradeDialog);
         actionButton->setObjectName(QStringLiteral("actionButton"));
         actionButton->setEnabled(false);

         gridLayout_2->addWidget(actionButton, 1, 2, 1, 1);

         cancelButton = new QPushButton(FwUpgradeDialog);
         cancelButton->setObjectName(QStringLiteral("cancelButton"));
         cancelButton->setEnabled(false);

         gridLayout_2->addWidget(cancelButton, 1, 1, 1, 1);


         retranslateUi(FwUpgradeDialog);

```

```
        actionButton->setDefault(true);


        QMetaObject::connectSlotsByName(FwUpgradeDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.16.3 Field Documentation

12.16.3.1 QPushButton* Ui_FwUpgradeDialog::actionButton [inherited]

Definition at line 42 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_action-Button_clicked(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.2 QPushButton* Ui_FwUpgradeDialog::cancelButton [inherited]

Definition at line 43 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::on_actionButton_clicked(), Ui_FwUpgradeDialog-::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.3 QLabel* Ui_FwUpgradeDialog::curLabel [inherited]

Definition at line 36 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgrade-Dialog::setupUi().

12.16.3.4 QLabel* Ui_FwUpgradeDialog::devLabel [inherited]

Definition at line 40 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgrade-Dialog::setupUi().

12.16.3.5 QGridLayout* Ui_FwUpgradeDialog::gridLayout [inherited]

Definition at line 31 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.6 QGridLayout* Ui_FwUpgradeDialog::gridLayout_2 [inherited]

Definition at line 29 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.7 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer [inherited]

Definition at line 30 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.8 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_2 [inherited]

Definition at line 39 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.9 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_3 [inherited]

Definition at line 32 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.10 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_4 [inherited]

Definition at line 34 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.11 QLabel* Ui_FwUpgradeDialog::label_2 [inherited]

Definition at line 35 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.12 QLabel* Ui_FwUpgradeDialog::label_4 [inherited]

Definition at line 33 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.13 QLabel* Ui_FwUpgradeDialog::newLabel [inherited]

Definition at line 37 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.14 QProgressBar* Ui_FwUpgradeDialog::progressBar [inherited]

Definition at line 41 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::fwUpdateProgress(), FwUpgradeDialog::on_actionButton_clicked(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.15 QLabel* Ui_FwUpgradeDialog::statusLabel [inherited]

Definition at line 38 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_fwupgradedialog.h

12.17 GradientButton Class Reference

`#include <src/ckb/gradientbutton.h>`

Inheritance diagram for GradientButton:

Collaboration diagram for GradientButton:

Signals

- void gradientChanged ()

Public Member Functions

- GradientButton (QWidget *parent=0, bool allowAlpha=false)
- void fromString (const QString &string)
- QString toString () const

Private Slots

- void pickGradient ()

Private Member Functions

- void updateImage ()

Private Attributes

- QGradientStops _stops
- bool _alpha

12.17.1 Detailed Description

Definition at line 6 of file gradientbutton.h.

12.17.2 Constructor & Destructor Documentation

12.17.2.1 GradientButton::GradientButton (QWidget * *parent* = 0, bool *allowAlpha* = false) [explicit]

Definition at line 7 of file gradientbutton.cpp.

References fromString(), and pickGradient().

```
7                                                                   :
8     QPushButton(parent), _alpha(allowAlpha)
9 {
10     connect(this, SIGNAL(clicked()), this, SLOT(pickGradient()));
11     setAutoDefault(false);
12     setDefault(false);
13     fromString("");
14     setText("");
15 }
```

Here is the call graph for this function:

12.17.3 Member Function Documentation

12.17.3.1 void GradientButton::fromString (const QString & *string*)

Definition at line 38 of file gradientbutton.cpp.

References _alpha, _stops, and updateImage().

Referenced by GradientButton().

```
38                                                          {
39     // Clear existing stops
40     _stops.clear();
41     // Parse string with sscanf
42     QByteArray cString = string.toLatin1();
43     const char* data = cString.data();
44     char pos = -1;
45     uchar a, r, g, b;
46     while(1){
47         int scanned = 0;
48         char newpos;
49         if(sscanf(data, "%hhd:%2hhx%2hhx%2hhx%2hhx%n", &newpos, &a, &r, &g, &b, &scanned) != 5)
50             break;
51         data += scanned;
52         // Don't allow stops out-of-order or past 100
53         if(newpos <= pos || newpos > 100)
54             break;
55         pos = newpos;
56         if(!_alpha)
57             a = 255;
58         _stops.append(QGradientStop(pos / 100., QColor(r, g, b, a)));
59     }
60     if(_stops.count() == 0){
61         // If nothing was read, try a single ARGB constant.
62         if(sscanf(data, "%2hhx%2hhx%2hhx%2hhx", &a, &r, &g, &b) == 4){
63             _stops.append(QGradientStop(0., QColor(r, g, b, a)));
64             _stops.append(QGradientStop(1., QColor(r, g, b, 0.)));
65         }
66     }
67     // If that still didn't work, fill with white
68     if(_stops.count() == 0){
69         _stops.append(QGradientStop(0., QColor(255, 255, 255)));
70         _stops.append(QGradientStop(1., QColor(255, 255, 255)));
71     }
72     // Make sure there are stops at 0 and at 100
73     if(_stops[0].first != 0.)
74         _stops.prepend(QGradientStop(0., _stops[0].second));
```

```
    if(_stops.last().first != 1.)
        _stops.prepend(QGradientStop(1., _stops.last().second));
    updateImage();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.17.3.2 void GradientButton::gradientChanged ( ) [signal]

Definition at line 132 of file moc_gradientbutton.cpp.

Referenced by pickGradient().

```
{
    QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
}
```

Here is the caller graph for this function:

12.17.3.3 void GradientButton::pickGradient ( ) [private],[slot]

Definition at line 90 of file gradientbutton.cpp.

References _stops, GradientDialog::getGradient(), gradientChanged(), and updateImage().

Referenced by GradientButton().

```
                                {
    GradientDialog dialog(this);
    _stops = dialog.getGradient(_stops);
    updateImage();
    emit gradientChanged();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.17.3.4 QString GradientButton::toString ( ) const

Definition at line 80 of file gradientbutton.cpp.

References _stops.

Referenced by AnimSettingDialog::updateParam().

```
                                    {
    QStringList result;
    foreach(const QGradientStop& stop, _stops){
        QString string;
        const QColor& color = stop.second;
        result << string.sprintf("%d:%02x%02x%02x%02x", (int)round(stop.first * 100.f), color.alpha(),
    color.red(), color.green(), color.blue());
    }
    return result.join(" ");
}
```

Here is the caller graph for this function:

12.17.3.5 void GradientButton::updateImage ( ) [private]

Definition at line 17 of file gradientbutton.cpp.

References _alpha, _stops, and x.

Referenced by fromString(), and pickGradient().

```
17                                {
18     const int w = 130, h = 16;
19     QImage image(w, h, QImage::Format_RGB888);
20     QPainter painter(&image);
21     painter.setPen(Qt::NoPen);
22     painter.fillRect(0, 0, w, h, QColor(0, 0, 0));
23     if(_alpha){
24         for(int x = 1; x < w - 1; x += h){
25             painter.fillRect(x, 1, h / 2, h / 2 - 1, QColor(255, 255, 255));
26             painter.fillRect(x + h / 2, 1, h / 2, h / 2 - 1, QColor(192, 192, 192));
27             painter.fillRect(x, h / 2, h / 2, h / 2 - 1, QColor(192, 192, 192));
28             painter.fillRect(x + h / 2, h / 2, h / 2, h / 2 - 1, QColor(255, 255, 255));
29         }
30     }
31     QLinearGradient gradient(1., 0., w - 1, 0.);
32     gradient.setStops(_stops);
33     painter.fillRect(1, 1, w - 2, h - 2, QBrush(gradient));
34     setIconSize(QSize(w, h));
35     setIcon(QIcon(QPixmap::fromImage(image)));
36 }
```

Here is the caller graph for this function:

12.17.4 Field Documentation

12.17.4.1 bool GradientButton::_alpha [private]

Definition at line 23 of file gradientbutton.h.

Referenced by fromString(), and updateImage().

12.17.4.2 QGradientStops GradientButton::_stops [private]

Definition at line 22 of file gradientbutton.h.

Referenced by fromString(), pickGradient(), toString(), and updateImage().

The documentation for this class was generated from the following files:

- src/ckb/gradientbutton.h
- src/ckb/gradientbutton.cpp
- src/ckb/release/moc_gradientbutton.cpp

12.18 Ui::GradientDialog Class Reference

```
#include <src/ckb/ui_gradientdialog.h>
```

Inheritance diagram for Ui::GradientDialog:

Collaboration diagram for Ui::GradientDialog:

Public Member Functions

- void setupUi (QDialog *GradientDialog)
- void retranslateUi (QDialog *GradientDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_2
- GradientDialogWidget * widget
- QDialogButtonBox * buttonBox
- QGroupBox * stopBox
- QGridLayout * gridLayout_2
- QHBoxLayout * horizontalLayout_2
- ColorButton * stopColor
- QSpinBox * stopOpacity
- QSpacerItem * horizontalSpacer_2
- QLabel * label
- QHBoxLayout * horizontalLayout
- QSpinBox * stopPos
- QSpacerItem * horizontalSpacer
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QGroupBox * groupBox_2
- QGridLayout * gridLayout_3
- QListWidget * presetList
- QLineEdit * presetName
- QPushButton * presetSave
- QPushButton * presetDelete

12.18.1 Detailed Description

Definition at line 225 of file ui_gradientdialog.h.

12.18.2 Member Function Documentation

12.18.2.1 void Ui_GradientDialog::retranslateUi (QDialog * *GradientDialog*) [inline],[inherited]

Definition at line 207 of file ui_gradientdialog.h.

References Ui_GradientDialog::groupBox_2, Ui_GradientDialog::label, Ui_GradientDialog::label_2, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetName, Ui_GradientDialog::presetSave, Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, Ui_GradientDialog::stopOpacity, and Ui_GradientDialog::stopPos.

Referenced by Ui_GradientDialog::setupUi().

```
    {
        GradientDialog->setWindowTitle(QApplication::translate("GradientDialog", "Pick Gradient", Q_NULLPTR));
        stopBox->setTitle(QApplication::translate("GradientDialog", "Point X of Y", Q_NULLPTR));
        stopColor->setText(QApplication::translate("GradientDialog", "Pick Color...", Q_NULLPTR));
        stopOpacity->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
        label->setText(QApplication::translate("GradientDialog", "Position:", Q_NULLPTR));
        stopPos->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
        label_2->setText(QApplication::translate("GradientDialog", "Color:", Q_NULLPTR));
        groupBox_2->setTitle(QApplication::translate("GradientDialog", "Presets", Q_NULLPTR));
        presetName->setPlaceholderText(QApplication::translate("GradientDialog", "Name", Q_NULLPTR));
        presetSave->setText(QApplication::translate("GradientDialog", "Save", Q_NULLPTR));
        presetDelete->setText(QApplication::translate("GradientDialog", "Delete", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.18.2.2 void Ui_GradientDialog::setupUi (QDialog * *GradientDialog*) [inline],[inherited]

Definition at line 60 of file ui_gradientdialog.h.

References Ui_GradientDialog::buttonBox, Ui_GradientDialog::gridLayout, Ui_GradientDialog::gridLayout_2, Ui_GradientDialog::gridLayout_3, Ui_GradientDialog::groupBox_2, Ui_GradientDialog::horizontalLayout, Ui_GradientDialog::horizontalLayout_2, Ui_GradientDialog::horizontalSpacer, Ui_GradientDialog::horizontalSpacer_2, Ui_GradientDialog::horizontalSpacer_3, Ui_GradientDialog::label, Ui_GradientDialog::label_2, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetList, Ui_GradientDialog::presetName, Ui_GradientDialog::presetSave, Ui_GradientDialog::retranslateUi(), Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, Ui_GradientDialog::stopOpacity, Ui_GradientDialog::stopPos, Ui_GradientDialog::verticalSpacer, Ui_GradientDialog::verticalSpacer_2, and Ui_GradientDialog::widget.

Referenced by GradientDialog::GradientDialog().

```
61     {
62         if (GradientDialog->objectName().isEmpty())
63             GradientDialog->setObjectName(QStringLiteral("GradientDialog"));
64         GradientDialog->resize(400, 440);
65         GradientDialog->setMinimumSize(QSize(400, 440));
66         GradientDialog->setMaximumSize(QSize(400, 440));
67         GradientDialog->setFocusPolicy(Qt::ClickFocus);
68         gridLayout = new QGridLayout(GradientDialog);
69         gridLayout->setObjectName(QStringLiteral("gridLayout"));
70         verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);
71
72         gridLayout->addItem(verticalSpacer, 1, 0, 1, 1);
73
74         verticalSpacer_2 = new QSpacerItem(0, 15, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
75
76         gridLayout->addItem(verticalSpacer_2, 3, 0, 1, 1);
77
78         widget = new GradientDialogWidget(GradientDialog);
79         widget->setObjectName(QStringLiteral("widget"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(0);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
84         widget->setSizePolicy(sizePolicy);
85         widget->setMinimumSize(QSize(0, 74));
86         widget->setMaximumSize(QSize(16777215, 74));
87
88         gridLayout->addWidget(widget, 2, 0, 1, 1);
89
90         buttonBox = new QDialogButtonBox(GradientDialog);
91         buttonBox->setObjectName(QStringLiteral("buttonBox"));
92         buttonBox->setOrientation(Qt::Horizontal);
93         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
94
95         gridLayout->addWidget(buttonBox, 5, 0, 1, 1);
96
97         stopBox = new QGroupBox(GradientDialog);
98         stopBox->setObjectName(QStringLiteral("stopBox"));
99         sizePolicy.setHeightForWidth(stopBox->sizePolicy().hasHeightForWidth());
100         stopBox->setSizePolicy(sizePolicy);
101         gridLayout_2 = new QGridLayout(stopBox);
102         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
103         horizontalLayout_2 = new QHBoxLayout();
104         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
105         stopColor = new ColorButton(stopBox);
106         stopColor->setObjectName(QStringLiteral("stopColor"));
107
```

```
        horizontalLayout_2->addWidget(stopColor);

        stopOpacity = new QSpinBox(stopBox);
        stopOpacity->setObjectName(QStringLiteral("stopOpacity"));
        stopOpacity->setMaximum(100);

        horizontalLayout_2->addWidget(stopOpacity);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_2);


        gridLayout_2->addLayout(horizontalLayout_2, 1, 2, 1, 1);

        label = new QLabel(stopBox);
        label->setObjectName(QStringLiteral("label"));

        gridLayout_2->addWidget(label, 0, 0, 1, 1);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        stopPos = new QSpinBox(stopBox);
        stopPos->setObjectName(QStringLiteral("stopPos"));
        stopPos->setMaximum(100);

        horizontalLayout->addWidget(stopPos);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer);


        gridLayout_2->addLayout(horizontalLayout, 0, 2, 1, 1);

        label_2 = new QLabel(stopBox);
        label_2->setObjectName(QStringLiteral("label_2"));

        gridLayout_2->addWidget(label_2, 1, 0, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 0, 1, 1, 1);


        gridLayout->addWidget(stopBox, 4, 0, 1, 1);

        groupBox_2 = new QGroupBox(GradientDialog);
        groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
        sizePolicy.setHeightForWidth(groupBox_2->sizePolicy().hasHeightForWidth());
        groupBox_2->setSizePolicy(sizePolicy);
        gridLayout_3 = new QGridLayout(groupBox_2);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        presetList = new QListWidget(groupBox_2);
        presetList->setObjectName(QStringLiteral("presetList"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(presetList->sizePolicy().hasHeightForWidth());
        presetList->setSizePolicy(sizePolicy1);
        presetList->setFrameShadow(QFrame::Plain);
        presetList->setHorizontalScrollBarPolicy(Qt::ScrollBarAlwaysOn);
        presetList->setIconSize(QSize(64, 64));
        presetList->setHorizontalScrollMode(QAbstractItemView::ScrollPerPixel);
        presetList->setFlow(QListView::TopToBottom);
        presetList->setViewMode(QListView::IconMode);
        presetList->setUniformItemSizes(true);

        gridLayout_3->addWidget(presetList, 0, 0, 3, 1);

        presetName = new QLineEdit(groupBox_2);
        presetName->setObjectName(QStringLiteral("presetName"));
        presetName->setMaxLength(30);

        gridLayout_3->addWidget(presetName, 0, 1, 1, 1);

        presetSave = new QPushButton(groupBox_2);
        presetSave->setObjectName(QStringLiteral("presetSave"));
        presetSave->setAutoDefault(false);

        gridLayout_3->addWidget(presetSave, 1, 1, 1, 1);

        presetDelete = new QPushButton(groupBox_2);
        presetDelete->setObjectName(QStringLiteral("presetDelete"));
```

```
        presetDelete->setAutoDefault(false);

        gridLayout_3->addWidget(presetDelete, 2, 1, 1, 1);


        gridLayout->addWidget(groupBox_2, 0, 0, 1, 1);


        retranslateUi(GradientDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), GradientDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), GradientDialog, SLOT(reject()));

        QMetaObject::connectSlotsByName(GradientDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.18.3 Field Documentation

12.18.3.1 QDialogButtonBox* Ui_GradientDialog::buttonBox [inherited]

Definition at line 40 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.2 QGridLayout* Ui_GradientDialog::gridLayout [inherited]

Definition at line 36 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.3 QGridLayout* Ui_GradientDialog::gridLayout_2 [inherited]

Definition at line 42 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.4 QGridLayout* Ui_GradientDialog::gridLayout_3 [inherited]

Definition at line 54 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.5 QGroupBox* Ui_GradientDialog::groupBox_2 [inherited]

Definition at line 53 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.6 QHBoxLayout* Ui_GradientDialog::horizontalLayout [inherited]

Definition at line 48 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.7 QHBoxLayout* Ui_GradientDialog::horizontalLayout_2 [inherited]

Definition at line 43 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.8 QSpacerItem* Ui_GradientDialog::horizontalSpacer [inherited]

Definition at line 50 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.9 QSpacerItem* Ui_GradientDialog::horizontalSpacer_2 [inherited]

Definition at line 46 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.10 QSpacerItem* Ui_GradientDialog::horizontalSpacer_3 [inherited]

Definition at line 52 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.11 QLabel* Ui_GradientDialog::label [inherited]

Definition at line 47 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.12 QLabel* Ui_GradientDialog::label_2 [inherited]

Definition at line 51 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.13 QPushButton* Ui_GradientDialog::presetDelete [inherited]

Definition at line 58 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.14 QListWidget* Ui_GradientDialog::presetList [inherited]

Definition at line 55 of file ui_gradientdialog.h.

Referenced by GradientDialog::setPreset(), Ui_GradientDialog::setupUi(), and GradientDialog::updatePresets().

12.18.3.15 QLineEdit* Ui_GradientDialog::presetName [inherited]

Definition at line 56 of file ui_gradientdialog.h.

Referenced by GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.16 QPushButton* Ui_GradientDialog::presetSave [inherited]

Definition at line 57 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.17 QGroupBox* Ui_GradientDialog::stopBox [inherited]

Definition at line 41 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.18 ColorButton* Ui_GradientDialog::stopColor [inherited]

Definition at line 44 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::GradientDialog(), GradientDialog::on_stopOpacity_valueChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.19 QSpinBox* Ui_GradientDialog::stopOpacity [inherited]

Definition at line 45 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.20 QSpinBox* Ui_GradientDialog::stopPos [inherited]

Definition at line 49 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::on_stopPos_valueChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.21 QSpacerItem* Ui_GradientDialog::verticalSpacer [inherited]

Definition at line 37 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.22 QSpacerItem* Ui_GradientDialog::verticalSpacer_2 [inherited]

Definition at line 38 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.23 GradientDialogWidget* Ui_GradientDialog::widget [inherited]

Definition at line 39 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), GradientDialog::getGradient(), GradientDialog::GradientDialog(), GradientDialog::on_presetSave_clicked(), GradientDialog::on_stopPos_valueChanged(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_gradientdialog.h

12.19 GradientDialog Class Reference

```
#include <src/ckb/gradientdialog.h>
```

Inheritance diagram for GradientDialog:

Collaboration diagram for GradientDialog:

Data Structures

- struct Preset

Public Member Functions

- GradientDialog (QWidget ∗parent=0)
- ∼GradientDialog ()
- QGradientStops getGradient (const QGradientStops &prevGradient)

Private Slots

- void currentChanged (QColor color, bool spontaneous, int position)
- void colorChanged (QColor color)
- void on_presetList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void on_presetName_textEdited (const QString &arg1)
- void on_presetSave_clicked ()
- void on_presetDelete_clicked ()
- void on_stopPos_valueChanged (int arg1)
- void on_stopOpacity_valueChanged (int arg1)

Private Member Functions

- void addPreset (const Preset &preset)
- QIcon makeIcon (const Preset &preset)
- void updatePresets ()
- void setPreset (const QString &newPreset)

Private Attributes

- QMap< QString, Preset > presets
- QString currentPreset
- Ui::GradientDialog * ui

12.19.1 Detailed Description

Definition at line 12 of file gradientdialog.h.

12.19.2 Constructor & Destructor Documentation

12.19.2.1 GradientDialog::GradientDialog (QWidget * *parent* = 0) [explicit]

Definition at line 11 of file gradientdialog.cpp.

References addPreset(), CkbSettings::childGroups(), CkbSettings::childKeys(), colorChanged(), currentChanged(), GradientDialog::Preset::gradient, prefsPath, presets, Ui_GradientDialog::setupUi(), Ui_GradientDialog::stopColor, ui, updatePresets(), CkbSettings::value(), and Ui_GradientDialog::widget.

```
11                                                  :
12     QDialog(parent),
13     ui(new Ui::GradientDialog)
14 {
15     ui->setupUi(this);
16     connect(ui->widget, SIGNAL(currentChanged(QColor,bool,int)), this, SLOT(
       currentChanged(QColor,bool,int)));
17     connect(ui->stopColor, SIGNAL(colorChanged(QColor)), this, SLOT(
       colorChanged(QColor)));
18
19     // Add built-in presets
20     Preset blackAndWhite("B & W", true);
21     blackAndWhite.gradient.append(QGradientStop(0., QColor(0, 0, 0)));
22     blackAndWhite.gradient.append(QGradientStop(1., QColor(255, 255, 255)));
23     Preset fade("Fade", true);
24     fade.gradient.append(QGradientStop(0., QColor(255, 255, 255)));
25     fade.gradient.append(QGradientStop(1., QColor(255, 255, 255, 0)));
26     Preset rainbow("Rainbow", true);
27     rainbow.gradient.append(QGradientStop(0.00, QColor(255, 0, 0)));
28     rainbow.gradient.append(QGradientStop(0.17, QColor(255, 255, 0)));
29     rainbow.gradient.append(QGradientStop(0.33, QColor(0, 255, 0)));
30     rainbow.gradient.append(QGradientStop(0.50, QColor(0, 255, 255)));
31     rainbow.gradient.append(QGradientStop(0.67, QColor(0, 0, 255)));
32     rainbow.gradient.append(QGradientStop(0.83, QColor(255, 0, 255)));
33     rainbow.gradient.append(QGradientStop(1.00, QColor(255, 0, 0)));
34     addPreset(blackAndWhite);
35     addPreset(fade);
36     addPreset(rainbow);
37
38     // Load stored presets
39     CkbSettings settings(prefsPath);
40     foreach(const QString& name, settings.childGroups()){
41         QString pName = name.toLower();
42         if(presets.contains(pName))
43             continue;
44         SGroup group(settings, name);
45         // Create keys in a map to ensure correct order and no duplicates
46         QMap<int, QColor> colors;
47         foreach(const QString& position, settings.childKeys()){
48             int pos = position.toInt();
49             if(pos < 0 || pos > 100)
50                 continue;
51             colors[pos] = settings.value(position).value<QColor>();
52         }
53         if(colors.count() < 2)
54             continue;
55         Preset preset(name);
56         QMapIterator<int, QColor> i(colors);
57         while(i.hasNext()){
58             i.next();
59             preset.gradient.append(QGradientStop(i.key() / 100., i.value()));
60         }
61         presets[pName] = preset;
62     }
63
```

```
    updatePresets();
}
```

Here is the call graph for this function:

12.19.2.2 GradientDialog::~GradientDialog ( )

Definition at line 77 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, GradientDialog::Preset::gradient, GradientDialog::Preset::name, prefsPath, presets, CkbSettings::setValue(), and ui.

```
77                                  {
78     // Save presets
79     CkbSettings settings(prefsPath, true);
80     QMapIterator<QString, Preset> i(presets);
81     while(i.hasNext()){
82         Preset preset = i.next().value();
83         if(!preset.builtIn){
84             SGroup group(settings, preset.name);
85             foreach(const QGradientStop& stop, preset.gradient)
86                 settings.setValue(QString::number((int)(stop.first * 100.)), stop.second);
87         }
88     }
89     delete ui;
90 }
```

Here is the call graph for this function:

12.19.3 Member Function Documentation

12.19.3.1 void GradientDialog::addPreset (const Preset & *preset*) [inline],[private]

Definition at line 34 of file gradientdialog.h.

References GradientDialog::Preset::name, and presets.

Referenced by GradientDialog().

```
34 { presets[preset.name.toLower()] = preset; }
```

Here is the caller graph for this function:

12.19.3.2 void GradientDialog::colorChanged (QColor *color*) [private],[slot]

Definition at line 234 of file gradientdialog.cpp.

References GradientDialogWidget::setCurrentColor(), setPreset(), Ui_GradientDialog::stopOpacity, ui, and Ui_GradientDialog::widget.

Referenced by GradientDialog(), and on_stopOpacity_valueChanged().

```
234                                                 {
235     color.setAlphaF(ui->stopOpacity->value() / 100.f);
236     ui->widget->setCurrentColor(color);
237     setPreset("");
238 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.19.3.3 void GradientDialog::currentChanged (QColor *color,* bool *spontaneous,* int *position*) [private],[slot]

Definition at line 128 of file gradientdialog.cpp.

References ColorButton::color(), setPreset(), Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, GradientDialogWidget::stopCount(), Ui_GradientDialog::stopOpacity, Ui_GradientDialog::stopPos, ui, and Ui_GradientDialog::widget.

Referenced by GradientDialog().

```
128                                                                                    {
129     int pCount = ui->widget->stopCount();
130     if(pCount == 1)
131         ui->stopBox->setTitle("1 point");
132     else
133         ui->stopBox->setTitle(QString("%1 points").arg(pCount));
134     if(!color.isValid()){
135         ui->stopBox->setEnabled(false);
136         ui->stopPos->setValue(0);
137         ui->stopColor->color(QColor(0, 0, 0));
138         ui->stopOpacity->setValue(0);
139     } else {
140         ui->stopBox->setEnabled(true);
141         ui->stopPos->setValue(position);
142         ui->stopColor->color(color);
143         ui->stopOpacity->setValue(round(color.alphaF() * 100.f));
144     }
145     // Un-set current preset
146     if(spontaneous)
147         setPreset("");
148     setFocus();
149 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.19.3.4 QGradientStops GradientDialog::getGradient (const QGradientStops & *prevGradient*)

Definition at line 67 of file gradientdialog.cpp.

References Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetSave, GradientDialogWidget::setStops(), GradientDialogWidget::stops(), ui, and Ui_GradientDialog::widget.

Referenced by GradientButton::pickGradient().

```
67                                                                                     {
68     ui->presetDelete->setEnabled(false);
69     ui->presetSave->setEnabled(true);
70     ui->widget->setStops(prevGradient);
```

```
    exec();
    if(result() != QDialog::Accepted)
        return prevGradient;
    return ui->widget->stops();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.19.3.5 QIcon GradientDialog::makeIcon (const Preset & *preset*) [private]

Definition at line 92 of file gradientdialog.cpp.

References GradientDialog::Preset::gradient, x, and y.

Referenced by updatePresets().

```
92                                                  {
93     // Paint gradient into a square
94     int w = 60, h = 60;
95     QImage image(w, h, QImage::Format_RGB888);
96     QPainter painter(&image);
97     // Draw background
98     for(int x = 0; x < w; x += 30){
99         for(int y = 0; y < h; y += 30){
100            painter.fillRect(x, y, 15, 15, QColor(255, 255, 255));
101            painter.fillRect(x + 15, y, 15, 15, QColor(192, 192, 192));
102            painter.fillRect(x, y + 15, 15, 15, QColor(192, 192, 192));
103            painter.fillRect(x + 15, y + 15, 15, 15, QColor(255, 255, 255));
104        }
105    }
106    // Draw gradient
107    painter.setPen(QColor(0, 0, 0));
108    QLinearGradient gradient(1., 1., w - 1., h - 1.);
109    gradient.setStops(preset.gradient);
110    painter.setBrush(gradient);
111    painter.drawRect(0, 0, w - 1, h - 1);
112    return QPixmap::fromImage(image);
113 }
```

Here is the caller graph for this function:

12.19.3.6 void GradientDialog::on_presetDelete_clicked ( ) [private],[slot]

Definition at line 211 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, current, currentPreset, GradientDialog::Preset::name, Ui_GradientDialog::presetDelete, presets, Ui_GradientDialog::presetSave, ui, and updatePresets().

```
211                                                 {
212     Preset current = presets.value(currentPreset);
213     if(current.name == "" || current.builtIn)
214         return;
215     if(QMessageBox::warning(this, "Warning", QString("Delete preset \"%1\"?").arg(current.name),
      QMessageBox::StandardButtons(QMessageBox::Yes | QMessageBox::No)) != QMessageBox::Yes){
216         setFocus();
217         return;
218     }
219     presets.remove(currentPreset);
220     currentPreset = "";
221     ui->presetDelete->setEnabled(false);
222     ui->presetSave->setEnabled(true);
223     updatePresets();
224     setFocus();
225 }
```

Here is the call graph for this function:

12.19.3.7 void GradientDialog::on_presetList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private],[slot]

Definition at line 174 of file gradientdialog.cpp.

References setPreset().

```
174                                                                                                 {
175     setPreset(current ? current->text().toLower() : "");
176 }
```

Here is the call graph for this function:

12.19.3.8 void GradientDialog::on_presetName_textEdited (const QString & *arg1*) [private],[slot]

Definition at line 178 of file gradientdialog.cpp.

References currentPreset, presets, and setPreset().

```
178                                                                 {
179     if(currentPreset != "" && arg1.trimmed() != presets[
      currentPreset].name)
180         setPreset("");
181 }
```

Here is the call graph for this function:

12.19.3.9 void GradientDialog::on_presetSave_clicked ( ) [private],[slot]

Definition at line 183 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, currentPreset, GradientDialog::Preset::name, Ui_GradientDialog-::presetDelete, Ui_GradientDialog::presetName, presets, Ui_GradientDialog::presetSave, GradientDialogWidget-::stops(), ui, updatePresets(), and Ui_GradientDialog::widget.

```
183                                         {
184     if(currentPreset != "")
185         return;
186     QString name = ui->presetName->text().trimmed();
187     if(name == "")
188         ui->presetName->setText(name = "Custom");
189     QString pName = name.toLower();
190     // Make sure not to overwrite a built-in preset
191     Preset previous = presets[pName];
192     if(previous.builtIn){
193         QMessageBox::warning(this, "Error", "Can't overwrite a built-in preset. Please choose a different
      name.");
194         setFocus();
195         return;
196     } else if(previous.name != ""){
197         // Warn when overwriting an existing preset
198         if(QMessageBox::warning(this, "Warning", QString("Preset \"%1\" already exists. Replace?").arg(name
      ), QMessageBox::StandardButtons(QMessageBox::Save | QMessageBox::Cancel)) != QMessageBox::Save){
199             setFocus();
200             return;
201         }
202     }
203     presets[pName] = Preset(name, ui->widget->stops());
204     currentPreset = pName;
205     ui->presetDelete->setEnabled(true);
206     ui->presetSave->setEnabled(false);
207     updatePresets();
208     setFocus();
209 }
```

Here is the call graph for this function:

12.19.3.10 void GradientDialog::on_stopOpacity_valueChanged (int *arg1*) [private],[slot]

Definition at line 240 of file gradientdialog.cpp.

References ColorButton::color(), colorChanged(), setPreset(), Ui_GradientDialog::stopColor, and ui.

```
240                                                     {
241     colorChanged(ui->stopColor->color());
242     setPreset("");
243 }
```

Here is the call graph for this function:

12.19.3.11 void GradientDialog::on_stopPos_valueChanged (int *arg1*) [private],[slot]

Definition at line 227 of file gradientdialog.cpp.

References GradientDialogWidget::moveCurrent(), setPreset(), Ui_GradientDialog::stopPos, ui, and Ui_GradientDialog::widget.

```
227                                                     {
228     int res = ui->widget->moveCurrent(arg1);
229     if(res != arg1)
230         ui->stopPos->setValue(res);
231     setPreset("");
232 }
```

Here is the call graph for this function:

12.19.3.12 void GradientDialog::setPreset (const QString & *newPreset*) [private]

Definition at line 151 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, current, currentPreset, GradientDialog::Preset::gradient, GradientDialog::Preset::name, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetList, Ui_GradientDialog::presetName, presets, Ui_GradientDialog::presetSave, GradientDialogWidget::setStops(), ui, and Ui_GradientDialog::widget.

Referenced by colorChanged(), currentChanged(), on_presetList_currentItemChanged(), on_presetName_textEdited(), on_stopOpacity_valueChanged(), and on_stopPos_valueChanged().

```
151                                                 {
152     if(currentPreset == newPreset)
153         return;
154     if(newPreset == ""){
155         ui->presetList->clearSelection();
156         ui->presetList->setCurrentItem(0);
157         Preset current = presets.value(currentPreset);
158         QString curName = ui->presetName->text().trimmed();
159         if(curName == "" || (curName == current.name && current.builtIn))
160             ui->presetName->setText("Custom");
161         ui->presetDelete->setEnabled(false);
162         ui->presetSave->setEnabled(true);
163     } else {
164         Preset current = presets.value(newPreset);
165         ui->presetName->setText(current.name);
166         ui->presetDelete->setEnabled(!current.builtIn);
167         ui->presetSave->setEnabled(false);
168         ui->widget->setStops(current.gradient);
169     }
170     currentPreset = newPreset;
171     setFocus();
172 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.19.3.13 void GradientDialog::updatePresets ( ) [private]

Definition at line 115 of file gradientdialog.cpp.

References currentPreset, makeIcon(), GradientDialog::Preset::name, Ui_GradientDialog::presetList, presets, and ui.

Referenced by GradientDialog(), on_presetDelete_clicked(), and on_presetSave_clicked().

```
115                                 {
116     ui->presetList->clear();
117     QMapIterator<QString, Preset> i(presets);
118     while(i.hasNext()){
119         i.next();
120         const Preset& preset = i.value();
121         QListWidgetItem* item = new QListWidgetItem(makeIcon(preset), preset.name,
      ui->presetList);
122         if(currentPreset == i.key())
123             item->setSelected(true);
124         ui->presetList->addItem(item);
125     }
126 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.19.4 Field Documentation

12.19.4.1 QString GradientDialog::currentPreset [private]

Definition at line 32 of file gradientdialog.h.

Referenced by on_presetDelete_clicked(), on_presetName_textEdited(), on_presetSave_clicked(), setPreset(), and updatePresets().

12.19.4.2 QMap<QString, Preset> GradientDialog::presets [private]

Definition at line 31 of file gradientdialog.h.

Referenced by addPreset(), GradientDialog(), on_presetDelete_clicked(), on_presetName_textEdited(), on_presetSave_clicked(), setPreset(), updatePresets(), and ~GradientDialog().

12.19.4.3 Ui::GradientDialog* GradientDialog::ui [private]

Definition at line 39 of file gradientdialog.h.

Referenced by colorChanged(), currentChanged(), getGradient(), GradientDialog(), on_presetDelete_clicked(), on_presetSave_clicked(), on_stopOpacity_valueChanged(), on_stopPos_valueChanged(), setPreset(), updatePresets(), and ~GradientDialog().

The documentation for this class was generated from the following files:

- src/ckb/gradientdialog.h
- src/ckb/gradientdialog.cpp

12.20 GradientDialogWidget Class Reference

```
#include <src/ckb/gradientdialogwidget.h>
```

Inheritance diagram for GradientDialogWidget:

Collaboration diagram for GradientDialogWidget:

Signals

- void currentChanged (QColor color, bool spontaneous, int position)

Public Member Functions

- GradientDialogWidget (QWidget ∗parent=0)
- void setStops (const QGradientStops &stops)
- QGradientStops stops ()
- int stopCount ()
- QColor colorAt (int position)
- int current ()
- int moveCurrent (int to)
- void setCurrentColor (const QColor &color)

Private Member Functions

- QRect fillRect ()
- QRect stopRect (int pos)
- int selectedStop ()
- QMap< int, QColor > selectionColors ()
- void makeStops ()
- void paintEvent (QPaintEvent ∗)
- void mousePressEvent (QMouseEvent ∗event)
- void mouseMoveEvent (QMouseEvent ∗event)
- void mouseReleaseEvent (QMouseEvent ∗event)

Private Attributes

- QColor selected
- int selectedPos
- int selectedOffset
- int _current
- QMap< int, QColor > _colors
- QGradientStops _stops

12.20.1 Detailed Description

Definition at line 8 of file gradientdialogwidget.h.

12.20.2 Constructor & Destructor Documentation

12.20.2.1 GradientDialogWidget::GradientDialogWidget (QWidget * *parent* = 0) [explicit]

Definition at line 6 of file gradientdialogwidget.cpp.

```
6                                                       :
7     QWidget(parent), selectedPos(-1), _current(-1)
8 {
9     setMouseTracking(true);
10 }
```

12.20.3 Member Function Documentation

12.20.3.1 QColor GradientDialogWidget::colorAt (int *position*)

Definition at line 65 of file gradientdialogwidget.cpp.

References _stops.

Referenced by mousePressEvent().

```
65                                              {
66     // Find which stops the position is between
67     qreal pos = position / 100.;
68     QVectorIterator<QGradientStop> i(_stops);
69     QGradientStop previous = i.next();
70     while(i.hasNext()){
71         QGradientStop next = i.next();
72         if(next.first >= pos){
73             // Get color by linear interpolation. Premultiply the alpha value so that it returns the
       expected color
74             // (i.e. stops with zero opacity won't contribute to color)
75             QColor c1 = next.second, c2 = previous.second;
76             qreal distance = next.first - previous.first;
77             qreal dx = (pos - previous.first) / distance;
78             qreal a1 = c1.alphaF(), a2 = c2.alphaF();
79             qreal a3 = a1 * dx + a2 * (1.f - dx);
80             if(a3 == 0.){
81                 c2.setAlpha(0);
82                 return c2;
83             }
84             qreal r = (c1.redF() * a1 * dx + c2.redF() * a2 * (1.f - dx)) / a3;
85             qreal g = (c1.greenF() * a1 * dx + c2.greenF() * a2 * (1.f - dx)) / a3;
86             qreal b = (c1.blueF() * a1 * dx + c2.blueF() * a2 * (1.f - dx)) / a3;
87             return QColor::fromRgbF(r, g, b, a3);
88         }
89         previous = next;
90     }
91     return QColor();
92 }
```

Here is the caller graph for this function:

12.20.3.2 int GradientDialogWidget::current ( ) [inline]

Definition at line 20 of file gradientdialogwidget.h.

References _current.

```
20 { return _current; }
```

12.20.3.3 void GradientDialogWidget::currentChanged (QColor *color*, bool *spontaneous*, int *position*) [signal]

Definition at line 126 of file moc_gradientdialogwidget.cpp.

Referenced by mouseReleaseEvent(), and setStops().

```
127 {
128     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
      reinterpret_cast<const void*>(&_t2)), const_cast<void*>(reinterpret_cast<const void*>(&_t3)) };
129     QMetaObject::activate(this, &staticMetaObject, 0, _a);
130 }
```

Here is the caller graph for this function:

12.20.3.4 QRect GradientDialogWidget::fillRect ( ) [private]

Definition at line 138 of file gradientdialogwidget.cpp.

References width, x, and y.

Referenced by mouseMoveEvent(), mousePressEvent(), paintEvent(), selectedStop(), and stopRect().

```
{
    int x = 8, y = 1;
    int w = (width() - x * 2) / 16 * 16, h = (height() - 24) / 16 * 16;
    return QRect(x, y, w, h);
}
```

Here is the caller graph for this function:

12.20.3.5 void GradientDialogWidget::makeStops ( ) [private]

Definition at line 30 of file gradientdialogwidget.cpp.

References _stops, and selectionColors().

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), and setCurrentColor().

```
30                                      {
31     _stops.clear();
32     QMap<int, QColor> colors = selectionColors();
33     // If there's only a single color, put it at the beginning and end
34     if(colors.count() == 1){
35 #if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
36         QColor color = colors.first();
37 #else
38         QColor color = colors.value(colors.keys().first());
39 #endif
40         _stops.append(QGradientStop(0., color));
41         _stops.append(QGradientStop(1., color));
42         update();
43         return;
44     }
45     // Add colors at 0 and 100 if needed
46 #if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
47     if(!colors.contains(0))
48         colors[0] = colors.first();
49     if(!colors.contains(100))
50         colors[100] = colors.last();
51 #else
52     if(!colors.contains(0))
53         colors[0] = colors.value(colors.keys().first());
54     if(!colors.contains(100))
55         colors[100] = colors.value(colors.keys().last());
56 #endif
57     QMapIterator<int, QColor> i(colors);
58     while(i.hasNext()){
59         i.next();
60         _stops.append(QGradientStop(i.key() / 100., i.value()));
61     }
62     update();
63 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.6 void GradientDialogWidget::mouseMoveEvent (QMouseEvent * *event*) [private]

Definition at line 255 of file gradientdialogwidget.cpp.

References _colors, fillRect(), left, makeStops(), right(), selected, selectedOffset, selectedPos, and top.

```
255                                                                 {
256     if(!selected.isValid()){
257         if(event->y() >= height() - 24)
258             setCursor(QCursor(Qt::PointingHandCursor));
259         else
260             setCursor(QCursor(Qt::ArrowCursor));
261         return;
262     }
263     // Move selected point (if any)
264     setCursor(QCursor(Qt::ClosedHandCursor));
265     selectedPos = event->x() + selectedOffset;
266     // Allow the point to be deleted as long as there is at least 1 other point
267     bool last = (_colors.count() == 0);
268     // Hug the left/right edges
269     QRect rect = fillRect();
270     int left = rect.left(), right = rect.right();
271     if(selectedPos < left && (last || selectedPos >= left - 30))
272         selectedPos = left;
273     else if(selectedPos > right && (last || selectedPos <=
      right + 30))
274         selectedPos = right;
275     // Remove point if it's too far above/below the widget
276     int top = -30, bottom = height() + 30;
277     if(!last && (event->y() < top || event->y() > bottom))
278         selectedPos = -1;
279     makeStops();
280 }
```

Here is the call graph for this function:

12.20.3.7 void GradientDialogWidget::mousePressEvent (QMouseEvent * *event*) [private]

Definition at line 222 of file gradientdialogwidget.cpp.

References _colors, colorAt(), fillRect(), makeStops(), mouseReleaseEvent(), selected, selectedOffset, selectedPos, selectedStop(), stopRect(), x, and y.

```
222                                                                 {
223     int x = event->x(), y = event->y();
224     if(y < height() - 24)
225         return;
226     QMapIterator<int, QColor> i(_colors);
227     while(i.hasNext()){
228         i.next();
229         // If a point was selected, remove it from the color map and set it as the selected point
230         QRect stop = stopRect(i.key());
231         if(x >= stop.left() - 1 && x <= stop.right() + 1){
232             selected = i.value();
233             selectedPos = stop.x() + stop.width() / 2;
234             selectedOffset = selectedPos - x;
235             _colors.remove(i.key());
236             // On right click, delete the point
237             if(event->button() == Qt::RightButton && _colors.count() > 1){
238                 selectedPos = -1;
239                 mouseReleaseEvent(event);
240             } else
241                 update();
242             return;
243         }
244     }
245     // If nothing was selected, create a new point
246     QRect fill = fillRect();
247     if(x > fill.left() && x < fill.right() && event->button() != Qt::RightButton){
248         selectedPos = x;
249         selectedOffset = 0;
250         selected = colorAt(selectedStop());
251         makeStops();
252     }
253 }
```

Here is the call graph for this function:

12.20.3.8 void GradientDialogWidget::mouseReleaseEvent (QMouseEvent * *event*) [private]

Definition at line 282 of file gradientdialogwidget.cpp.

References _colors, _current, currentChanged(), makeStops(), selected, selectedPos, selectedStop(), and selectionColors().

Referenced by mousePressEvent().

```
282                                                                 {
283     if(selected.isValid()){
284         // Rejoin selection with gradient
285         _current = selectedStop();
286         _colors = selectionColors();
287         emit currentChanged(_colors.value(_current), true,
      _current);
288         selectedPos = -1;
289         selected = QColor();
290         makeStops();
291     }
292     if(event->y() >= height() - 24)
293         setCursor(QCursor(Qt::PointingHandCursor));
294     else
295         setCursor(QCursor(Qt::ArrowCursor));
296 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.9 int GradientDialogWidget::moveCurrent (int *to*)

Definition at line 94 of file gradientdialogwidget.cpp.

References _colors, _current, makeStops(), and selected.

Referenced by GradientDialog::on_stopPos_valueChanged().

```
94                                                  {
95     if(_current < 0 || to == _current || selected.isValid())
96         return _current;
97     // If there's a point in the way, skip past it by continuing in the current direction
98     if(_current < to){
99         while(_colors.contains(to)){
100             to++;
101             if(to > 100)
```

```
                return _current;
        }
    } else {
        while(_colors.contains(to)){
            to--;
            if(to < 0)
                return _current;
        }
    }
    _colors[to] = _colors.take(_current);
    _current = to;
    makeStops();
    return to;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.10 void GradientDialogWidget::paintEvent (QPaintEvent *) [private]

Definition at line 172 of file gradientdialogwidget.cpp.

References _colors, _current, _stops, fillRect(), selected, selectedPos, stopRect(), x, and y.

```
172                                                 {
173     QPainter painter(this);
174     QRect fill = fillRect();
175     int x = fill.x(), y = fill.y(), w = fill.width(), h = fill.height();
176
177     // Draw border around gradient
178     painter.setPen(palette().color(QPalette::Dark));
179     painter.drawLine(x - 1, y - 1, x + w, y - 1);
180     painter.drawLine(x - 1, y - 1, x - 1, y + h);
181     painter.setPen(palette().color(QPalette::Light));
182     painter.drawLine(x - 1, y + h, x + w, y + h);
183     painter.drawLine(x + w, y - 1, x + w, y + h);
184     // Draw background grid
185     for(int i = 0; i < w; i += 16){
186         for(int iy = 0; iy < h; iy += 16){
187             if(i % 32 != iy % 32)
188                 painter.fillRect(x + i, y + iy, 16, 16, QColor(192, 192, 192));
189             else
190                 painter.fillRect(x + i, y + iy, 16, 16, QColor(255, 255, 255));
191         }
192     }
193     // Draw gradient
194     painter.setRenderHint(QPainter::Antialiasing);
195     QLinearGradient gradient(x, 0, x + w, 0);
196     gradient.setStops(_stops);
197     painter.fillRect(fill, QBrush(gradient));
198
199     // Draw stops
```

```
    QMapIterator<int, QColor> i(_colors);
    painter.setPen(palette().color(QPalette::Shadow));
    while(i.hasNext()){
        i.next();
        painter.setBrush(QBrush(i.value()));
        int index = i.key();
        if(index == _current){
            // Highlight currently-edited stop
            painter.setPen(QPen(palette().color(QPalette::Highlight), 2));
            painter.drawRoundedRect(stopRect(index), 4, 4);
            painter.setPen(palette().color(QPalette::Shadow));
        } else
            painter.drawRoundedRect(stopRect(index), 4, 4);
    }
    // Draw selection (if any)
    if(selected.isValid() && selectedPos >= x && selectedPos <= x + w){
        painter.setPen(QPen(palette().color(QPalette::Highlight), 2.5));
        painter.setBrush(selected);
        painter.drawRoundedRect(selectedPos - 6, height() - 18 - 2, 12, 18, 4, 4);
    }
}
```

Here is the call graph for this function:

12.20.3.11 int GradientDialogWidget::selectedStop ( ) [private]

Definition at line 152 of file gradientdialogwidget.cpp.

References fillRect(), and selectedPos.

Referenced by mousePressEvent(), mouseReleaseEvent(), and selectionColors().

```
                                    {
    QRect rect = fillRect();
    int res = round((selectedPos - rect.x()) * 100. / rect.width());
    if(res < 0 || res > 100)
        return -1;
    return res;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.12 QMap< int, QColor > GradientDialogWidget::selectionColors ( ) [private]

Definition at line 160 of file gradientdialogwidget.cpp.

References _colors, selected, and selectedStop().

Referenced by makeStops(), and mouseReleaseEvent().

```
160                                                     {
161     if(!selected.isValid())
162         return _colors;
163     // Determine selected stop position
164     int selPos = selectedStop();
165     // Re-add if in range
166     QMap<int, QColor> res = _colors;
167     if(selPos >= 0 && selPos <= 100)
168         res[selPos] = selected;
169     return res;
170 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.13 void GradientDialogWidget::setCurrentColor (const QColor & *color*)

Definition at line 117 of file gradientdialogwidget.cpp.

References _colors, _current, makeStops(), and selected.

Referenced by GradientDialog::colorChanged().

```
117                                                                 {
118     if(_current < 0 || selected.isValid())
119         return;
120     QRgb rgb = _colors.value(_current).rgb();
121     _colors[_current] = color;
122     // If any points follow with the same color but different opacity, change them to match
123     QMutableMapIterator<int, QColor> i(_colors);
124     while(i.hasNext()){
125         i.next();
126         if(i.key() <= _current)
127             continue;
128         QColor& value = i.value();
129         if(value.rgb() != rgb)
130             break;
131         int alpha = value.alpha();
132         value = color;
133         value.setAlpha(alpha);
134     }
135     makeStops();
136 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.14 void GradientDialogWidget::setStops (const QGradientStops & *stops*)

Definition at line 12 of file gradientdialogwidget.cpp.

References _colors, _current, _stops, currentChanged(), and stops().

Referenced by GradientDialog::getGradient(), and GradientDialog::setPreset().

```
12                                                                  {
13     _stops = stops;
14     _colors.clear();
15     foreach(const QGradientStop& stop, stops){
16         double pos = stop.first;
17         if(pos < 0. || pos > 1.)
18             continue;
19         _colors[round(pos * 100.)] = stop.second;
20     }
21     _current = 0;
```

```
#if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
    emit currentChanged(_colors.first(), false, 0);
#else
    emit currentChanged(_colors.value(_colors.keys().first()), false, 0);
#endif
    update();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.15 int GradientDialogWidget::stopCount ( ) [inline]

Definition at line 16 of file gradientdialogwidget.h.

References _stops.

Referenced by GradientDialog::currentChanged().

```
16 { return _stops.count(); }
```

Here is the caller graph for this function:

12.20.3.16 QRect GradientDialogWidget::stopRect (int *pos*) [private]

Definition at line 144 of file gradientdialogwidget.cpp.

References fillRect().

Referenced by mousePressEvent(), and paintEvent().

```
144                                                 {
145     QRect fill = fillRect();
146     int sx = round(pos / 100. * fill.width()) + fill.x() - 6;
147     int sw = 12, sh = 18;
148     int sy = height() - sh - 2;
149     return QRect(sx, sy, sw, sh);
150 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.17 QGradientStops GradientDialogWidget::stops ( ) [inline]

Definition at line 15 of file gradientdialogwidget.h.

References _stops.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetSave_clicked(), and setStops().

```
15 { return _stops; }
```

Here is the caller graph for this function:

12.20.4 Field Documentation

12.20.4.1 QMap<int, QColor> GradientDialogWidget::_colors [private]

Definition at line 31 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), paintEvent(), selectionColors(), setCurrentColor(), and setStops().

12.20.4.2 int GradientDialogWidget::_current [private]

Definition at line 30 of file gradientdialogwidget.h.

Referenced by current(), mouseReleaseEvent(), moveCurrent(), paintEvent(), setCurrentColor(), and setStops().

12.20.4.3 QGradientStops GradientDialogWidget::_stops [private]

Definition at line 32 of file gradientdialogwidget.h.

Referenced by colorAt(), makeStops(), paintEvent(), setStops(), stopCount(), and stops().

12.20.4.4 QColor GradientDialogWidget::selected [private]

Definition at line 28 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), paintEvent(), selectionColors(), and setCurrentColor().

12.20.4.5 int GradientDialogWidget::selectedOffset [private]

Definition at line 29 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), and mousePressEvent().

12.20.4.6 int GradientDialogWidget::selectedPos [private]

Definition at line 29 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), and selectedStop().

The documentation for this class was generated from the following files:

- src/ckb/gradientdialogwidget.h
- src/ckb/gradientdialogwidget.cpp
- src/ckb/release/moc_gradientdialogwidget.cpp

12.21 JlCompress Class Reference

Utility class for typical operations.

`#include <src/ckb/quazip/JlCompress.h>`

Collaboration diagram for JlCompress:

Static Public Member Functions

- static bool compressFile (QString fileCompressed, QString file)

  Compress a single file.
- static bool compressFiles (QString fileCompressed, QStringList files)

  Compress a list of files.
- static bool compressDir (QString fileCompressed, QString dir=QString(), bool recursive=true)

  Compress a whole directory.
- static QString extractFile (QString fileCompressed, QString fileName, QString fileDest=QString())

  Extract a single file.
- static QStringList extractFiles (QString fileCompressed, QStringList files, QString dir=QString())

  Extract a list of files.
- static QStringList extractDir (QString fileCompressed, QString dir=QString())

  Extract a whole archive.
- static QStringList getFileList (QString fileCompressed)

  Get the file list.

Static Private Member Functions

- static bool compressFile (QuaZip *zip, QString fileName, QString fileDest)

  Compress a single file.
- static bool compressSubDir (QuaZip *parentZip, QString dir, QString parentDir, bool recursive=true)

  Compress a subdirectory.
- static bool extractFile (QuaZip *zip, QString fileName, QString fileDest)

  Extract a single file.
- static bool removeFile (QStringList listFile)

  Remove some files.

12.21.1 Detailed Description

This class contains a number of useful static functions to perform simple operations, such as mass ZIP packing or extraction.

Definition at line 42 of file JlCompress.h.

12.21.2 Member Function Documentation

12.21.2.1 bool JlCompress::compressDir (QString *fileCompressed*, QString *dir* = `QString()`, bool *recursive* = `true`) `[static]`

OK Comprime la cartella dir nel file fileCompressed, se recursive e true allora comprime anche le sotto cartelle.

Parameters

fileCompressed	The name of the archive.
dir	The directory to compress.
recursive	Whether to pack the subdirectories as well, or just regular files.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 338 of file JlCompress.cpp.

References QuaZip::close(), compressSubDir(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
338                                                                                 {
339     // Creo lo zip
340     QuaZip zip(fileCompressed);
341     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
342     if(!zip.open(QuaZip::mdCreate)) {
343         QFile::remove(fileCompressed);
344         return false;
345     }
346
347     // Aggiungo i file e le sotto cartelle
348     if (!compressSubDir(&zip,dir,dir,recursive)) {
349         QFile::remove(fileCompressed);
350         return false;
```

```
    }

    // Chiudo il file zip
    zip.close();
    if(zip.getZipError()!=0) {
        QFile::remove(fileCompressed);
        return false;
    }

    return true;
}
```

Here is the call graph for this function:

12.21.2.2 bool JlCompress::compressFile (QuaZip * *zip*, QString *fileName*, QString *fileDest*) [static], [private]

OK Comprime il file fileName, nell'oggetto zip, con il nome fileDest.

Parameters

zip	Opened zip to compress the file to.
fileName	The full path to the source file.
fileDest	The full name of the file inside the archive.

Returns

true if success, false otherwise.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'aggiunta di file;
- non e possibile aprire il file d'origine;
- non e possibile creare il file all'interno dell'oggetto zip;
- si e rilevato un errore nella copia dei dati;
- non e stato possibile chiudere il file all'interno dell'oggetto zip;

Definition at line 53 of file JlCompress.cpp.

References QuaZipFile::close(), copyData(), QuaZip::getMode(), QuaZipFile::getZipError(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, QuaZipFile::open(), and UNZ_OK.

Referenced by compressFile(), compressFiles(), and compressSubDir().

```
                                                                    {
    // zip: oggetto dove aggiungere il file
    // fileName: nome del file reale
    // fileDest: nome del file all'interno del file compresso

    // Controllo l'apertura dello zip
    if (!zip) return false;
    if (zip->getMode()!=QuaZip::mdCreate &&
        zip->getMode()!=QuaZip::mdAppend &&
        zip->getMode()!=QuaZip::mdAdd) return false;

    // Apro il file originale
    QFile inFile;
    inFile.setFileName(fileName);
    if(!inFile.open(QIODevice::ReadOnly)) return false;

    // Apro il file risulato
    QuaZipFile outFile(zip);
    if(!outFile.open(QIODevice::WriteOnly, QuaZipNewInfo(fileDest, inFile.fileName()))) return
    false;

    // Copio i dati
    if (!copyData(inFile, outFile) || outFile.getZipError()!=UNZ_OK) {
        return false;
    }

    // Chiudo i file
    outFile.close();
    if (outFile.getZipError()!=UNZ_OK) return false;
    inFile.close();

    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.21.2.3 bool JICompress::compressFile (QString *fileCompressed*, QString *file*) [static]

OK Comprime il file fileName nel file fileCompressed.

Parameters

fileCompressed	The name of the archive.
file	The file to compress.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la compressione del file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 263 of file JICompress.cpp.

References QuaZip::close(), compressFile(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
263                                                                 {
264     // Creo lo zip
265     QuaZip zip(fileCompressed);
266     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
267     if(!zip.open(QuaZip::mdCreate)) {
268         QFile::remove(fileCompressed);
269         return false;
270     }
271
272     // Aggiungo il file
273     if (!compressFile(&zip,file,QFileInfo(file).fileName())) {
274         QFile::remove(fileCompressed);
275         return false;
276     }
277
278     // Chiudo il file zip
279     zip.close();
280     if(zip.getZipError()!=0) {
281         QFile::remove(fileCompressed);
282         return false;
283     }
284
285     return true;
286 }
```

Here is the call graph for this function:

12.21.2.4 bool JlCompress::compressFiles (QString *fileCompressed*, QStringList *files*) [static]

OK Comprime i file specificati in files nel file fileCompressed.

Parameters

fileCompressed	The name of the archive.
files	The file list to compress.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 298 of file JICompress.cpp.

References QuaZip::close(), compressFile(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
298                                                                                 {
299     // Creo lo zip
300     QuaZip zip(fileCompressed);
301     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
302     if(!zip.open(QuaZip::mdCreate)) {
303         QFile::remove(fileCompressed);
304         return false;
305     }
306
307     // Comprimo i file
308     QFileInfo info;
309     Q_FOREACH (QString file, files) {
310         info.setFile(file);
311         if (!info.exists() || !compressFile(&zip,file,info.fileName())) {
312             QFile::remove(fileCompressed);
313             return false;
314         }
315     }
316
317     // Chiudo il file zip
318     zip.close();
319     if(zip.getZipError()!=0) {
320         QFile::remove(fileCompressed);
321         return false;
322     }
323
324     return true;
325 }
```

Here is the call graph for this function:

12.21.2.5 bool JlCompress::compressSubDir (QuaZip * *zip,* QString *dir,* QString *origDir,* bool *recursive* = `true`) [static],[private]

OK Comprime la cartella dir nel file fileCompressed, se recursive e true allora comprime anche le sotto cartelle.

Parameters

parentZip	Opened zip containing the parent directory.
dir	The full path to the directory to pack.
parentDir	The full path to the directory corresponding to the root of the ZIP.
recursive	Whether to pack sub-directories as well or only files.

Returns

true if success, false otherwise.

I nomi dei file preceduti dal path creato togliendo il pat della cartella origDir al path della cartella dir. Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'aggiunta di file;
- la cartella dir non esiste;
- la compressione di una sotto cartella fallisce (1);
- la compressione di un file fallisce; (1) La funzione si richiama in maniera ricorsiva per comprimere le sotto cartelle dunque gli errori di compressione di una sotto cartella sono gli stessi di questa funzione.

Definition at line 103 of file JlCompress.cpp.

References QuaZipFile::close(), compressFile(), QuaZip::getMode(), QuaZip::getZipName(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, and QuaZipFile::open().

Referenced by compressDir().

```
103                                                                                                    {
104     // zip: oggetto dove aggiungere il file
105     // dir: cartella reale corrente
106     // origDir: cartella reale originale
107     // (path(dir)-path(origDir)) = path interno all'oggetto zip
108
109     // Controllo l'apertura dello zip
110     if (!zip) return false;
111     if (zip->getMode()!=QuaZip::mdCreate &&
112         zip->getMode()!=QuaZip::mdAppend &&
113         zip->getMode()!=QuaZip::mdAdd) return false;
114
115     // Controllo la cartella
116     QDir directory(dir);
117     if (!directory.exists()) return false;
118
119     QDir origDirectory(origDir);
120     if (dir != origDir) {
121         QuaZipFile dirZipFile(zip);
122         if (!dirZipFile.open(QIODevice::WriteOnly,
123             QuaZipNewInfo(origDirectory.relativeFilePath(dir) + "/", dir), 0, 0, 0)) {
124                 return false;
125         }
126         dirZipFile.close();
127     }
128
129
130     // Se comprimo anche le sotto cartelle
131     if (recursive) {
132         // Per ogni sotto cartella
133         QFileInfoList files = directory.entryInfoList(QDir::AllDirs|QDir::NoDotAndDotDot);
134         Q_FOREACH (QFileInfo file, files) {
135             // Comprimo la sotto cartella
136             if(!compressSubDir(zip,file.absoluteFilePath(),origDir,recursive)) return false;
137         }
138     }
139
140     // Per ogni file nella cartella
141     QFileInfoList files = directory.entryInfoList(QDir::Files);
142     Q_FOREACH (QFileInfo file, files) {
143         // Se non e un file o e il file compresso che sto creando
```

```
        if(!file.isFile()||file.absoluteFilePath()==zip->getZipName()) continue;

        // Creo il nome relativo da usare all'interno del file compresso
        QString filename = origDirectory.relativeFilePath(file.absoluteFilePath());

        // Comprimo il file
        if (!compressFile(zip,file.absoluteFilePath(),filename)) return false;
    }

    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.21.2.6 QStringList JICompress::extractDir (QString *fileCompressed*, QString *dir* = `QString()`) [static]

OK Estrae il file fileCompressed nella cartella dir.

Parameters

fileCompressed	The name of the archive.
dir	The directory to extract to, the current directory if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

Se dir = "" allora il file viene estratto nella cartella corrente. Se la funzione fallisce cancella i file che si e tentato di estrarre. Restituisce i nomi assoluti dei file estratti.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 451 of file JlCompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getCurrentFileName(), QuaZip::getZipError(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
                                                                    {
    // Apro lo zip
    QuaZip zip(fileCompressed);
    if(!zip.open(QuaZip::mdUnzip)) {
        return QStringList();
    }

    QDir directory(dir);
    QStringList extracted;
    if (!zip.goToFirstFile()) {
        return QStringList();
    }
    do {
        QString name = zip.getCurrentFileName();
        QString absFilePath = directory.absoluteFilePath(name);
        if (!extractFile(&zip, "", absFilePath)) {
            removeFile(extracted);
            return QStringList();
        }
        extracted.append(absFilePath);
    } while (zip.goToNextFile());

    // Chiudo il file zip
    zip.close();
    if(zip.getZipError()!=0) {
        removeFile(extracted);
        return QStringList();
    }

    return extracted;
}
```

Here is the call graph for this function:

12.21.2.7 bool JlCompress::extractFile (QuaZip * *zip*, QString *fileName*, QString *fileDest*) [static],[private]

OK Estrae il file fileName, contenuto nell'oggetto zip, con il nome fileDest.

Parameters

zip	The opened zip archive to extract from.
fileName	The full name of the file to extract.
fileDest	The full path to the destination file.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di estrarre.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'estrazione di file;
- non e possibile aprire il file all'interno dell'oggetto zip;
- non e possibile creare il file estratto;
- si e rilevato un errore nella copia dei dati (1);
- non e stato possibile chiudere il file all'interno dell'oggetto zip (1);

(1): prima di uscire dalla funzione cancella il file estratto.

Definition at line 170 of file JlCompress.cpp.

References QuaZipFile::close(), copyData(), QuaZip::getCurrentFileInfo(), QuaZip::getMode(), QuaZipFileInfo64::getPermissions(), QuaZipFile::getZipError(), QuaZip::mdUnzip, QuaZipFile::open(), removeFile(), QuaZip::setCurrentFile(), and UNZ_OK.

Referenced by extractDir(), extractFile(), and extractFiles().

```
170                                                                                 {
171     // zip: oggetto dove aggiungere il file
172     // filename: nome del file reale
173     // fileincompress: nome del file all'interno del file compresso
174
175     // Controllo l'apertura dello zip
176     if (!zip) return false;
177     if (zip->getMode()!=QuaZip::mdUnzip) return false;
178
179     // Apro il file compresso
180     if (!fileName.isEmpty())
181         zip->setCurrentFile(fileName);
182     QuaZipFile inFile(zip);
183     if(!inFile.open(QIODevice::ReadOnly) || inFile.getZipError()!=UNZ_OK) return false;
184
185     // Controllo esistenza cartella file risultato
186     QDir curDir;
187     if (fileDest.endsWith('/')) {
188         if (!curDir.mkpath(fileDest)) {
189             return false;
190         }
191     } else {
192         if (!curDir.mkpath(QFileInfo(fileDest).absolutePath())) {
193             return false;
194         }
195     }
196
197     QuaZipFileInfo64 info;
198     if (!zip->getCurrentFileInfo(&info))
199         return false;
200
201     QFile::Permissions srcPerm = info.getPermissions();
202     if (fileDest.endsWith('/') && QFileInfo(fileDest).isDir()) {
203         if (srcPerm != 0) {
```

```
            QFile(fileDest).setPermissions(srcPerm);
        }
        return true;
    }

    // Apro il file risultato
    QFile outFile;
    outFile.setFileName(fileDest);
    if(!outFile.open(QIODevice::WriteOnly)) return false;

    // Copio i dati
    if (!copyData(inFile, outFile) || inFile.getZipError()!=UNZ_OK) {
        outFile.close();
        removeFile(QStringList(fileDest));
        return false;
    }
    outFile.close();

    // Chiudo i file
    inFile.close();
    if (inFile.getZipError()!=UNZ_OK) {
        removeFile(QStringList(fileDest));
        return false;
    }

    if (srcPerm != 0) {
        outFile.setPermissions(srcPerm);
    }
    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.21.2.8 QString JlCompress::extractFile (QString *fileCompressed*, QString *fileName*, QString *fileDest* = `QString()`) `[static]`

OK Estrae il file fileName, contenuto nel file fileCompressed, con il nome fileDest.

Parameters

fileCompressed	The name of the archive.
fileName	The file to extract.
fileDest	The destination file, assumed to be identical to *file* if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

Se fileDest = "" allora il file viene estratto con lo stesso nome con cui e stato compresso. Se la funzione fallisce cancella il file che si e tentato di estrarre. Restituisce il nome assoluto del file estratto.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- l'estrazione del file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 377 of file JlCompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getZipError(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
377                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
378     // Apro lo zip
379     QuaZip zip(fileCompressed);
380     if(!zip.open(QuaZip::mdUnzip)) {
381         return QString();
382     }
383
384     // Estraggo il file
385     if (fileDest.isEmpty())
386         fileDest = fileName;
387     if (!extractFile(&zip,fileName,fileDest)) {
388         return QString();
389     }
390
391     // Chiudo il file zip
392     zip.close();
393     if(zip.getZipError()!=0) {
394         removeFile(QStringList(fileDest));
395         return QString();
396     }
397     return QFileInfo(fileDest).absoluteFilePath();
398 }
```

Here is the call graph for this function:

12.21.2.9 QStringList JICompress::extractFiles (QString *fileCompressed*, QStringList *files*, QString *dir* = `QString()`) `[static]`

OK Estrae i file specificati in files, contenuti nel file fileCompressed, nella cartella dir.

Parameters

fileCompressed	The name of the archive.
files	The file list to extract.
dir	The directory to put the files to, the current directory if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

La struttura a cartelle del file compresso viene rispettata. Se dir = "" allora il file viene estratto nella cartella corrente. Se la funzione fallisce cancella i file che si e tentato di estrarre. Restituisce i nomi assoluti dei file estratti.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- l'estrazione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 412 of file JICompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getZipError(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
                                                                                                                    {
    // Creo lo zip
    QuaZip zip(fileCompressed);
    if(!zip.open(QuaZip::mdUnzip)) {
        return QStringList();
    }

    // Estraggo i file
    QStringList extracted;
    for (int i=0; i<files.count(); i++) {
        QString absPath = QDir(dir).absoluteFilePath(files.at(i));
        if (!extractFile(&zip, files.at(i), absPath)) {
            removeFile(extracted);
            return QStringList();
        }
        extracted.append(absPath);
    }

    // Chiudo il file zip
    zip.close();
    if(zip.getZipError()!=0) {
        removeFile(extracted);
        return QStringList();
    }

    return extracted;
}
```

Here is the call graph for this function:

12.21.2.10 QStringList JlCompress::getFileList (QString *fileCompressed*) [static]

OK Restituisce la lista dei file resenti nel file compresso fileCompressed.

Returns

The list of the files in the archive, or, more precisely, the list of the entries, including both files and directories if they are present separately.

Se la funzione fallisce, restituisce un elenco vuoto.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la richiesta di informazioni di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 492 of file JICompress.cpp.

References QuaZip::close(), QuaZip::getCurrentFileInfo(), QuaZip::getZipError(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::mdUnzip, QuaZipFileInfo64::name, and QuaZip::open().

```
492                                                         {
493     // Apro lo zip
494     QuaZip* zip = new QuaZip(QFileInfo(fileCompressed).absoluteFilePath());
495     if(!zip->open(QuaZip::mdUnzip)) {
496         delete zip;
497         return QStringList();
498     }
499
500     // Estraggo i nomi dei file
501     QStringList lst;
502     QuaZipFileInfo64 info;
503     for(bool more=zip->goToFirstFile(); more; more=zip->
      goToNextFile()) {
504       if(!zip->getCurrentFileInfo(&info)) {
505           delete zip;
506           return QStringList();
507       }
508       lst << info.name;
509       //info.name.toLocal8Bit().constData()
510     }
511
512     // Chiudo il file zip
513     zip->close();
514     if(zip->getZipError()!=0) {
515         delete zip;
516         return QStringList();
517     }
518     delete zip;
519
520     return lst;
521 }
```

Here is the call graph for this function:

12.21.2.11 bool JlCompress::removeFile (QStringList *listFile*) [static],[private]

Rimuove i file il cui nome e specificato all'interno di listFile.

Parameters

listFile	The list of files to remove.

Returns

true if success, false otherwise.

Restituisce true se tutti i file sono stati cancellati correttamente, attenzione perche puo restituire false anche se alcuni file non esistevano e si e tentato di cancellarli.

Definition at line 241 of file JlCompress.cpp.

Referenced by extractDir(), extractFile(), and extractFiles().

```
241                                                 {
242     bool ret = true;
243     // Per ogni file
244     for (int i=0; i<listFile.count(); i++) {
245         // Lo elimino
246         ret = ret && QFile::remove(listFile.at(i));
247     }
248     return ret;
249 }
```

Here is the caller graph for this function:

The documentation for this class was generated from the following files:

- src/ckb/quazip/JlCompress.h
- src/ckb/quazip/JlCompress.cpp

12.22 Kb Class Reference

```
#include <src/ckb/kb.h>
```

Inheritance diagram for Kb:

Collaboration diagram for Kb:

Public Slots

- void frameUpdate ()
- void autoSave ()

Signals

- void infoUpdated ()
- void profileAdded ()
- void profileRenamed ()
- void modeRenamed ()
- void profileChanged ()
- void modeChanged (bool spontaneous)
- void fwUpdateProgress (int current, int total)
- void fwUpdateFinished (bool succeeded)

Public Member Functions

- KeyMap::Model model () const
- bool isKeyboard () const
- bool isMouse () const
- KbProfile ∗ hwProfile ()
- void hwProfile (KbProfile ∗newHwProfile)
- void fwUpdate (const QString &path)
- KbProfile ∗ currentProfile ()
- const QList< KbProfile ∗ > & profiles () const
- void profiles (const QList< KbProfile ∗ > &newProfiles)
- void appendProfile (KbProfile ∗newProfile)
- int indexOf (KbProfile ∗profile)
- KbProfile ∗ find (const QUuid &id)
- KbMode ∗ currentMode ()

- KbLight * currentLight ()
- KbBind * currentBind ()
- KbPerf * currentPerf ()
- void setCurrentProfile (KbProfile *profile, bool spontaneous=true)
- void setCurrentMode (KbProfile *profile, KbMode *mode, bool spontaneous=true)
- void setCurrentMode (KbProfile *profile, int index, bool spontaneous=true)
- void setCurrentMode (KbMode *mode, bool spontaneous=true)
- KbProfile * newProfile ()
- KbProfile * newProfile (KbProfile *other)
- KbMode * newMode ()
- KbMode * newMode (KbMode *other)
- void load ()
- void save ()
- bool needsSave () const
- void hwSave ()
- int getMacroNumber ()

  For usage with macro definions, these two params must only be readable. So there are no setters.
- QString getMacroPath ()

  getMacroPath returns the macroPath (e.g. /dev/input/ckb1/notify), which we have saved in the constructor. For usage with macro definions, this param must only be readable. So there is no setter.
- ~Kb ()

Static Public Member Functions

- static int frameRate ()
- static void frameRate (int newFrameRate)
- static KeyMap::Layout layout ()
- static void layout (KeyMap::Layout newLayout)
- static bool dither ()
- static void dither (bool newDither)
- static bool macroDelay ()
- static void macroDelay (bool flag)

  Kb::macroDelay handles the UI-Element macroBox. Sends a command to the keyboard to switch on or off the delay function on very large macros.
- static bool mouseAccel ()
- static void mouseAccel (bool newAccel)
- static int scrollSpeed ()
- static void scrollSpeed (int newSpeed)

Data Fields

- QString usbModel
- QString usbSerial
- QString features
- QString firmware
- QString pollrate
- bool monochrome
- int hwModeCount

Static Public Attributes

- static const int HWMODE_MAX = 3

Private Slots

- void readNotify (QString line)
- void deleteHw ()
- void deletePrevious ()

Private Member Functions

- Kb (QObject *parent, const QString &path)
- bool isOpen () const
- bool matches (const QString &path, const QString &serial)
- void updateLayout ()
- void writeProfileHeader ()
- KeyMap getKeyMap ()
- void run ()

Private Attributes

- QString devpath

  pathVars devpath is the device root path (e.g. /dev/device/ckb1), cmdpath leads to the daemon input pipe for daemon commands, notifyPath is the standard input monitor for general purpose, macroPath added for a second thread to read macro input.
- QString cmdpath
- QString notifyPath
- QString macroPath
- KbProfile * _currentProfile
- QList< KbProfile * > _profiles
- KbMode * _currentMode
- KeyMap::Model _model
- bool iState [KbPerf::HW_I_COUNT]
- QString prefsPath
- quint64 lastAutoSave
- QString fwUpdPath
- KbProfile * _hwProfile
- KbProfile * prevProfile
- KbMode * prevMode
- QFile cmd
- int notifyNumber

  notifyNumber is the trailing number in the device path.
- int macroNumber
- bool _needsSave
- bool hwLoading [HWMODE_MAX+1]

Static Private Attributes

- static KeyMap::Layout _layout = KeyMap::NO_LAYOUT
- static int _frameRate = 30
- static int _scrollSpeed = 0
- static bool _dither = false
- static bool _mouseAccel = true
- static bool _delay = false

Friends

- class KbManager

12.22.1 Detailed Description

Definition at line 11 of file kb.h.

12.22.2 Constructor & Destructor Documentation

12.22.2.1 Kb::~Kb ( )

<

Todo I don't think, that notifypaths is used somewhere. So why do we have it? If we do not need it, searching for an ununsed notify channel can easy be refactored to a private member function.

Definition at line 141 of file kb.cpp.

References activeDevices, isOpen(), macroPath, notifyNumber, notifyPaths, and save().

```
141         {
142     // Save settings first
143     save();
144
145     // remove the notify channel from the list of notifyPaths.
148     notifyPaths.remove(macroPath);
149
150     // Kill notification thread and remove node
151     activeDevices.remove(this);
152     if(!isOpen()){
153         terminate();
154         wait(1000);
155         return;
156     }
157     if(notifyNumber > 0)
158         cmd.write(QString("idle\nnotifyoff %1\n").arg(notifyNumber).toLatin1());
159     cmd.flush();
160     terminate();
161     wait(1000);
162     cmd.close();
163 }
```

Here is the call graph for this function:

12.22.2.2 Kb::Kb (QObject * *parent*, const QString & *path*) [private]

<

Todo Is adding notify2 to the notifypaths neccessary?

Definition at line 19 of file kb.cpp.

References _delay, _dither, _frameRate, _layout, _mouseAccel, _scrollSpeed, activeDevices, cmdpath, features, firmware, KeyMap::getModel(), hwLoading, hwModeCount, infoUpdated(), KeyMap::isISO(), iState, KeyMap::K95, macroNumber, macroPath, monochrome, KeyMap::NO_MODEL, notifyNumber, notifyPath, notifyPathMutex, notifyPaths, pollrate, prefsPath, usbModel, and usbSerial.

```
19                                          :
20     QThread(parent), features("N/A"), firmware("N/A"),
      pollrate("N/A"), monochrome(false),
21     devpath(path), cmdpath(path + "/cmd"), notifyPath(path + "/notify1"),
      macroPath(path + "/notify2"),
22     _currentProfile(0), _currentMode(0), _model(
      KeyMap::NO_MODEL),
23     lastAutoSave(QDateTime::currentMSecsSinceEpoch()),
24     _hwProfile(0), prevProfile(0), prevMode(0),
25     cmd(cmdpath), notifyNumber(1), macroNumber(2),
      _needsSave(false)
26 {
27     memset(iState, 0, sizeof(iState));
28     memset(hwLoading, 0, sizeof(hwLoading));
29
30     // Get the features, model, serial number, FW version (if available), and poll rate (if available) from
       /dev nodes
31     QFile ftpath(path + "/features"), mpath(path + "/model"), spath(path + "/serial"), fwpath(path + "
      /fwversion"), ppath(path + "/pollrate");
32     if(ftpath.open(QIODevice::ReadOnly)){
33         features = ftpath.read(1000);
34         features = features.trimmed();
35         ftpath.close();
36         // Read model from features (first word: vendor, second word: product)
37         QStringList list = features.split(" ");
38         if(list.length() < 2)
39             return;
40         _model = KeyMap::getModel(list[1]);
41         if(_model == KeyMap::NO_MODEL)
42             return;
43     } else
44         // Bail if features aren't readable
45         return;
46     if(features.contains("monochrome"))
47         monochrome = true;
48     if(mpath.open(QIODevice::ReadOnly)){
49         usbModel = mpath.read(100);
50         usbModel = usbModel.remove("Corsair").remove("Gaming").remove("Keyboard").remove("
      Mouse").remove("Bootloader").trimmed();
51         mpath.close();
52     }
53     if(usbModel == "")
54         usbModel = "Keyboard";
55     if(spath.open(QIODevice::ReadOnly)){
56         usbSerial = spath.read(100);
57         usbSerial = usbSerial.trimmed().toUpper();
58         spath.close();
59     }
60     if(usbSerial == "")
61         usbSerial = "Unknown-" + usbModel;
62     if(features.contains("fwversion") && fwpath.open(QIODevice::ReadOnly)){
63         firmware = fwpath.read(100);
64         firmware = QString::number(firmware.trimmed().toInt() / 100., 'f', 2);
65         fwpath.close();
66     }
67     if(features.contains("pollrate") && ppath.open(QIODevice::ReadOnly)){
68         pollrate = ppath.read(100);
69         pollrate = pollrate.trimmed();
70         ppath.close();
71     }
72
73     prefsPath = "Devices/" + usbSerial;
74
75     hwModeCount = (_model == KeyMap::K95) ? 3 : 1;
76     // Open cmd in non-blocking mode so that it doesn't lock up if nothing is reading
77     // (e.g. if the daemon crashed and didn't clean up the node)
78     int fd = open(cmdpath.toLatin1().constData(), O_WRONLY | O_NONBLOCK);
79     if(!cmd.open(fd, QIODevice::WriteOnly, QFileDevice::AutoCloseHandle))
80         return;
```

```

    // Find an available notification node (if none is found, take notify1)
    {
        QMutexLocker locker(&notifyPathMutex);
        for(int i = 1; i < 10; i++){
            QString notify = QString(path + "/notify%1").arg(i);
            if(!QFile::exists(notify) && !notifyPaths.contains(notify)){
                notifyNumber = i;
                notifyPath = notify;
                break;
            }
        }
        notifyPaths.insert(notifyPath);
    }
    cmd.write(QString("notifyon %1\n").arg(notifyNumber).toLatin1());
    cmd.flush();

    // Again, find an available notification node for macro definition
    // (if none is found, take notify2)
    {
        QMutexLocker locker(&notifyPathMutex);
        for(int i = 1; i < 10; i++){
            QString notify = QString(path + "/notify%1").arg(i);
            if(!QFile::exists(notify) && !notifyPaths.contains(notify)){
                macroNumber = i;
                macroPath = notify;
                break;
            }
        }
        notifyPaths.insert(notifyPath);
    }
    // Activate device, apply settings, and ask for hardware profile
    cmd.write(QString("fps %1\n").arg(_frameRate).toLatin1());
    cmd.write(QString("dither %1\n").arg(static_cast<int>(_dither)).toLatin1());
    cmd.write(QString("\ndelay %1\n").arg(_delay? "on" : "off").toLatin1());
#ifdef Q_OS_MACX
    // Write ANSI/ISO flag to daemon (OSX only)
    cmd.write("layout ");
    cmd.write(KeyMap::isISO(_layout) ? "iso" : "ansi");
    // Also OSX only: scroll speed and mouse acceleration
    cmd.write(QString("accel %1\n").arg(QString(_mouseAccel ? "on" : "off")).toLatin1());
    cmd.write(QString("scrollspeed %1\n").arg(_scrollSpeed).toLatin1());
#endif
    cmd.write(QString("\nactive\n@%1 get :hwprofileid").arg(notifyNumber).toLatin1());
    hwLoading[0] = true;
    for(int i = 0; i < hwModeCount; i++){
        cmd.write(QString(" mode %1 get :hwid").arg(i + 1).toLatin1());
        hwLoading[i + 1] = true;
    }
    // Ask for current indicator and key state
    cmd.write(" get :i :keys\n");
    cmd.flush();

    emit infoUpdated();
    activeDevices.insert(this);

    // Start a separate thread to read from the notification node
    start();
}
```

Here is the call graph for this function:

12.22.3 Member Function Documentation

12.22.3.1 void Kb::appendProfile (KbProfile * *newProfile*) [inline]

Definition at line 60 of file kb.h.

References _needsSave, and _profiles.

Referenced by KbProfileDialog::on_profileList_itemClicked().

```
60 { _needsSave = true; _profiles.append(newProfile); }
```

Here is the caller graph for this function:

12.22.3.2 void Kb::autoSave ( ) [slot]

Definition at line 289 of file kb.cpp.

References CkbSettings::isBusy(), lastAutoSave, needsSave(), and save().

```
289                 {
290     quint64 now = QDateTime::currentMSecsSinceEpoch();
291     if(needsSave() && now >= lastAutoSave + 15 * 1000 && !
      CkbSettings::isBusy()){
292         save();
293         lastAutoSave = now;
294     }
295 }
```

Here is the call graph for this function:

12.22.3.3 KbBind* Kb::currentBind ( ) [inline]

Definition at line 67 of file kb.h.

References _currentMode, and KbMode::bind().

Referenced by KbWidget::modeChanged().

```
67 { return !_currentMode ? 0 : _currentMode->bind(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.4 KbLight* Kb::currentLight ( ) [inline]

Definition at line 66 of file kb.h.

References _currentMode, and KbMode::light().

Referenced by KbWidget::modeChanged().

```
66 { return !_currentMode ? 0 : _currentMode->light(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.5 KbMode* Kb::currentMode ( ) [inline]

Definition at line 65 of file kb.h.

References _currentMode.

Referenced by KbWidget::modeChanged().

```
65 { return _currentMode; }
```

Here is the caller graph for this function:

12.22.3.6 KbPerf* Kb::currentPerf ( ) [inline]

Definition at line 68 of file kb.h.

References _currentMode, and KbMode::perf().

Referenced by KbWidget::modeChanged().

```
68 { return !_currentMode ? 0 : _currentMode->perf(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.7 KbProfile* Kb::currentProfile ( ) [inline]

Definition at line 56 of file kb.h.

References _currentProfile.

Referenced by KeyAction::keyEvent(), KbWidget::modeChanged(), KbWidget::modeIcon(), KbWidget::modesList_reordered(), KbWidget::on_modesList_currentItemChanged(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbWidget::profileChanged(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
56 { return _currentProfile; }
```

Here is the caller graph for this function:

12.22.3.8 void Kb::deleteHw ( ) [private],[slot]

Definition at line 441 of file kb.cpp.

References _hwProfile.

Referenced by hwProfile().

```
441                 {
442     disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
443     _hwProfile = 0;
444 }
```

Here is the caller graph for this function:

12.22.3.9 void Kb::deletePrevious ( ) [private],[slot]

Definition at line 426 of file kb.cpp.

References prevMode.

Referenced by frameUpdate(), and hwSave().

```
426                         {
427     disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
428     prevMode = 0;
429 }
```

Here is the caller graph for this function:

12.22.3.10 static bool Kb::dither ( ) [inline],[static]

Definition at line 33 of file kb.h.

References _dither.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_ditherBox_clicked().

```
33 { return _dither; }
```

Here is the caller graph for this function:

12.22.3.11 void Kb::dither (bool *newDither*) [static]

Definition at line 204 of file kb.cpp.

References _dither, activeDevices, and cmd.

```
204                                 {
205     if(newDither == _dither)
206         return;
207     _dither = newDither;
208     // Update all devices
209     foreach(Kb* kb, activeDevices){
210         kb->cmd.write(QString("dither %1\n").arg(static_cast<int>(newDither)).toLatin1());
211         kb->cmd.flush();
212     }
213 }
```

12.22.3.12 KbProfile* Kb::find (const QUuid & *id*) [inline]

Definition at line 62 of file kb.h.

References _profiles, UsbId::guid, and KbProfile::id().

Referenced by KbProfileDialog::on_profileList_currentItemChanged(), KbProfileDialog::on_profileList_customContextMenuRequested(), and KbProfileDialog::profileList_reordered().

```
62 { foreach(KbProfile* profile, _profiles) { if(profile->id().
      guid == id) return profile; } return 0; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.13 static int Kb::frameRate ( ) [inline], [static]

Definition at line 27 of file kb.h.

References _frameRate.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_fpsBox_valueChanged().

```
27 { return _frameRate; }
```

Here is the caller graph for this function:

12.22.3.14 void Kb::frameRate (int *newFrameRate*) [static]

Definition at line 165 of file kb.cpp.

References _frameRate, activeDevices, cmd, and KbManager::fps().

```
165                                 {
166     KbManager::fps(newFrameRate);
167     // If the rate has changed, send to all devices
168     if(newFrameRate == _frameRate)
169         return;
170     _frameRate = newFrameRate;
171     foreach(Kb* kb, activeDevices){
172         kb->cmd.write(QString("fps %1\n").arg(newFrameRate).toLatin1());
173         kb->cmd.flush();
174     }
175 }
```

Here is the call graph for this function:

12.22.3.15 void Kb::frameUpdate ( ) [slot]

Definition at line 375 of file kb.cpp.

References _currentMode, _currentProfile, KbPerf::applyIndicators(), KbMode::bind(), KbLight::close(), deletePrevious(), KbLight::frameUpdate(), KbProfile::indexOf(), KbLight::isStarted(), iState, KbMode::light(), monochrome, notifyNumber, KbLight::open(), KbMode::perf(), prevMode, prevProfile, KbBind::update(), KbPerf::update(), and writeProfileHeader().

```
375                     {
376     // Advance animation frame
377     if(!_currentMode)
378         return;
379     KbLight* light = _currentMode->light();
380     KbBind* bind = _currentMode->bind();
381     KbPerf* perf = _currentMode->perf();
382     if(!light->isStarted()){
383         // Don't do anything until the animations are started
384         light->open();
385         return;
386     }
387
388     // Stop animations on the previously active mode (if any)
389     bool changed = false;
390     if(prevMode != _currentMode){
391         if(prevMode){
392             prevMode->light()->close();
393             disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(
      deletePrevious()));
394         }
395         prevMode = _currentMode;
396         connect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
397         changed = true;
398     }
399
400     // If the profile has changed, update it
401     if(prevProfile != _currentProfile){
402         writeProfileHeader();
403         cmd.write(" ");
404         prevProfile = _currentProfile;
405     }
406
407     // Update current mode
408     int index = _currentProfile->indexOf(_currentMode);
409     // ckb-daemon only has 6 modes: 3 hardware, 3 non-hardware. Beyond mode six, switch back to four.
410     // e.g. 1, 2, 3, 4, 5, 6, 4, 5, 6, 4, 5, 6 ...
411     if(index >= 6)
412         index = 3 + index % 3;
413
414     // Send lighting/binding to driver
415     cmd.write(QString("mode %1 switch ").arg(index + 1).toLatin1());
416     perf->applyIndicators(index, iState);
417     light->frameUpdate(cmd, monochrome);
418     cmd.write(QString("\n@%1 ").arg(notifyNumber).toLatin1());
419     bind->update(cmd, changed);
420     cmd.write(" ");
421     perf->update(cmd, notifyNumber, changed, true);
422     cmd.write("\n");
423     cmd.flush();
424 }
```

Here is the call graph for this function:

12.22.3.16 void Kb::fwUpdate (const QString & *path*)

Definition at line 365 of file kb.cpp.

References fwUpdPath, and notifyNumber.

Referenced by FwUpgradeDialog::on_actionButton_clicked().

```
365                                     {
366     fwUpdPath = path;
367     // Write the active command to ensure it's not ignored
368     cmd.write("active");
369     cmd.write(QString(" @%1 ").arg(notifyNumber).toLatin1());
370     cmd.write("fwupdate ");
371     cmd.write(path.toLatin1());
372     cmd.write("\n");
373 }
```

Here is the caller graph for this function:

12.22.3.17 void Kb::fwUpdateFinished (bool *succeeded*) [signal]

Definition at line 277 of file moc_kb.cpp.

Referenced by readNotify().

```
278 {
279     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
280     QMetaObject::activate(this, &staticMetaObject, 7, _a);
281 }
```

Here is the caller graph for this function:

12.22.3.18 void Kb::fwUpdateProgress (int *current*, int *total*) [signal]

Definition at line 270 of file moc_kb.cpp.

Referenced by readNotify().

```
271 {
272     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
      reinterpret_cast<const void*>(&_t2)) };
273     QMetaObject::activate(this, &staticMetaObject, 6, _a);
274 }
```

Here is the caller graph for this function:

12.22.3.19 KeyMap Kb::getKeyMap ( ) [private]

Definition at line 756 of file kb.cpp.

References _layout.

Referenced by hwSave(), load(), newMode(), newProfile(), readNotify(), setCurrentProfile(), and updateLayout().

```
756                     {
757     return KeyMap(_model, _layout);
758 }
```

Here is the caller graph for this function:

12.22.3.20 int Kb::getMacroNumber ( ) [inline]

getMacroNumber returns the macroNumber, which we have saved in the constructor. For usage with macro definions, this param must only be readable. So there is no setter.

Returns

The Number is returned as int.

Definition at line 97 of file kb.h.

References macroNumber.

Referenced by KbBind::getMacroNumber().

```
97 { return macroNumber; }
```

Here is the caller graph for this function:

12.22.3.21 QString Kb::getMacroPath ( ) [inline]

Returns

The absolute path as String

Definition at line 106 of file kb.h.

References macroPath.

Referenced by KbBind::getMacroPath().

```
106 { return macroPath; }
```

Here is the caller graph for this function:

12.22.3.22 KbProfile* Kb::hwProfile ( ) [inline]

Definition at line 46 of file kb.h.

References _hwProfile.

Referenced by hwSave(), KbWidget::modeIcon(), KbProfileDialog::on_profileList_customContextMenuRequested(), readNotify(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
46 { return _hwProfile; }
```

Here is the caller graph for this function:

12.22.3.23 void Kb::hwProfile (KbProfile * *newHwProfile*)

Definition at line 431 of file kb.cpp.

References _hwProfile, and deleteHw().

```
{
    if(_hwProfile == newHwProfile)
        return;
    if(_hwProfile)
        disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
    _hwProfile = newHwProfile;
    if(_hwProfile)
        connect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
}
```

Here is the call graph for this function:

12.22.3.24 void Kb::hwSave ( )

Definition at line 297 of file kb.cpp.

References _currentMode, _currentProfile, _hwProfile, KbProfile::append(), KbLight::base(), KbLight::close(), deletePrevious(), getKeyMap(), UsbId::guidString(), hwModeCount, UsbId::hwModified, hwProfile(), KbProfile::id(), KbMode::id(), KbMode::light(), KbProfile::modeCount(), KbProfile::modes(), UsbId::modified, UsbId::modifiedString(), monochrome, KbMode::name(), notifyNumber, KbMode::perf(), prevMode, KbProfile::setNeedsSave(), KbMode::setNeedsSave(), KbPerf::update(), and writeProfileHeader().

Referenced by KbWidget::on_hwSaveButton_clicked(), and KbProfileDialog::on_profileList_customContextMenuRequested().

```
{
    if(!_currentProfile)
        return;
    // Close active lighting (if any)
    if(prevMode){
        prevMode->light()->close();
        deletePrevious();
    }
    hwProfile(_currentProfile);
    _hwProfile->id().hwModified = _hwProfile->id().modified;
    _hwProfile->setNeedsSave();
    // Re-send the current profile from scratch to ensure consistency
    writeProfileHeader();
    // Make sure there are enough modes
    while(_currentProfile->modeCount() < hwModeCount)
        _currentProfile->append(new KbMode(this, getKeyMap()));
    // Write only the base colors of each mode, no animations
    for(int i = 0; i < hwModeCount; i++){
        KbMode* mode = _currentProfile->modes()[i];
        cmd.write(QString("\nmode %1").arg(i + 1).toLatin1());
        KbLight* light = mode->light();
        KbPerf* perf = mode->perf();
        if(mode == _currentMode)
            cmd.write(" switch");
        // Write the mode name and ID
        cmd.write(" name ");
        cmd.write(QUrl::toPercentEncoding(mode->name()));
        cmd.write(" id ");
        cmd.write(mode->id().guidString().toLatin1());
        cmd.write(" ");
        cmd.write(mode->id().modifiedString().toLatin1());
        cmd.write(" ");
        // Write lighting and performance
        light->base(cmd, true, monochrome);
```

```
        cmd.write(" ");
        perf->update(cmd, notifyNumber, true, false);
        // Update mode ID
        mode->id().hwModified = mode->id().modified;
        mode->setNeedsSave();
    }
    cmd.write("\n");

    // Save the profile to memory
    cmd.write("hwsave\n");
    cmd.flush();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.25 int Kb::indexOf (KbProfile * *profile*) [inline]

Definition at line 61 of file kb.h.

References _profiles.

Referenced by KbProfileDialog::on_profileList_customContextMenuRequested().

```
61 { return _profiles.indexOf(profile); }
```

Here is the caller graph for this function:

12.22.3.26 void Kb::infoUpdated ( ) [signal]

Definition at line 233 of file moc_kb.cpp.

Referenced by Kb(), load(), and updateLayout().

```
234 {
235     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
236 }
```

Here is the caller graph for this function:

12.22.3.27 bool Kb::isKeyboard ( ) const [inline]

Definition at line 23 of file kb.h.

References KeyMap::isKeyboard().

Referenced by KbWidget::KbWidget().

```
23 { return KeyMap::isKeyboard(_model); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.28 bool Kb::isMouse ( ) const [inline]

Definition at line 24 of file kb.h.

References KeyMap::isMouse().

Referenced by KbWidget::KbWidget(), and readNotify().

```
24 { return KeyMap::isMouse(_model); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.29 bool Kb::isOpen ( ) const [inline], [private]

Definition at line 147 of file kb.h.

Referenced by KbManager::scanKeyboards(), and ~Kb().

```
147 { return cmd.isOpen(); }
```

Here is the caller graph for this function:

12.22.3.30 static KeyMap::Layout Kb::layout ( ) [inline], [static]

Definition at line 30 of file kb.h.

References _layout.

Referenced by LayoutDialog::LayoutDialog(), SettingsWidget::on_layoutBox_activated(), and SettingsWidget::~SettingsWidget().

```
30 { return _layout; }
```

Here is the caller graph for this function:

12.22.3.31 void Kb::layout (KeyMap::Layout *newLayout*) [static]

Definition at line 177 of file kb.cpp.

References _layout, activeDevices, KeyMap::NO_LAYOUT, and updateLayout().

```
177                                     {
178     if(newLayout == KeyMap::NO_LAYOUT || newLayout == _layout)
179         return;
180     _layout = newLayout;
181     // Update all devices
182     foreach(Kb* kb, activeDevices)
183         kb->updateLayout();
184 }
```

Here is the call graph for this function:

12.22.3.32 void Kb::load ( )

Definition at line 241 of file kb.cpp.

References _needsSave, _profiles, current, getKeyMap(), infoUpdated(), prefsPath, profileAdded(), setCurrentProfile(), and CkbSettings::value().

Referenced by KbManager::scanKeyboards().

```
241             {
242     if(prefsPath.isEmpty())
243         return;
244     _needsSave = false;
245     CkbSettings settings(prefsPath);
246     // Read profiles
247     KbProfile* newCurrentProfile = 0;
248     QString current = settings.value("CurrentProfile").toString().trimmed().toUpper();
249     foreach(QString guid, settings.value("Profiles").toString().split(" ")){
250         guid = guid.trimmed().toUpper();
251         if(guid != ""){
252             KbProfile* profile = new KbProfile(this, getKeyMap(), settings, guid
    );
253             _profiles.append(profile);
254             if(guid == current || !newCurrentProfile)
255                 newCurrentProfile = profile;
256         }
257     }
258     if(newCurrentProfile)
259         setCurrentProfile(newCurrentProfile);
260     else {
261         // If nothing was loaded, load the demo profile
262         QSettings demoSettings(":/txt/demoprofile.conf", QSettings::IniFormat, this);
263         CkbSettings cSettings(demoSettings);
264         KbProfile* demo = new KbProfile(this, getKeyMap(), cSettings, "
    {BA7FC152-2D51-4C26-A7A6-A036CC93D924}");
265         _profiles.append(demo);
266         setCurrentProfile(demo);
267     }
268
269     emit infoUpdated();
270     emit profileAdded();
271 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.33 static bool Kb::macroDelay ( ) [inline], [static]

Definition at line 36 of file kb.h.

References _delay.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_delayBox_clicked().

```
36 { return _delay; }
```

Here is the caller graph for this function:

12.22.3.34 void Kb::macroDelay (bool *flag*) [static]

Parameters

flag	true: Switch on delay function, else switch off

Definition at line 787 of file kb.cpp.

References _delay, activeDevices, and cmd.

```
787                                 {
788     _delay = flag;
789
790     foreach(Kb* kb, activeDevices){
791         kb->cmd.write(QString("\ndelay %1\n").arg(flag? "on" : "off").toLatin1());
792     }
793 }
```

12.22.3.35 bool Kb::matches (const QString & *path,* const QString & *serial*) [inline], [private]

Definition at line 157 of file kb.h.

References devpath, and usbSerial.

Referenced by KbManager::scanKeyboards().

```
157 { return path.trimmed() == devpath.trimmed() && usbSerial == serial.trimmed().toUpper(); }
```

Here is the caller graph for this function:

12.22.3.36 void Kb::modeChanged (bool *spontaneous*) [signal]

Definition at line 263 of file moc_kb.cpp.

Referenced by setCurrentMode().

```
264 {
265     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
266     QMetaObject::activate(this, &staticMetaObject, 5, _a);
267 }
```

Here is the caller graph for this function:

12.22.3.37 KeyMap::Model Kb::model ( ) const [inline]

Definition at line 22 of file kb.h.

References _model.

```
22 { return _model; }
```

12.22.3.38 void Kb::modeRenamed ( ) [signal]

Definition at line 251 of file moc_kb.cpp.

Referenced by readNotify().

```
252 {
253     QMetaObject::activate(this, &staticMetaObject, 3, Q_NULLPTR);
254 }
```

Here is the caller graph for this function:

12.22.3.39 static bool Kb::mouseAccel ( ) [inline],[static]

Definition at line 39 of file kb.h.

References _mouseAccel.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_mAccelBox_clicked().

```
39 { return _mouseAccel; }
```

Here is the caller graph for this function:

12.22.3.40 void Kb::mouseAccel (bool *newAccel*) [static]

Definition at line 215 of file kb.cpp.

References _mouseAccel, activeDevices, and cmd.

```
215                                 {
216     if(newAccel == _mouseAccel)
217         return;
218     _mouseAccel = newAccel;
219 #ifdef Q_OS_MACX
220     // Update all devices
221     foreach(Kb* kb, activeDevices){
222         kb->cmd.write(QString("accel %1\n").arg(QString(newAccel ? "on" : "off")).toLatin1());
223         kb->cmd.flush();
224     }
225 #endif
226 }
```

12.22.3.41 bool Kb::needsSave ( ) const

Definition at line 344 of file kb.cpp.

References _needsSave, _profiles, and KbProfile::needsSave().

Referenced by autoSave().

```
344                         {
345     if(_needsSave)
346         return true;
347     foreach(const KbProfile* profile, _profiles){
348         if(profile->needsSave())
349             return true;
350     }
351     return false;
352 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.42 KbMode* Kb::newMode ( ) [inline]

Definition at line 79 of file kb.h.

References getKeyMap().

Referenced by KbWidget::on_modesList_customContextMenuRequested(), and KbWidget::on_modesList_itemClicked().

```
79 { return new KbMode(this, getKeyMap()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.43 KbMode* Kb::newMode (KbMode * *other*) [inline]

Definition at line 80 of file kb.h.

References getKeyMap().

```
80 { return new KbMode(this, getKeyMap(), *other); }
```

Here is the call graph for this function:

12.22.3.44 KbProfile* Kb::newProfile ( ) [inline]

Definition at line 77 of file kb.h.

References getKeyMap().

Referenced by KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_-itemClicked(), and readNotify().

```
77 { return new KbProfile(this, getKeyMap()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.45 KbProfile* Kb::newProfile (KbProfile * *other*) [inline]

Definition at line 78 of file kb.h.

References getKeyMap().

```
78 { return new KbProfile(this, getKeyMap(), *other); }
```

Here is the call graph for this function:

12.22.3.46 void Kb::profileAdded ( ) [signal]

Definition at line 239 of file moc_kb.cpp.

Referenced by load(), and readNotify().

```
240 {
241     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
242 }
```

Here is the caller graph for this function:

12.22.3.47 void Kb::profileChanged ( ) [signal]

Definition at line 257 of file moc_kb.cpp.

Referenced by readNotify(), and setCurrentMode().

```
258 {
259     QMetaObject::activate(this, &staticMetaObject, 4, Q_NULLPTR);
260 }
```

Here is the caller graph for this function:

12.22.3.48 void Kb::profileRenamed ( ) [signal]

Definition at line 245 of file moc_kb.cpp.

Referenced by readNotify().

```
246 {
247     QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
248 }
```

Here is the caller graph for this function:

12.22.3.49 const QList<KbProfile*>& Kb::profiles ( ) const [inline]

Definition at line 58 of file kb.h.

References _profiles.

Referenced by KbWidget::on_profileBox_activated(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
58 { return _profiles; }
```

Here is the caller graph for this function:

12.22.3.50 void Kb::profiles (const QList< KbProfile * > & *newProfiles*) [inline]

Definition at line 59 of file kb.h.

References _needsSave, and _profiles.

```
59 { _needsSave = true; _profiles = newProfiles; }
```

12.22.3.51 void Kb::readNotify (QString *line*) [private], [slot]

Definition at line 471 of file kb.cpp.

References _currentMode, _currentProfile, _hwProfile, _needsSave, _profiles, KbPerf::angleSnap(), KbLight::animKeypress(), KbProfile::append(), KbPerf::baseDpiIdx(), KbMode::bind(), KbLight::color(), KbPerf::dpi(), KbPerf::DPI_COUNT, KbPerf::dpiColor(), KbPerf::dpiEnabled(), fwUpdateFinished(), fwUpdateProgress(), fwUpdPath, getKeyMap(), UsbId::guid, hwLoading, HWMODE_MAX, hwModeCount, UsbId::hwModifiedString(), hwProfile(), KbProfile::id(), KbMode::id(), KbProfile::indexOf(), isMouse(), iState, KbBind::keyEvent(), KbPerf::liftHeight(), KbMode::light(), KbProfile::modeCount(), modeRenamed(), KbProfile::modes(), UsbId::modifiedString(), KbProfile::move(), KbProfile::name(), KbMode::name(), newProfile(), notifyNumber, KbMode::perf(), profileAdded(), profileChanged(), profileRenamed(), setCurrentProfile(), KbProfile::setNeedsSave(), KbMode::setNeedsSave(), x, and y.

```
471                                 {
472     QStringList components = line.trimmed().split(" ");
473     if(components.count() < 2)
474         return;
475     if(components[0] == "key"){
476         // Key event
477         QString key = components[1];
478         if(key.length() < 2)
479             return;
480         QString keyName = key.mid(1);
481         bool keyPressed = (key[0] == '+');
482         KbMode* mode = _currentMode;
483         if(mode){
484             mode->light()->animKeypress(keyName, keyPressed);
485             mode->bind()->keyEvent(keyName, keyPressed);
486         }
487     } else if(components[0] == "i"){
488         // Indicator event
489         QString i = components[1];
490         if(i.length() < 2)
491             return;
492         QString iName = i.mid(1);
493         bool on = (i[0] == '+');
494         if(iName == "num")
495             iState[0] = on;
496         else if(iName == "caps")
497             iState[1] = on;
498         else if(iName == "scroll")
499             iState[2] = on;
500     } else if(components[0] == "hwprofileid"){
501         // Hardware profile ID
502         if(components.count() < 3)
503             return;
504         // Find the hardware profile in the list of profiles
505         QString guid = components[1];
506         QString modified = components[2];
507         KbProfile* newProfile = 0;
508         foreach(KbProfile* profile, _profiles){
509             if(profile->id().guid == guid){
510                 newProfile = profile;
511                 break;
512             }
513         }
514         // If it wasn't found, create it
515         if(!newProfile){
516             newProfile = new KbProfile(this, getKeyMap(), guid, modified);
517             hwLoading[0] = true;
518             cmd.write(QString("@%1 get :hwprofilename\n").arg(notifyNumber).toLatin1());
519             cmd.flush();
520         } else {
521             // If it's been updated, fetch its name
522             if(newProfile->id().hwModifiedString() != modified){
523                 newProfile->id().modifiedString(modified);
524                 newProfile->id().hwModifiedString(modified);
525                 newProfile->setNeedsSave();
```

```
                if(hwLoading[0]){
                    cmd.write(QString("@%1 get :hwprofilename\n").arg(notifyNumber).toLatin1());
                    cmd.flush();
                }
            } else {
                hwLoading[0] = false;
            }
        }
        hwProfile(newProfile);
        emit profileAdded();
        if(_hwProfile == _currentProfile)
            emit profileChanged();
    } else if(components[0] == "hwprofilename"){
        // Hardware profile name
        QString name = QUrl::fromPercentEncoding(components[1].toUtf8());
        if(!_hwProfile || !hwLoading[0])
            return;
        QString oldName = _hwProfile->name();
        if(!(oldName.length() >= name.length() && oldName.left(name.length()) == name)){
            // Don't change the name if it's a truncated version of what we already have
            _hwProfile->name(name);
            emit profileRenamed();
        }
    } else if(components[0] == "mode"){
        // Mode-specific data
        if(components.count() < 4)
            return;
        int mode = components[1].toInt() - 1;
        if(components[2] == "hwid"){
            if(components.count() < 5 || mode >= HWMODE_MAX || !_hwProfile)
                return;
            // Hardware mode ID
            QString guid = components[3];
            QString modified = components[4];
            // Look for this mode in the hardware profile
            KbMode* hwMode = 0;
            bool isUpdated = false;
            foreach(KbMode* kbMode, _hwProfile->modes()){
                if(kbMode->id().guid == guid){
                    hwMode = kbMode;
                    if(kbMode->id().hwModifiedString() != modified){
                        // Update modification time
                        hwMode->id().modifiedString(modified);
                        hwMode->id().hwModifiedString(modified);
                        hwMode->setNeedsSave();
                        isUpdated = true;
                    } else {
                        hwLoading[mode + 1] = false;
                    }
                    break;
                }
            }
            // If it wasn't found, add it
            if(!hwMode){
                isUpdated = true;
                hwMode = new KbMode(this, getKeyMap(), guid, modified);
                _hwProfile->append(hwMode);
                // If the hardware profile now contains enough modes to be added to the list, do so
                if(!_profiles.contains(_hwProfile) && _hwProfile->modeCount() >= hwModeCount){
                    _profiles.append(_hwProfile);
                    _needsSave = true;
                    emit profileAdded();
                    if(!_currentProfile)
                        setCurrentProfile(_hwProfile);
                }
            }
            if(hwLoading[mode + 1] && isUpdated){
                // If the mode isn't in the right place, move it
                int index = _hwProfile->indexOf(hwMode);
                if(mode < _hwProfile->modeCount() && index != mode)
                    _hwProfile->move(index, mode);
                // Fetch the updated data
                cmd.write(QString("@%1 mode %2 get :hwname :hwrgb").arg(notifyNumber).arg(mode + 1).toLatin1());
                if(isMouse())
                    cmd.write(" :hwdpi :hwdpisel :hwlift :hwsnap");
                cmd.write("\n");
                cmd.flush();
            }
        } else if(components[2] == "hwname"){
            // Mode name - update list
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
```

```
            KbMode* hwMode = _hwProfile->modes()[mode];
            QString name = QUrl::fromPercentEncoding(components[3].toUtf8());
            QString oldName = hwMode->name();
            if(!(oldName.length() >= name.length() && oldName.left(name.length()) == name)){
                // Don't change the name if it's a truncated version of what we already have
                hwMode->name(name);
                if(_hwProfile == _currentProfile)
                    emit modeRenamed();
            }
        } else if(components[2] == "hwrgb"){
            // RGB - set mode lighting
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
            KbMode* kbmode = _hwProfile->modes()[mode];
            KbLight* light = kbmode->light();
            // Scan the input for colors
            QColor lightColor = QColor();
            for(int i = 3; i < components.count(); i++){
                QString comp = components[i];
                if(comp.indexOf(":") < 0){
                    // No ":" - single hex constant
                    bool ok;
                    int rgb = comp.toInt(&ok, 16);
                    if(ok)
                        light->color(QColor::fromRgb((QRgb)rgb));
                } else {
                    // List of keys ("a,b:xxxxxx"). Parse color first
                    QStringList set = comp.split(":");
                    bool ok;
                    int rgb = set[1].toInt(&ok, 16);
                    if(ok){
                        QColor color = QColor::fromRgb((QRgb)rgb);
                        // Parse keys
                        QStringList keys = set[0].split(",");
                        foreach(QString key, keys){
                            if(key == "light")
                                // Extrapolate the Light key to the M-keys and Lock key, since those will be set to black on hwsave
                                lightColor = color;
                            if(key.startsWith("dpi") && key.length() > 3){
                                // DPI levels go to the KbPerf object instead of KbLight
                                bool ok = false;
                                int index = key.mid(3).toInt(&ok);
                                if(ok)
                                    kbmode->perf()->dpiColor(index, color);
                                continue;
                            }
                            light->color(key, color);
                        }
                    }
                }
            }
            if(lightColor.isValid()){
                light->color("mr", lightColor);
                light->color("m1", lightColor);
                light->color("m2", lightColor);
                light->color("m3", lightColor);
                light->color("lock", lightColor);
            }
        } else if(components[2] == "hwdpi"){
            // DPI settings
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
            KbPerf* perf = _hwProfile->modes()[mode]->perf();
            // Read the rest of the line as stage:x,y
            foreach(QString comp, components.mid(3)){
                QStringList dpi = comp.split(':');
                if(dpi.length() != 2)
                    continue;
                QStringList xy = dpi[1].split(',');
                int x, y;
                bool off = false;
                if(xy.length() < 2){
                    // If the right side only has one parameter, set both X and Y
                    if(xy[0] == "off")
                        off = true;
                    else
                        x = y = xy[0].toInt();
                } else {
                    x = xy[0].toInt();
                    y = xy[1].toInt();
                }
                // Set DPI for this stage
                int index = dpi[0].toInt();
                if(off){
```

```
                    perf->dpiEnabled(index, false);
                    // If all DPIs have been disabled, turn them back on
                    bool allOff = true;
                    for(int i = 1; i < KbPerf::DPI_COUNT; i++){
                        if(perf->dpiEnabled(i)){
                            allOff = false;
                            break;
                        }
                    }
                    if(allOff){
                        for(int i = 1; i < KbPerf::DPI_COUNT; i++)
                            perf->dpiEnabled(i, true);
                    }
                } else {
                    perf->dpiEnabled(index, true);
                    perf->dpi(index, QPoint(x, y));
                }
            }
        } else if(components[2] == "hwdpisel"){
            // Hardware DPI selection (0...5)
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
            KbPerf* perf = _hwProfile->modes()[mode]->perf();
            int idx = components[3].toInt();
            if(idx < 1)
                idx = 1;
            if(idx >= KbPerf::DPI_COUNT)
                idx = KbPerf::DPI_COUNT - 1;
            perf->baseDpiIdx(idx);
        } else if(components[2] == "hwlift"){
            // Mouse lift height (1...5)
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
            KbPerf* perf = _hwProfile->modes()[mode]->perf();
            perf->liftHeight((KbPerf::height)components[3].toInt());
        } else if(components[3] == "hwsnap"){
            // Mouse angle snapping ("on" or "off")
            if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >= HWMODE_MAX || !hwLoading[mode + 1])
                return;
            KbPerf* perf = _hwProfile->modes()[mode]->perf();
            perf->angleSnap(components[3] == "on");
        }
    } else if(components[0] == "fwupdate"){
        // Firmware update progress
        if(components.count() < 3)
            return;
        // Make sure path is the same
        if(components[1] != fwUpdPath)
            return;
        QString res = components[2];
        if(res == "invalid" || res == "fail")
            emit fwUpdateFinished(false);
        else if(res == "ok")
            emit fwUpdateFinished(true);
        else {
            // "xx/yy" indicates progress
            if(!res.contains("/"))
                return;
            QStringList numbers = res.split("/");
            emit fwUpdateProgress(numbers[0].toInt(), numbers[1].toInt());
        }
    }
}
```

Here is the call graph for this function:

12.22.3.52 void Kb::run ( ) [private]

Definition at line 446 of file kb.cpp.

References notifyPath, notifyPathMutex, and notifyPaths.

```
446             {
447     QFile notify(notifyPath);
448     // Wait a small amount of time for the node to open (100ms)
```

```
    QThread::usleep(100000);
    if(!notify.open(QIODevice::ReadOnly)){
        // If it's still not open, try again before giving up (1s at a time, 10s total)
        QThread::usleep(900000);
        for(int i = 1; i < 10; i++){
            if(notify.open(QIODevice::ReadOnly))
                break;
            QThread::sleep(1);
        }
        if(!notify.isOpen())
            return;
    }
    // Read data from notification node
    QByteArray line;
    while(notify.isOpen() && (line = notify.readLine()).length() > 0){
        QString text = QString::fromUtf8(line);
        metaObject()->invokeMethod(this, "readNotify", Qt::QueuedConnection, Q_ARG(QString, text));
    }
    QMutexLocker locker(&notifyPathMutex);
    notifyPaths.remove(notifyPath);
}
```

12.22.3.53 void Kb::save ( )

Definition at line 273 of file kb.cpp.

References _currentProfile, _needsSave, _profiles, UsbId::guidString(), KbProfile::id(), prefsPath, KbProfile::save(), and CkbSettings::setValue().

Referenced by autoSave(), KbWidget::on_hwSaveButton_clicked(), KbManager::scanKeyboards(), and ~Kb().

```
273             {
274     if(prefsPath.isEmpty())
275         return;
276     _needsSave = false;
277     CkbSettings settings(prefsPath, true);
278     QString guids, currentGuid;
279     foreach(KbProfile* profile, _profiles){
280         guids.append(" " + profile->id().guidString());
281         if(profile == _currentProfile)
282             currentGuid = profile->id().guidString();
283         profile->save(settings);
284     }
285     settings.setValue("CurrentProfile", currentGuid);
286     settings.setValue("Profiles", guids.trimmed());
287 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.54 static int Kb::scrollSpeed ( ) [inline],[static]

Definition at line 42 of file kb.h.

References _scrollSpeed.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and ExtraSettingsWidget::on_sSpeedBox_valueChanged().

```
42 { return _scrollSpeed; }
```

Here is the caller graph for this function:

12.22.3.55 void Kb::scrollSpeed (int *newSpeed*) [static]

Definition at line 228 of file kb.cpp.

References _scrollSpeed, activeDevices, and cmd.

```
228                                 {
229     if(newSpeed == _scrollSpeed)
230         return;
231     _scrollSpeed = newSpeed;
232 #ifdef Q_OS_MACX
233     // Update all devices
234     foreach(Kb* kb, activeDevices){
235         kb->cmd.write(QString("scrollspeed %1\n").arg(newSpeed).toLatin1());
```

```
        kb->cmd.flush();
    }
#endif
}
```

12.22.3.56 void Kb::setCurrentMode (KbProfile * *profile*, KbMode * *mode*, bool *spontaneous* = `true`)

Definition at line 769 of file kb.cpp.

References _currentMode, _currentProfile, _needsSave, KbProfile::currentMode(), modeChanged(), and profileChanged().

Referenced by KeyAction::keyEvent(), KbWidget::on_modesList_currentItemChanged(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), and setCurrentProfile().

```
769                                                                 {
770     if(_currentProfile != profile){
771         _currentProfile = profile;
772         _needsSave = true;
773         emit profileChanged();
774     }
775     if(_currentMode != mode || _currentProfile->
      currentMode() != mode){
776         _currentProfile->currentMode(_currentMode = mode);
777         _needsSave = true;
778         emit modeChanged(spontaneous);
779     }
780 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.57 void Kb::setCurrentMode (KbProfile * *profile*, int *index*, bool *spontaneous* = `true`) `[inline]`

Definition at line 73 of file kb.h.

References KbProfile::modes(), and setCurrentMode().

Referenced by setCurrentMode().

```
73 { setCurrentMode(profile, profile->modes()[index], spontaneous); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.58 void Kb::setCurrentMode (KbMode * *mode*, bool *spontaneous* = `true`) [inline]

Definition at line 74 of file kb.h.

References _currentProfile, and setCurrentMode().

Referenced by setCurrentMode().

```
74 { setCurrentMode(_currentProfile, mode, spontaneous); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.59 void Kb::setCurrentProfile (KbProfile * *profile*, bool *spontaneous* = `true`)

Definition at line 760 of file kb.cpp.

References KbProfile::append(), KbProfile::currentMode(), getKeyMap(), hwModeCount, KbProfile::modeCount(), KbProfile::modes(), and setCurrentMode().

Referenced by load(), KbWidget::on_profileBox_activated(), KbProfileDialog::on_profileList_currentItemChanged(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), and readNotify().

```
760                                                                 {
761     while(profile->modeCount() < hwModeCount)
762         profile->append(new KbMode(this, getKeyMap()));
763     KbMode* mode = profile->currentMode();
764     if(!mode)
765         profile->currentMode(mode = profile->modes().first());
766     setCurrentMode(profile, mode, spontaneous);
767 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.60 void Kb::updateLayout ( ) [private]

Definition at line 186 of file kb.cpp.

References _currentProfile, _hwProfile, _layout, _profiles, KbLight::close(), getKeyMap(), infoUpdated(), KeyMap::isISO(), KbProfile::keyMap(), KbMode::light(), and KbProfile::modes().

Referenced by layout().

```
186                     {
187 #ifdef Q_OS_MACX
188     // Write ANSI/ISO flag to daemon (OSX only)
189     cmd.write("layout ");
190     cmd.write(KeyMap::isISO(_layout) ? "iso" : "ansi");
191     cmd.write("\n");
192     cmd.flush();
193 #endif
194     foreach(KbProfile* profile, _profiles)
195         profile->keyMap(getKeyMap());
196     if(_hwProfile && !_profiles.contains(_hwProfile))
197         _hwProfile->keyMap(getKeyMap());
198     // Stop all animations as they'll need to be restarted
199     foreach(KbMode* mode, _currentProfile->modes())
200         mode->light()->close();
201     emit infoUpdated();
202 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.3.61 void Kb::writeProfileHeader ( ) [private]

Definition at line 354 of file kb.cpp.

References _currentProfile, UsbId::guidString(), KbProfile::id(), UsbId::modifiedString(), and KbProfile::name().

Referenced by frameUpdate(), and hwSave().

```
354                             {
355     cmd.write("eraseprofile");
356     // Write the profile name and ID
357     cmd.write(" profilename ");
358     cmd.write(QUrl::toPercentEncoding(_currentProfile->name()));
359     cmd.write(" profileid ");
360     cmd.write(_currentProfile->id().guidString().toLatin1());
361     cmd.write(" ");
362     cmd.write(_currentProfile->id().modifiedString().toLatin1());
363 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.22.4 Friends And Related Function Documentation

12.22.4.1 friend class KbManager [friend]

Definition at line 142 of file kb.h.

12.22.5 Field Documentation

12.22.5.1 KbMode* Kb::_currentMode [private]

Definition at line 169 of file kb.h.

Referenced by currentBind(), currentLight(), currentMode(), currentPerf(), frameUpdate(), hwSave(), readNotify(), and setCurrentMode().

12.22.5.2 KbProfile* Kb::_currentProfile [private]

Definition at line 167 of file kb.h.

Referenced by currentProfile(), frameUpdate(), hwSave(), readNotify(), save(), setCurrentMode(), updateLayout(), and writeProfileHeader().

12.22.5.3 bool Kb::_delay = false [static], [private]

Definition at line 198 of file kb.h.

Referenced by Kb(), and macroDelay().

12.22.5.4 bool Kb::_dither = false [static], [private]

Definition at line 165 of file kb.h.

Referenced by dither(), and Kb().

12.22.5.5 int Kb::_frameRate = 30 [static], [private]

Definition at line 164 of file kb.h.

Referenced by frameRate(), and Kb().

12.22.5.6 KbProfile* Kb::_hwProfile [private]

Definition at line 183 of file kb.h.

Referenced by deleteHw(), hwProfile(), hwSave(), readNotify(), and updateLayout().

12.22.5.7 KeyMap::Layout Kb::_layout = KeyMap::NO_LAYOUT [static], [private]

Definition at line 161 of file kb.h.

Referenced by getKeyMap(), Kb(), layout(), and updateLayout().

12.22.5.8 KeyMap::Model Kb::_model [private]

Definition at line 171 of file kb.h.

Referenced by model().

12.22.5.9 bool Kb::_mouseAccel = true [static], [private]

Definition at line 165 of file kb.h.

Referenced by Kb(), and mouseAccel().

12.22.5.10 bool Kb::_needsSave [private]

Definition at line 201 of file kb.h.

Referenced by appendProfile(), load(), needsSave(), profiles(), readNotify(), save(), and setCurrentMode().

12.22.5.11 QList<KbProfile*> Kb::_profiles [private]

Definition at line 168 of file kb.h.

Referenced by appendProfile(), find(), indexOf(), load(), needsSave(), profiles(), readNotify(), save(), and updateLayout().

12.22.5.12 int Kb::_scrollSpeed = 0 [static], [private]

Definition at line 164 of file kb.h.

Referenced by Kb(), and scrollSpeed().

12.22.5.13 QFile Kb::cmd [private]

Definition at line 191 of file kb.h.

Referenced by dither(), frameRate(), macroDelay(), mouseAccel(), and scrollSpeed().

12.22.5.14 QString Kb::cmdpath [private]

Definition at line 155 of file kb.h.

Referenced by Kb().

12.22.5.15 QString Kb::devpath [private]

Definition at line 155 of file kb.h.

Referenced by matches().

12.22.5.16 QString Kb::features

Definition at line 18 of file kb.h.

Referenced by MainWindow::checkFwUpdates(), FwUpgradeDialog::exec(), Kb(), KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

12.22.5.17 QString Kb::firmware

Definition at line 18 of file kb.h.

Referenced by MainWindow::checkFwUpdates(), KbWidget::devUpdate(), FwUpgradeDialog::FwUpgradeDialog(), Kb(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

12.22.5.18 QString Kb::fwUpdPath [private]

Definition at line 181 of file kb.h.

Referenced by fwUpdate(), and readNotify().

12.22.5.19 bool Kb::hwLoading[HWMODE_MAX+1] [private]

Definition at line 205 of file kb.h.

Referenced by Kb(), and readNotify().

12.22.5.20 const int Kb::HWMODE_MAX = 3 [static]

Definition at line 50 of file kb.h.

Referenced by KbPerf::applyIndicators(), and readNotify().

12.22.5.21 int Kb::hwModeCount

Definition at line 49 of file kb.h.

Referenced by hwSave(), Kb(), KbWidget::modeIcon(), KbWidget::on_modesList_customContextMenuRequested(), readNotify(), and setCurrentProfile().

12.22.5.22 bool Kb::iState[KbPerf::HW_I_COUNT] [private]

Definition at line 174 of file kb.h.

Referenced by frameUpdate(), Kb(), and readNotify().

12.22.5.23 quint64 Kb::lastAutoSave [private]

Definition at line 178 of file kb.h.

Referenced by autoSave().

12.22.5.24 int Kb::macroNumber [private]

Definition at line 196 of file kb.h.

Referenced by getMacroNumber(), and Kb().

12.22.5.25 QString Kb::macroPath [private]

Definition at line 155 of file kb.h.

Referenced by getMacroPath(), Kb(), and ~Kb().

12.22.5.26 bool Kb::monochrome

Definition at line 19 of file kb.h.

Referenced by frameUpdate(), hwSave(), Kb(), and KbWidget::KbWidget().

12.22.5.27 int Kb::notifyNumber [private]

Definition at line 194 of file kb.h.

Referenced by frameUpdate(), fwUpdate(), hwSave(), Kb(), readNotify(), and ~Kb().

12.22.5.28 QString Kb::notifyPath [private]

Definition at line 155 of file kb.h.

Referenced by Kb(), and run().

12.22.5.29 QString Kb::pollrate

Definition at line 18 of file kb.h.

Referenced by KbWidget::devUpdate(), and Kb().

12.22.5.30 QString Kb::prefsPath [private]

Definition at line 177 of file kb.h.

Referenced by Kb(), load(), and save().

12.22.5.31 KbMode* Kb::prevMode [private]

Definition at line 186 of file kb.h.

Referenced by deletePrevious(), frameUpdate(), and hwSave().

12.22.5.32 KbProfile* Kb::prevProfile [private]

Definition at line 185 of file kb.h.

Referenced by frameUpdate().

12.22.5.33 QString Kb::usbModel

Definition at line 16 of file kb.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Kb(), KbWidget::name(), and MainWindow::showFwUpdateNotification().

12.22.5.34 QString Kb::usbSerial

Definition at line 16 of file kb.h.

Referenced by KbWidget::devUpdate(), Kb(), and matches().

The documentation for this class was generated from the following files:

- src/ckb/kb.h
- src/ckb/kb.cpp
- src/ckb/release/moc_kb.cpp

12.23 KbAnim Class Reference

```
#include <src/ckb/kbanim.h>
```

Inheritance diagram for KbAnim:

Collaboration diagram for KbAnim:

Public Types

- enum Mode {
  Normal, Add, Subtract, Multiply,
  Divide }

Public Member Functions

- KbAnim (QObject ∗parent, const KeyMap &map, const QUuid id, CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- KbAnim (QObject ∗parent, const KeyMap &map, const QString &name, const QStringList &keys, const AnimScript ∗script)
- KbAnim (QObject ∗parent, const KeyMap &map, const KbAnim &other)
- const KeyMap & map ()
- void map (const KeyMap &newMap)
- const QStringList & keys ()
- void keys (const QStringList &newKeys)
- bool hasParameter (const QString &name) const
- QVariant parameter (const QString &name) const
- void parameter (const QString &name, const QVariant &value)
- void commitParams ()
- void resetParams ()
- void reInit ()
- void trigger (quint64 timestamp, bool ignoreParameter=false)
- void keypress (const QString &key, bool pressed, quint64 timestamp)
- void stop ()
- bool isActive () const
- bool isRunning () const
- void blend (ColorMap &animMap, quint64 timestamp)
- const QUuid & guid () const

- void newId ()
- const QString & name () const
- void name (const QString &newName)
- float opacity () const
- void opacity (float newOpacity)
- Mode mode () const
- void mode (Mode newMode)
- const AnimScript * script () const
- const QString & scriptName () const

Private Member Functions

- QMap< QString, QVariant > effectiveParams ()
- void updateParams ()
- void catchUp (quint64 timestamp)

Private Attributes

- AnimScript * _script
- QUuid _scriptGuid
- QString _scriptName
- KeyMap _map
- QStringList _keys
- QMap< QString, QVariant > _parameters
- QMap< QString, QVariant > _tempParameters
- QString repeatKey
- quint64 repeatTime
- quint64 kpRepeatTime
- quint64 stopTime
- quint64 kpStopTime
- int repeatMsec
- int kpRepeatMsec
- QUuid _guid
- QString _name
- float _opacity
- Mode _mode
- bool _isActive
- bool _isActiveKp
- bool _needsSave

12.23.1 Detailed Description

Definition at line 11 of file kbanim.h.

12.23.2 Member Enumeration Documentation

12.23.2.1 enum KbAnim::Mode

Enumerator

Normal

Add

Subtract

Multiply

Divide

Definition at line 17 of file kbanim.h.

```
17              {
18          Normal,
19          Add,
20          Subtract,
21          Multiply,
22          Divide
23      };
```

12.23.3 Constructor & Destructor Documentation

12.23.3.1 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const QUuid *id,* CkbSettings & *settings*)

Definition at line 8 of file kbanim.cpp.

References _guid, _keys, _map, _mode, _name, _opacity, _parameters, _script, _scriptGuid, _scriptName, CkbSettings::childKeys(), AnimScript::copy(), AnimScript::Param::defaultValue, KeyMap::fromStorage(), AnimScript::Param::INVALID, AnimScript::Param::LABEL, AnimScript::Param::name, AnimScript::name(), name(), Normal, AnimScript::param(), AnimScript::paramIterator(), reInit(), AnimScript::Param::type, and CkbSettings::value().

```
8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :
9       QObject(parent), _script(0), _map(map),
10       repeatTime(0), kpRepeatTime(0), stopTime(0),
        kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
11       _guid(id), _isActive(false), _isActiveKp(false),
        _needsSave(false)
12  {
13       SGroup group(settings, _guid.toString().toUpper());
14       _keys = settings.value("Keys").toStringList();
15       // Convert key list from storage names if needed
16       if(!settings.value("UseRealNames").toBool()){
17           QMutableListIterator<QString> i(_keys);
18           while(i.hasNext()){
19               i.next();
20               QString& key = i.value();
21               key = _map.fromStorage(key);
22           }
23       }
24       _name = settings.value("Name").toString().trimmed();
25       _opacity = settings.value("Opacity").toString().toDouble();
26       if(_opacity < 0.)
27           _opacity = 0.;
28       else if(_opacity > 1.)
29           _opacity = 1.;
30       bool modeOk = false;
31       _mode = (Mode)metaObject()->enumerator(metaObject()->indexOfEnumerator("Mode")).keysToValue(
        settings.value("BlendMode").toString().toLatin1(), &modeOk);
32       if(!modeOk)
33           _mode = Normal;
34       _scriptName = settings.value("ScriptName").toString().trimmed();
35       _scriptGuid = settings.value("ScriptGuid").toString();
36       {
37           SGroup group(settings, "Parameters");
38           foreach(const QString& param, settings.childKeys())
39               _parameters[param.toLower()] = settings.value(param);
40       }
41
42       if(!_scriptGuid.isNull()){
43           _script = AnimScript::copy(this, _scriptGuid);
44           if(_script){
45               // Remove nonexistant parameters
46               foreach(const QString& name, _parameters.keys()){
47                   AnimScript::Param param = _script->param(name);
48                   if(param.type == AnimScript::Param::INVALID || param.
        type == AnimScript::Param::LABEL)
49                       _parameters.remove(name);
50               }
51               // Add defaults for unset parameters
52               QListIterator<AnimScript::Param> i = _script->paramIterator();
53               while(i.hasNext()){
54                   AnimScript::Param param = i.next();
55                   if(!_parameters.contains(param.name) && param.
        type != AnimScript::Param::LABEL)
```

```
                    _parameters[param.name] = param.defaultValue;
            }
            _scriptName = _script->name();
            reInit();
        }
    }
}
```

Here is the call graph for this function:

12.23.3.2 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const QString & *name,* const QStringList & *keys,* const AnimScript * *script*)

Definition at line 84 of file kbanim.cpp.

References _parameters, _script, _scriptGuid, _scriptName, AnimScript::Param::defaultValue, AnimScript::guid(), AnimScript::Param::LABEL, AnimScript::Param::name, AnimScript::name(), AnimScript::paramIterator(), reInit(), and AnimScript::Param::type.

```
                    :
    QObject(parent),
    _script(AnimScript::copy(this, script->guid())),
   _map(map), _keys(keys),
    repeatTime(0), kpRepeatTime(0), stopTime(0),
   kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
    _guid(QUuid::createUuid()), _name(name), _opacity(1.),
   _mode(Normal), _isActive(false), _isActiveKp(false),
   _needsSave(true)
{
    if(_script){
        // Set default parameters
        QListIterator<AnimScript::Param> i = _script->paramIterator();
        while(i.hasNext()){
            AnimScript::Param param = i.next();
            if(param.type != AnimScript::Param::LABEL)
                _parameters[param.name] = param.defaultValue;
        }
        _scriptGuid = script->guid();
        _scriptName = script->name();
         reInit();
     }
}
```

Here is the call graph for this function:

12.23.3.3 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const KbAnim & *other*)

Definition at line 104 of file kbanim.cpp.

References reInit().

```
104                                                                                    :
105     QObject(parent),
106     _script(AnimScript::copy(this, other.script()->
      guid())), _scriptGuid(_script->guid()), _scriptName(
      _script->name()),
107     _map(map), _keys(other._keys), _parameters(other.
      _parameters),
108     repeatTime(0), kpRepeatTime(0), stopTime(0),
      kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
109     _guid(other._guid), _name(other._name), _opacity(other.
      _opacity), _mode(other._mode), _isActive(false),
      _isActiveKp(false), _needsSave(true)
110 {
111     reInit();
112 }
```

Here is the call graph for this function:

12.23.4 Member Function Documentation

12.23.4.1 void KbAnim::blend (ColorMap & *animMap,* quint64 *timestamp*)

Definition at line 365 of file kbanim.cpp.

References _mode, _opacity, _script, catchUp(), ColorMap::colors(), AnimScript::colors(), ColorMap::count(), AnimScript::frame(), and functions.

Referenced by KbLight::frameUpdate().

```
365                                                    {
366     if(!_script)
367         return;
368
369     // Fetch the next frame from the script
370     catchUp(timestamp);
```

```
    _script->frame(timestamp);

    // Blend the script's map with the current map
    int blendMode = (int)_mode;
    blendFunc blend = functions[blendMode];
    float fOpacity = _opacity / 255.f;  // save some math by pre-dividing the 255 for qAlpha

    const ColorMap& scriptMap = _script->colors();
    int count = animMap.count();
    if(scriptMap.count() != count){
        qDebug() << "Script map didn't match base map (" << count << " vs " << scriptMap.count() << "). This should never happen.";
        return;
    }
    QRgb* background = animMap.colors();
    const QRgb* foreground = scriptMap.colors();
    for(int i = 0; i < count; i++){
        // Mix the colors in with the color map according to blend mode and alpha
        QRgb& bg = background[i];
        QRgb fg = foreground[i];
        int alpha = qAlpha(fg);
        if(alpha == 0)
            continue;
        if(blendMode == 0){
            // Blend: normal
            // This is the most common use case and it requires much less arithmetic
            if(alpha == 255){
                bg = fg;
            } else {
                float r = qRed(bg), g = qGreen(bg), b = qBlue(bg);
                float a = alpha * fOpacity;
                r = r * (1.f - a) + qRed(fg) * a;
                g = g * (1.f - a) + qGreen(fg) * a;
                b = b * (1.f - a) + qBlue(fg) * a;
                bg = qRgb(round(r), round(g), round(b));
            }
        } else {
            // Use blend function
            float r = qRed(bg) / 255.f, g = qGreen(bg) / 255.f, b = qBlue(bg) / 255.f;
            float a = alpha * fOpacity;
            r = r * (1.f - a) + blend(r, qRed(fg) / 255.f) * a;
            g = g * (1.f - a) + blend(g, qGreen(fg) / 255.f) * a;
            b = b * (1.f - a) + blend(b, qBlue(fg) / 255.f) * a;
            bg = qRgb(round(r * 255.f), round(g * 255.f), round(b * 255.f));
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.2 void KbAnim::catchUp (quint64 *timestamp*) [private]

Definition at line 166 of file kbanim.cpp.

References _isActive, _isActiveKp, _script, effectiveParams(), AnimScript::end(), AnimScript::keypress(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, AnimScript::retrigger(), and stopTime.

Referenced by blend(), keypress(), and trigger().

```
166                                     {
167     QMap<QString, QVariant> parameters = effectiveParams();
168     // Stop the animation if its time has run out
169     if(stopTime != 0 && timestamp >= stopTime){
170         repeatMsec = repeatTime = 0;
171         if(!parameters.contains("repeat")){
172             // If repeats aren't allowed, stop the animation entirely
173             _script->end();
174             _isActive = false;
175             return;
176         } else
177             // Otherwise, simply stop repeating
178             stopTime = 0;
179     }
180     if(kpStopTime != 0 && timestamp >= kpStopTime){
181         kpRepeatMsec = kpRepeatTime = 0;
182         if(!parameters.contains("kprepeat")){
183             _script->end();
184             _isActiveKp = false;
185             return;
186         } else
187             kpStopTime = 0;
188     }
189
190     // Restart (or start, if there was a delay) the animation if its repeat time is up
191     while(repeatTime > 0 && timestamp >= repeatTime){
192         _script->retrigger(repeatTime);
193         if(repeatMsec <= 0){
194             repeatTime = 0;
195             break;
196         }
197         repeatTime += repeatMsec;
198     }
199     while(kpRepeatTime > 0 && timestamp >= kpRepeatTime){
200         _script->keypress(repeatKey, 1, kpRepeatTime);
201         if(kpRepeatMsec <= 0){
202             kpRepeatTime = 0;
203             break;
204         }
205         kpRepeatTime += kpRepeatMsec;
206     }
207 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.3 void KbAnim::commitParams ( )

Definition at line 121 of file kbanim.cpp.

References _needsSave, _parameters, _tempParameters, and effectiveParams().

Referenced by KbLight::addAnim(), KbAnimWidget::on_propertyButton_clicked(), and KbLight::previewAnim().

```
121                         {
122     _needsSave = true;
123     _parameters = effectiveParams();
124     _tempParameters.clear();
125 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.4 QMap< QString, QVariant > KbAnim::effectiveParams ( ) [private]

Definition at line 138 of file kbanim.cpp.

References _parameters, and _tempParameters.

Referenced by catchUp(), commitParams(), keypress(), reInit(), trigger(), and updateParams().

```
138                                                 {
139     QMap<QString, QVariant> res = _parameters;
140     // Apply all uncommited parameters
141     QMapIterator<QString, QVariant> i(_tempParameters);
142     while(i.hasNext()){
143         i.next();
144         res[i.key()] = i .value();
145     }
146     return res;
147 }
```

Here is the caller graph for this function:

12.23.4.5 const QUuid& KbAnim::guid ( ) const [inline]

Definition at line 71 of file kbanim.h.

References _guid.

Referenced by KbAnimWidget::addAnim(), RebindWidget::applyChanges(), KbLight::findAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), and KbLight::save().

```
71 { return _guid; }
```

Here is the caller graph for this function:

12.23.4.6 bool KbAnim::hasParameter (const QString & *name*) const [inline]

Definition at line 44 of file kbanim.h.

References _parameters.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
44 { return _parameters.contains(name); }
```

Here is the caller graph for this function:

12.23.4.7 bool KbAnim::isActive ( ) const [inline]

Definition at line 63 of file kbanim.h.

References _isActive, and _isActiveKp.

Referenced by KeyAction::keyEvent(), and keypress().

```
63 { return _isActive || _isActiveKp; }
```

Here is the caller graph for this function:

12.23.4.8 bool KbAnim::isRunning ( ) const

Definition at line 325 of file kbanim.cpp.

References _script, and AnimScript::hasFrame().

Referenced by KbLight::isStarted().

```
325                                 {
326     if(!_script)
327         return true;    // If the script wasn't loaded, pretend it's running anyway so it won't lock up
328     return _script->hasFrame();
329 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.9 void KbAnim::keypress (const QString & *key*, bool *pressed*, quint64 *timestamp*)

Definition at line 250 of file kbanim.cpp.

References _isActive, _isActiveKp, _script, catchUp(), effectiveParams(), AnimScript::frame(), isActive(), AnimScript::keypress(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, stop(), AnimScript::stop(), and stopTime.

Referenced by KbLight::animKeypress().

```
250                                                                                 {
251     if(!_script)
252         return;
253     QMap<QString, QVariant> parameters = effectiveParams();
254     if(pressed && parameters.value("kpmodestop").toBool()){
255         // If stop on key press is enabled, stop mode-wide animation
256         catchUp(timestamp);
257         _script->stop(timestamp);
258         stopTime = repeatTime = repeatMsec = 0;
259         _isActive = false;
260     } else {
261         if(!parameters.value("kptrigger").toBool())
262             return;
263         catchUp(timestamp);
264     }
265
266     if(pressed){
267         // Key pressed
268         _isActiveKp = true;
269         if(parameters.value("kpmode", 0).toInt() == 2 && isActive())
270             // If mode is start once and a key has already been pressed, do nothing
271             return;
272         int delay = round(parameters.value("kpdelay").toDouble() * 1000.);
273         if(delay > 0){
274             // If delay is enabled, wait to trigger the event
275             timestamp += delay;
276             kpRepeatTime = timestamp;
277         } else
278             _script->keypress(key, pressed, timestamp);
279
280         int repeat = round(parameters.value("kprepeat").toDouble() * 1000.);
281         if(repeat <= 0){
282             // If no repeat allowed, calculate stop time in seconds
283             kpRepeatMsec = -1;
284             double stop = parameters.value("kpstop").toDouble();
285             if(stop <= 0.)
```

```
                kpStopTime = 0;
            else
                kpStopTime = timestamp + round(stop * 1000.);
        } else {
            // If repeat is allowed, calculate stop time in repetitions
            kpRepeatMsec = repeat;
            if(delay <= 0)
                kpRepeatTime = timestamp + repeat;
            int stop = parameters.value("kpstop").toInt();
            if(stop < 0)
                kpStopTime = 0;
            else
                kpStopTime = timestamp + repeat * (1 + stop);
        }
        repeatKey = key;
    } else {
        // Key released
        _isActiveKp = false;
        _script->keypress(key, pressed, timestamp);
        if(parameters.value("kprelease").toBool())
            // Stop repeating keypress if "Stop on key release" is enabled
            kpStopTime = timestamp;
    }
    _script->frame(timestamp);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.10 const QStringList& KbAnim::keys ( ) [inline]

Definition at line 40 of file kbanim.h.

References _keys.

Referenced by KbLight::animKeypress(), KbLightWidget::changeAnim(), KbAnimWidget::on_keyButton_clicked(), and KbAnimWidget::setCurrent().

```
40 { return _keys; }
```

Here is the caller graph for this function:

12.23.4.11 void KbAnim::keys (const QStringList & *newKeys*)

Definition at line 161 of file kbanim.cpp.

References _keys, and reInit().

```
161                                         {
162     _keys = newKeys;
163     reInit();
164 }
```

Here is the call graph for this function:

12.23.4.12 const KeyMap& KbAnim::map ( ) [inline]

Definition at line 37 of file kbanim.h.

References _map.

Referenced by KbLight::map().

```
37 { return _map; }
```

Here is the caller graph for this function:

12.23.4.13 void KbAnim::map (const KeyMap & *newMap*)

Definition at line 156 of file kbanim.cpp.

References _map, and reInit().

```
156                                     {
157     _map = newMap;
158     reInit();
159 }
```

Here is the call graph for this function:

12.23.4.14 Mode KbAnim::mode ( ) const [inline]

Definition at line 77 of file kbanim.h.

References _mode.

Referenced by KbAnimWidget::on_blendBox_activated(), and KbAnimWidget::setCurrent().

```
77 { return _mode; }
```

Here is the caller graph for this function:

12.23.4.15 void KbAnim::mode (Mode *newMode*) [inline]

Definition at line 78 of file kbanim.h.

References _mode, and _needsSave.

```
78 { _needsSave = true; _mode = newMode; }
```

12.23.4.16 const QString& KbAnim::name ( ) const [inline]

Definition at line 73 of file kbanim.h.

References _name.

Referenced by KbAnimWidget::addAnim(), AnimSettingDialog::AnimSettingDialog(), KbAnim(), KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_nameBox_textEdited(), parameter(), KbAnimWidget::refreshList(), KbAnimWidget::setCurrent(), and RebindWidget::setSelection().

```
73 { return _name; }
```

Here is the caller graph for this function:

12.23.4.17 void KbAnim::name (const QString & *newName*) [inline]

Definition at line 74 of file kbanim.h.

References _name, and _needsSave.

```
74 { _needsSave = true; _name = newName; }
```

12.23.4.18 bool KbAnim::needsSave ( ) const [inline]

Definition at line 29 of file kbanim.h.

References _needsSave.

Referenced by KbLight::needsSave().

```
29 { return _needsSave; }
```

Here is the caller graph for this function:

12.23.4.19 void KbAnim::newId ( ) [inline]

Definition at line 72 of file kbanim.h.

References _guid, and _needsSave.

Referenced by KbLight::duplicateAnim(), and KbMode::newId().

```
72 { _needsSave = true; _guid = QUuid::createUuid(); }
```

Here is the caller graph for this function:

12.23.4.20 float KbAnim::opacity ( ) const [inline]

Definition at line 75 of file kbanim.h.

References _opacity.

Referenced by KbAnimWidget::on_opacityBox_valueChanged(), and KbAnimWidget::setCurrent().

```
75 { return _opacity; }
```

Here is the caller graph for this function:

12.23.4.21 void KbAnim::opacity (float *newOpacity*) [inline]

Definition at line 76 of file kbanim.h.

References _needsSave, and _opacity.

```
76 { _needsSave = true; _opacity = newOpacity; }
```

12.23.4.22 QVariant KbAnim::parameter (const QString & *name*) const [inline]

Definition at line 45 of file kbanim.h.

References _parameters.

Referenced by KbLight::addAnim(), AnimSettingDialog::AnimSettingDialog(), KbLight::previewAnim(), and AnimSettingDialog::updateParam().

```
45 { return _parameters.value(name); }
```

Here is the caller graph for this function:

12.23.4.23 void KbAnim::parameter (const QString & *name,* const QVariant & *value*)

Definition at line 114 of file kbanim.cpp.

References _script, _tempParameters, AnimScript::hasParam(), name(), and updateParams().

```
114                                                                 {
115     if(!_script->hasParam(name))
116         return;
117     _tempParameters[name] = value;
118     updateParams();
119 }
```

Here is the call graph for this function:

12.23.4.24 void KbAnim::relnit ( )

Definition at line 149 of file kbanim.cpp.

References _isActive, _isActiveKp, _keys, _map, _script, effectiveParams(), AnimScript::init(), and repeatKey.

Referenced by KbAnim(), keys(), map(), KbAnimWidget::on_propertyButton_clicked(), and KbLight::previewAnim().

```
149                     {
150     if(_script)
151         _script->init(_map, _keys, effectiveParams());
152     repeatKey = "";
153     _isActive = _isActiveKp = false;
154 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.25 void KbAnim::resetParams ( )

Definition at line 127 of file kbanim.cpp.

References _tempParameters, and updateParams().

Referenced by KbAnimWidget::on_propertyButton_clicked().

```
127                     {
128     _tempParameters.clear();
129     updateParams();
130 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.26 void KbAnim::save (CkbSettings & *settings*)

Definition at line 64 of file kbanim.cpp.

References _guid, _keys, _mode, _name, _needsSave, _opacity, _parameters, _scriptGuid, _scriptName, CkbSettings::beginGroup(), CkbSettings::endGroup(), and CkbSettings::setValue().

Referenced by KbLight::save().

```
64                                      {
65     _needsSave = false;
66     settings.beginGroup(_guid.toString().toUpper());
67     settings.setValue("UseRealNames", true);
68     settings.setValue("Keys", _keys);
69     settings.setValue("Name", _name);
70     settings.setValue("Opacity", QString::number(_opacity));
71     settings.setValue("BlendMode", metaObject()->enumerator(metaObject()->indexOfEnumerator("Mode")
      ).valueToKey(_mode));
72     settings.setValue("ScriptName", _scriptName);
73     settings.setValue("ScriptGuid", _scriptGuid.toString().toUpper());
74     settings.beginGroup("Parameters");
75     QMapIterator<QString, QVariant> i(_parameters);
76     while(i.hasNext()){
77         i.next();
78         settings.setValue(i.key(), i.value());
79     }
80     settings.endGroup();
81     settings.endGroup();
82 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.27 const AnimScript* KbAnim::script ( ) const [inline]

Definition at line 81 of file kbanim.h.

References _script.

Referenced by AnimSettingDialog::AnimSettingDialog(), KbAnimWidget::setCurrent(), and AnimSettingDialog::updateParam().

```
81 { return _script; }
```

Here is the caller graph for this function:

12.23.4.28 const QString& KbAnim::scriptName ( ) const [inline]

Definition at line 82 of file kbanim.h.

References _scriptName.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnimWidget::setCurrent().

```
82 { return _scriptName; }
```

Here is the caller graph for this function:

12.23.4.29 void KbAnim::stop ( )

Definition at line 312 of file kbanim.cpp.

References _isActive, _isActiveKp, _script, AnimScript::end(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, and stopTime.

Referenced by KbLight::addAnim(), KbLight::close(), KbLight::duplicateAnim(), KeyAction::keyEvent(), keypress(), KbLight::restartAnimation(), and trigger().

```
312                 {
313     if(_script)
314         _script->end();
315     repeatTime = 0;
316     kpRepeatTime = 0;
317     repeatMsec = 0;
318     kpRepeatMsec = 0;
319     stopTime = 0;
320     kpStopTime = 0;
321     repeatKey = "";
322     _isActive = _isActiveKp = false;
323 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.30 void KbAnim::trigger (quint64 *timestamp*, bool *ignoreParameter* = `false`)

Definition at line 209 of file kbanim.cpp.

References _isActive, _script, catchUp(), effectiveParams(), AnimScript::frame(), repeatMsec, repeatTime, AnimScript::retrigger(), stop(), and stopTime.

Referenced by KbLight::addAnim(), KbLight::duplicateAnim(), KeyAction::keyEvent(), KbLight::open(), KbLight::previewAnim(), and KbLight::restartAnimation().

```
209                                                                    {
210     if(!_script)
211         return;
212     QMap<QString, QVariant> parameters = effectiveParams();
213
214     catchUp(timestamp);
215     if(parameters.value("trigger").toBool() || ignoreParameter){
216         _isActive = true;
217         int delay = round(parameters.value("delay").toDouble() * 1000.);
218         if(delay > 0){
219             // If delay is enabled, wait to trigger the event
220             timestamp += delay;
221             repeatTime = timestamp;
222         } else
223             _script->retrigger(timestamp, true);
224
225         int repeat = round(parameters.value("repeat").toDouble() * 1000.);
226         if(repeat <= 0){
227             // If no repeat allowed, calculate stop time in seconds
228             repeatMsec = -1;
229             double stop = parameters.value("stop").toDouble();
230             if(stop <= 0)
231                 stopTime = 0;
232             else
233                 stopTime = timestamp + round(stop * 1000.);
234         } else {
235             // If repeat is allowed, calculate stop time in repetitions
236             repeatMsec = repeat;
237             if(delay <= 0)
238                 repeatTime = timestamp + repeat;
239             int stop = parameters.value("stop").toInt();
240             if(stop < 0)
241                 stopTime = 0;
242             else
243                 stopTime = timestamp + repeat * (1 + stop);
244         }
245     }
246     // Ask the script for a frame even if we didn't do anything here. This way ckb knows the script is
        responding.
247     _script->frame(timestamp);
```

```
248 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.4.31 void KbAnim::updateParams ( ) [private]

Definition at line 132 of file kbanim.cpp.

References _script, effectiveParams(), AnimScript::parameters(), and repeatKey.

Referenced by parameter(), and resetParams().

```
132                         {
133     if(_script)
134         _script->parameters(effectiveParams());
135     repeatKey = "";
136 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.23.5 Field Documentation

12.23.5.1 QUuid KbAnim::_guid [private]

Definition at line 110 of file kbanim.h.

Referenced by guid(), KbAnim(), newId(), and save().

12.23.5.2 bool KbAnim::_isActive [private]

Definition at line 114 of file kbanim.h.

Referenced by catchUp(), isActive(), keypress(), reInit(), stop(), and trigger().

12.23.5.3 bool KbAnim::_isActiveKp [private]

Definition at line 114 of file kbanim.h.

Referenced by catchUp(), isActive(), keypress(), reInit(), and stop().

12.23.5.4 QStringList KbAnim::_keys [private]

Definition at line 92 of file kbanim.h.

Referenced by KbAnim(), keys(), reInit(), and save().

12.23.5.5 KeyMap KbAnim::_map [private]

Definition at line 91 of file kbanim.h.

Referenced by KbAnim(), map(), and reInit().

12.23.5.6 Mode KbAnim::_mode [private]

Definition at line 113 of file kbanim.h.

Referenced by blend(), KbAnim(), mode(), and save().

12.23.5.7 QString KbAnim::_name [private]

Definition at line 111 of file kbanim.h.

Referenced by KbAnim(), name(), and save().

12.23.5.8 bool KbAnim::_needsSave [private]

Definition at line 115 of file kbanim.h.

Referenced by commitParams(), mode(), name(), needsSave(), newId(), opacity(), and save().

12.23.5.9 float KbAnim::_opacity [private]

Definition at line 112 of file kbanim.h.

Referenced by blend(), KbAnim(), opacity(), and save().

12.23.5.10 QMap<QString, QVariant> KbAnim::_parameters [private]

Definition at line 94 of file kbanim.h.

Referenced by commitParams(), effectiveParams(), hasParameter(), KbAnim(), parameter(), and save().

12.23.5.11 AnimScript* KbAnim::_script [private]

Definition at line 86 of file kbanim.h.

Referenced by blend(), catchUp(), isRunning(), KbAnim(), keypress(), parameter(), reInit(), script(), stop(), trigger(), and updateParams().

12.23.5.12 QUuid KbAnim::_scriptGuid [private]

Definition at line 88 of file kbanim.h.

Referenced by KbAnim(), and save().

12.23.5.13 QString KbAnim::_scriptName [private]

Definition at line 89 of file kbanim.h.

Referenced by KbAnim(), save(), and scriptName().

12.23.5.14 QMap<QString, QVariant> KbAnim::_tempParameters [private]

Definition at line 96 of file kbanim.h.

Referenced by commitParams(), effectiveParams(), parameter(), and resetParams().

12.23.5.15 int KbAnim::kpRepeatMsec [private]

Definition at line 106 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.16 quint64 KbAnim::kpRepeatTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.17 quint64 KbAnim::kpStopTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.18 QString KbAnim::repeatKey [private]

Definition at line 104 of file kbanim.h.

Referenced by catchUp(), keypress(), reInit(), stop(), and updateParams().

12.23.5.19 int KbAnim::repeatMsec [private]

Definition at line 106 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

12.23.5.20 quint64 KbAnim::repeatTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

12.23.5.21 quint64 KbAnim::stopTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

The documentation for this class was generated from the following files:

- src/ckb/kbanim.h
- src/ckb/kbanim.cpp

12.24 Ui::KbAnimWidget Class Reference

```
#include <src/ckb/ui_kbanimwidget.h>
```

Inheritance diagram for Ui::KbAnimWidget:

Collaboration diagram for Ui::KbAnimWidget:

Public Member Functions

- void setupUi (QWidget ∗KbAnimWidget)
- void retranslateUi (QWidget ∗KbAnimWidget)

Data Fields

- QGridLayout * gridLayout
- QStackedWidget * selectionStack
- QWidget * noSelPage
- QGridLayout * gridLayout_2
- QLabel * noAnimLabel
- QSpacerItem * verticalSpacer
- QWidget * animPage
- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout
- QLabel * aNameLabel
- QLabel * aVerLabel
- QSpacerItem * horizontalSpacer
- QLabel * aCopyLabel
- QSpacerItem * verticalSpacer_3
- QGridLayout * gridLayout_3
- QLineEdit * nameBox
- QDoubleSpinBox * opacityBox
- QComboBox * blendBox
- QLabel * label_6
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_5
- QSpacerItem * horizontalSpacer_3
- QLabel * label_7
- QPushButton * keyButton
- QPushButton * deleteButton
- QPushButton * propertyButton
- QSpacerItem * horizontalSpacer_5
- QSpacerItem * verticalSpacer_2
- QWidget * aMissingPage
- QGridLayout * gridLayout_4
- QLabel * aMissingLabel
- RListWidget * animList

12.24.1 Detailed Description

Definition at line 269 of file ui_kbanimwidget.h.

12.24.2 Member Function Documentation

12.24.2.1 void Ui_KbAnimWidget::retranslateUi (QWidget * *KbAnimWidget*) [inline],[inherited]

Definition at line 241 of file ui_kbanimwidget.h.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aNameLabel, Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, Ui_KbAnimWidget::deleteButton, Ui_KbAnimWidget::keyButton, Ui_KbAnimWidget::label_5, Ui_KbAnimWidget::label_6, Ui_KbAnimWidget::label_7, Ui_KbAnimWidget::noAnimLabel, Ui_KbAnimWidget::opacityBox, and Ui_KbAnimWidget::propertyButton.

Referenced by Ui_KbAnimWidget::setupUi().

```
    {
        KbAnimWidget->setWindowTitle(QApplication::translate("KbAnimWidget", "Form", Q_NULLPTR));
        noAnimLabel->setText(QApplication::translate("KbAnimWidget", "No animations in this mode", Q_NULLPTR));
        aNameLabel->setText(QApplication::translate("KbAnimWidget", "Animation name", Q_NULLPTR);
        aVerLabel->setText(QApplication::translate("KbAnimWidget", "v0.0", Q_NULLPTR));
        aCopyLabel->setText(QApplication::translate("KbAnimWidget", "Copyright \302\251", Q_NULLPTR));
        opacityBox->setSuffix(QApplication::translate("KbAnimWidget", "%", Q_NULLPTR));
        blendBox->clear();
        blendBox->insertItems(0, QStringList()
         << QApplication::translate("KbAnimWidget", "Normal", Q_NULLPTR)
         << QApplication::translate("KbAnimWidget", "Add", Q_NULLPTR)
         << QApplication::translate("KbAnimWidget", "Subtract", Q_NULLPTR)
         << QApplication::translate("KbAnimWidget", "Multiply", Q_NULLPTR)
         << QApplication::translate("KbAnimWidget", "Divide", Q_NULLPTR)
        );
        label_6->setText(QApplication::translate("KbAnimWidget", "Blend mode:", Q_NULLPTR));
        label_5->setText(QApplication::translate("KbAnimWidget", "Opacity:", Q_NULLPTR));
        label_7->setText(QApplication::translate("KbAnimWidget", "Name:", Q_NULLPTR));
        keyButton->setText(QApplication::translate("KbAnimWidget", "Set keys", Q_NULLPTR));
        deleteButton->setText(QApplication::translate("KbAnimWidget", "Delete animation", Q_NULLPTR));
        propertyButton->setText(QApplication::translate("KbAnimWidget", "Edit properties", Q_NULLPTR));
        aMissingLabel->setText(QApplication::translate("KbAnimWidget", "Mising animation", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.24.2.2 void Ui_KbAnimWidget::setupUi (QWidget * *KbAnimWidget*) [inline],[inherited]

Definition at line 69 of file ui_kbanimwidget.h.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aMissingPage, Ui_KbAnimWidget::aNameLabel, Ui_KbAnimWidget::animList, Ui_KbAnimWidget::animPage, Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, Ui_KbAnimWidget::deleteButton, Ui_KbAnimWidget::gridLayout, Ui_KbAnimWidget::gridLayout_2, Ui_KbAnimWidget::gridLayout_3, Ui_KbAnimWidget::gridLayout_4, Ui_KbAnimWidget::horizontalLayout, Ui_KbAnimWidget::horizontalSpacer, Ui_KbAnimWidget::horizontalSpacer_2, Ui_KbAnimWidget::horizontalSpacer_3, Ui_KbAnimWidget::horizontalSpacer_4, Ui_KbAnimWidget::horizontalSpacer_5, Ui_KbAnimWidget::keyButton, Ui_KbAnimWidget::label_5, Ui_KbAnimWidget::label_6, Ui_KbAnimWidget::label_7, Ui_KbAnimWidget::nameBox, Ui_KbAnimWidget::noAnimLabel, Ui_KbAnimWidget::noSelPage, Ui_KbAnimWidget::opacityBox, Ui_KbAnimWidget::propertyButton, Ui_KbAnimWidget::retranslateUi(), Ui_KbAnimWidget::selectionStack, Ui_KbAnimWidget::verticalLayout, Ui_KbAnimWidget::verticalSpacer, Ui_KbAnimWidget::verticalSpacer_2, and Ui_KbAnimWidget::verticalSpacer_3.

Referenced by KbAnimWidget::KbAnimWidget().

```
    {
        if (KbAnimWidget->objectName().isEmpty())
            KbAnimWidget->setObjectName(QStringLiteral("KbAnimWidget"));
        KbAnimWidget->resize(613, 300);
        gridLayout = new QGridLayout(KbAnimWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        gridLayout->setContentsMargins(0, 0, 0, 0);
        selectionStack = new QStackedWidget(KbAnimWidget);
        selectionStack->setObjectName(QStringLiteral("selectionStack"));
        noSelPage = new QWidget();
        noSelPage->setObjectName(QStringLiteral("noSelPage"));
        gridLayout_2 = new QGridLayout(noSelPage);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(6, 6, 6, 6);
        noAnimLabel = new QLabel(noSelPage);
```

```
        noAnimLabel->setObjectName(QStringLiteral("noAnimLabel"));

        gridLayout_2->addWidget(noAnimLabel, 0, 0, 1, 1);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer, 1, 0, 1, 1);

        selectionStack->addWidget(noSelPage);
        animPage = new QWidget();
        animPage->setObjectName(QStringLiteral("animPage"));
        verticalLayout = new QVBoxLayout(animPage);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        verticalLayout->setContentsMargins(6, 0, 0, 0);
        horizontalLayout = new QHBoxLayout();
         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
         aNameLabel = new QLabel(animPage);
         aNameLabel->setObjectName(QStringLiteral("aNameLabel"));
         QFont font;
         font.setBold(true);
         font.setWeight(75);
         aNameLabel->setFont(font);

         horizontalLayout->addWidget(aNameLabel);

         aVerLabel = new QLabel(animPage);
         aVerLabel->setObjectName(QStringLiteral("aVerLabel"));

         horizontalLayout->addWidget(aVerLabel);

         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

         horizontalLayout->addItem(horizontalSpacer);

         aCopyLabel = new QLabel(animPage);
         aCopyLabel->setObjectName(QStringLiteral("aCopyLabel"));

         horizontalLayout->addWidget(aCopyLabel);


         verticalLayout->addLayout(horizontalLayout);

         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

         verticalLayout->addItem(verticalSpacer_3);

         gridLayout_3 = new QGridLayout();
         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
         nameBox = new QLineEdit(animPage);
         nameBox->setObjectName(QStringLiteral("nameBox"));
         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
         sizePolicy.setHorizontalStretch(0);
         sizePolicy.setVerticalStretch(0);
         sizePolicy.setHeightForWidth(nameBox->sizePolicy().hasHeightForWidth());
         nameBox->setSizePolicy(sizePolicy);
         nameBox->setMinimumSize(QSize(150, 0));
         nameBox->setMaximumSize(QSize(150, 16777215));

         gridLayout_3->addWidget(nameBox, 0, 3, 1, 2);

         opacityBox = new QDoubleSpinBox(animPage);
         opacityBox->setObjectName(QStringLiteral("opacityBox"));
         opacityBox->setDecimals(1);
         opacityBox->setValue(100);

         gridLayout_3->addWidget(opacityBox, 1, 3, 1, 1);

         blendBox = new QComboBox(animPage);
         blendBox->setObjectName(QStringLiteral("blendBox"));

         gridLayout_3->addWidget(blendBox, 2, 3, 1, 2);

         label_6 = new QLabel(animPage);
         label_6->setObjectName(QStringLiteral("label_6"));

         gridLayout_3->addWidget(label_6, 2, 1, 1, 1);

         horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

         gridLayout_3->addItem(horizontalSpacer_4, 0, 0, 1, 1);

         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);
```

```

        gridLayout_3->addItem(horizontalSpacer_2, 0, 2, 1, 1);

        label_5 = new QLabel(animPage);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout_3->addWidget(label_5, 1, 1, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_3, 0, 5, 1, 1);

        label_7 = new QLabel(animPage);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout_3->addWidget(label_7, 0, 1, 1, 1);

        keyButton = new QPushButton(animPage);
        keyButton->setObjectName(QStringLiteral("keyButton"));

        gridLayout_3->addWidget(keyButton, 1, 6, 1, 1);

        deleteButton = new QPushButton(animPage);
        deleteButton->setObjectName(QStringLiteral("deleteButton"));

        gridLayout_3->addWidget(deleteButton, 2, 6, 1, 1);

        propertyButton = new QPushButton(animPage);
        propertyButton->setObjectName(QStringLiteral("propertyButton"));

        gridLayout_3->addWidget(propertyButton, 0, 6, 1, 1);

        horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_5, 1, 4, 1, 1);


        verticalLayout->addLayout(gridLayout_3);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        selectionStack->addWidget(animPage);
        aMissingPage = new QWidget();
        aMissingPage->setObjectName(QStringLiteral("aMissingPage"));
        gridLayout_4 = new QGridLayout(aMissingPage);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        aMissingLabel = new QLabel(aMissingPage);
        aMissingLabel->setObjectName(QStringLiteral("aMissingLabel"));
        aMissingLabel->setFont(font);

        gridLayout_4->addWidget(aMissingLabel, 0, 0, 1, 1);

        selectionStack->addWidget(aMissingPage);

        gridLayout->addWidget(selectionStack, 0, 2, 2, 1);

        animList = new RListWidget(KbAnimWidget);
        animList->setObjectName(QStringLiteral("animList"));
        animList->setMaximumSize(QSize(130, 16777215));
        animList->setContextMenuPolicy(Qt::CustomContextMenu);
        animList->setFrameShadow(QFrame::Plain);
        animList->setDragDropMode(QAbstractItemView::InternalMove);
        animList->setMovement(QListView::Snap);

        gridLayout->addWidget(animList, 0, 0, 2, 1);


        retranslateUi(KbAnimWidget);

        QMetaObject::connectSlotsByName(KbAnimWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.24.3 Field Documentation

12.24.3.1 QLabel* Ui_KbAnimWidget::aCopyLabel [inherited]

Definition at line 47 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.2 QLabel* Ui_KbAnimWidget::aMissingLabel [inherited]

Definition at line 66 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.3 QWidget* Ui_KbAnimWidget::aMissingPage [inherited]

Definition at line 64 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.4 QLabel* Ui_KbAnimWidget::aNameLabel [inherited]

Definition at line 44 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.5 RListWidget* Ui_KbAnimWidget::animList [inherited]

Definition at line 67 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::clearSelection(), KbAnimWidget::duplicateAnim(), KbAnimWidget::KbAnimWidget(), KbAnimWidget::on_animList_customContextMenuRequested(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_nameBox_textEdited(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and Ui_KbAnimWidget::setupUi().

12.24.3.6 QWidget* Ui_KbAnimWidget::animPage [inherited]

Definition at line 41 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.7 QLabel* Ui_KbAnimWidget::aVerLabel [inherited]

Definition at line 45 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.8 QComboBox* Ui_KbAnimWidget::blendBox [inherited]

Definition at line 52 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.9 QPushButton* Ui_KbAnimWidget::deleteButton [inherited]

Definition at line 60 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.10 QGridLayout* Ui_KbAnimWidget::gridLayout [inherited]

Definition at line 35 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.11 QGridLayout* Ui_KbAnimWidget::gridLayout_2 [inherited]

Definition at line 38 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.12 QGridLayout* Ui_KbAnimWidget::gridLayout_3 [inherited]

Definition at line 49 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.13 QGridLayout* Ui_KbAnimWidget::gridLayout_4 [inherited]

Definition at line 65 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.14 QHBoxLayout* Ui_KbAnimWidget::horizontalLayout [inherited]

Definition at line 43 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.15 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer [inherited]

Definition at line 46 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.16 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_2 [inherited]

Definition at line 55 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.17 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_3 [inherited]

Definition at line 57 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.18 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_4 [inherited]

Definition at line 54 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.19 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_5 [inherited]

Definition at line 62 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.20 QPushButton* Ui_KbAnimWidget::keyButton [inherited]

Definition at line 59 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setSelectedKeys(), and Ui_KbAnimWidget::setupUi().

12.24.3.21 QLabel* Ui_KbAnimWidget::label_5 [inherited]

Definition at line 56 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.22 QLabel* Ui_KbAnimWidget::label_6 [inherited]

Definition at line 53 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.23 QLabel* Ui_KbAnimWidget::label_7 [inherited]

Definition at line 58 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.24 QLineEdit* Ui_KbAnimWidget::nameBox [inherited]

Definition at line 50 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_propertyButton_clicked(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.25 QLabel* Ui_KbAnimWidget::noAnimLabel [inherited]

Definition at line 39 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::duplicateAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.26 QWidget* Ui_KbAnimWidget::noSelPage [inherited]

Definition at line 37 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.27 QDoubleSpinBox* Ui_KbAnimWidget::opacityBox [inherited]

Definition at line 51 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.28 QPushButton* Ui_KbAnimWidget::propertyButton [inherited]

Definition at line 61 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.29 QStackedWidget* Ui_KbAnimWidget::selectionStack [inherited]

Definition at line 36 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.30 QVBoxLayout* Ui_KbAnimWidget::verticalLayout [inherited]

Definition at line 42 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.31 QSpacerItem* Ui_KbAnimWidget::verticalSpacer [inherited]

Definition at line 40 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.32 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_2 [inherited]

Definition at line 63 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.33 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_3 [inherited]

Definition at line 48 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbanimwidget.h

12.25 KbAnimWidget Class Reference

```
#include <src/ckb/kbanimwidget.h>
```

Inheritance diagram for KbAnimWidget:

Collaboration diagram for KbAnimWidget:

Signals

- void animChanged (KbAnim ∗selection)
- void didUpdateSelection (QStringList keys)

Public Member Functions

- KbAnimWidget (QWidget ∗parent=0)
- ∼KbAnimWidget ()
- void setLight (KbLight ∗newLight)
- void addAnim (const AnimScript ∗base, const QStringList &keyList, const QString &name, const QMap< QString, QVariant > &preset)
- void duplicateAnim (KbAnim ∗old)
- void clearSelection ()
- void setSelectedKeys (const QStringList &keys)

Private Slots

- void on_animList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void on_animList_itemChanged (QListWidgetItem ∗item)
- void on_animList_customContextMenuRequested (const QPoint &pos)
- void on_nameBox_textEdited (const QString &arg1)
- void on_opacityBox_valueChanged (double arg1)
- void on_blendBox_activated (int index)
- void on_keyButton_clicked ()
- void on_deleteButton_clicked ()
- void refreshList ()
- void reorderAnims ()
- void on_propertyButton_clicked ()

Private Member Functions

- void setCurrent (KbAnim *newCurrent)

Private Attributes

- KbLight * light
- QHash< QUuid, KbAnim * > animations
- KbAnim * current
- QStringList selectedKeys
- bool noReorder
- Ui::KbAnimWidget * ui

12.25.1 Detailed Description

Definition at line 15 of file kbanimwidget.h.

12.25.2 Constructor & Destructor Documentation

12.25.2.1 KbAnimWidget::KbAnimWidget (QWidget * *parent* = 0) [explicit]

Definition at line 7 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, reorderAnims(), setCurrent(), Ui_KbAnimWidget::setupUi(), and ui.

```
7                                          :
8     QWidget(parent), light(0), current(0), noReorder(false),
9     ui(new Ui::KbAnimWidget)
10 {
11     ui->setupUi(this);
12     ui->animList->setVisible(false);
13     setCurrent(0);
14     connect(ui->animList, SIGNAL(orderChanged()), this, SLOT(
      reorderAnims()));
15 }
```

Here is the call graph for this function:

12.25.2.2 KbAnimWidget::~KbAnimWidget ( )

Definition at line 17 of file kbanimwidget.cpp.

References ui.

```
17                                  {
18     delete ui;
19 }
```

12.25.3 Member Function Documentation

12.25.3.1 void KbAnimWidget::addAnim (const AnimScript * *base*, const QStringList & *keyList*, const QString & *name*, const QMap< QString, QVariant > & *preset*)

Definition at line 82 of file kbanimwidget.cpp.

References KbLight::addAnim(), animations, Ui_KbAnimWidget::animList, KbAnim::guid(), light, KbAnim::name(), Ui_KbAnimWidget::noAnimLabel, noReorder, on_propertyButton_clicked(), setCurrent(), and ui.

Referenced by KbLightWidget::on_animButton_clicked().

```
82
                                        {
83     if(!light)
84         return;
85     noReorder = true;
86     KbAnim* animation = light->addAnim(base, keyList, name, preset);
87     QListWidgetItem* item = new QListWidgetItem(animation->name(), ui->
       animList);
88     item->setData(Qt::UserRole, animation->guid());
89     item->setFlags(item->flags() | Qt::ItemIsEditable);
90     animations[animation->guid()] = animation;
91     ui->animList->addItem(item);
92     ui->animList->setCurrentItem(item);
```

```
    ui->animList->setVisible(true);
    ui->noAnimLabel->setVisible(false);

    setCurrent(animation);
    noReorder = false;

    // Activate settings dialog
     on_propertyButton_clicked();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.2 void KbAnimWidget::animChanged (KbAnim * *selection*) [signal]

Definition at line 213 of file moc_kbanimwidget.cpp.

Referenced by setCurrent().

```
{
    void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
    QMetaObject::activate(this, &staticMetaObject, 0, _a);
}
```

Here is the caller graph for this function:

12.25.3.3 void KbAnimWidget::clearSelection ( )

Definition at line 77 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, setCurrent(), and ui.

Referenced by KbLightWidget::setLight().

```
77                                  {
78      ui->animList->setCurrentItem(0);
79      setCurrent(0);
80  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.4 void KbAnimWidget::didUpdateSelection (QStringList *keys*) [signal]

Definition at line 220 of file moc_kbanimwidget.cpp.

Referenced by on_keyButton_clicked().

```
221 {
222     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
223     QMetaObject::activate(this, &staticMetaObject, 1, _a);
224 }
```

Here is the caller graph for this function:

12.25.3.5 void KbAnimWidget::duplicateAnim (KbAnim * *old*)

Definition at line 103 of file kbanimwidget.cpp.

References KbLight::animList(), Ui_KbAnimWidget::animList, KbLight::duplicateAnim(), light, Ui_KbAnimWidget::noAnimLabel, noReorder, refreshList(), setCurrent(), and ui.

Referenced by on_animList_customContextMenuRequested().

```
103                                                 {
104     if(!light)
105         return;
106     noReorder = true;
107     KbAnim* animation = light->duplicateAnim(old);
108     // Refresh the list. insertItem doesn't seem to place the item in the correct position on its own...
109     refreshList();
110     ui->animList->setCurrentRow(light->animList().indexOf(animation));
111     ui->animList->setVisible(true);
112     ui->noAnimLabel->setVisible(false);
113
114     setCurrent(animation);
115     noReorder = false;
116 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.6 void KbAnimWidget::on_animList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 151 of file kbanimwidget.cpp.

References animations, and setCurrent().

```
151                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
156 }
```

Here is the call graph for this function:

12.25.3.7 void KbAnimWidget::on_animList_customContextMenuRequested (const QPoint & *pos*) [private], [slot]

Definition at line 169 of file kbanimwidget.cpp.

References animations, Ui_KbAnimWidget::animList, current, duplicateAnim(), on_deleteButton_clicked(), setCurrent(), and ui.

```
169                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
184         ui->animList->editItem(item);
```

```
    else if(result == duplicate)
        duplicateAnim(current);
    else if(result == del)
        on_deleteButton_clicked();
}
```

Here is the call graph for this function:

12.25.3.8 void KbAnimWidget::on_animList_itemChanged (QListWidgetItem * *item*) [private],[slot]

Definition at line 158 of file kbanimwidget.cpp.

References anim, animations, current, KbAnim::name(), Ui_KbAnimWidget::nameBox, noReorder, and ui.

```
158                                                                 {
159     if(item){
160         KbAnim* anim = animations[item->data(Qt::UserRole).toUuid()];
161         if(anim){
162             anim->name(item->text().trimmed());
163             if(anim == current && !noReorder)
164                 ui->nameBox->setText(anim->name());
165         }
166     }
167 }
```

Here is the call graph for this function:

12.25.3.9 void KbAnimWidget::on_blendBox_activated (int *index*) [private],[slot]

Definition at line 205 of file kbanimwidget.cpp.

References current, and KbAnim::mode().

```
205                                                 {
206     if(current)
207         current->mode((KbAnim::Mode)index);
208 }
```

Here is the call graph for this function:

12.25.3.10 void KbAnimWidget::on_deleteButton_clicked ( ) [private],[slot]

Definition at line 226 of file kbanimwidget.cpp.

References animations, KbLight::animList(), Ui_KbAnimWidget::animList, current, KbAnim::guid(), light, Ui_KbAnimWidget::noAnimLabel, KbLight::restartAnimation(), setCurrent(), and ui.

Referenced by on_animList_customContextMenuRequested().

```
226                                                 {
227     if(current){
228         animations.remove(current->guid());
229         QList<KbAnim*> animList = light->animList();
230         animList.removeAll(current);
231         light->animList(animList);
232         current->deleteLater();
233         setCurrent(0);
234         delete ui->animList->currentItem();
235         if(animations.count() == 0){
236             ui->animList->setVisible(false);
237             ui->noAnimLabel->setVisible(true);
238         }
239     }
240     light->restartAnimation();
241 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.11 void KbAnimWidget::on_keyButton_clicked ( ) [private],[slot]

Definition at line 210 of file kbanimwidget.cpp.

References KeyMap::contains(), current, didUpdateSelection(), KbAnim::keys(), light, KbLight::map(), KbLight::restartAnimation(), and selectedKeys.

```
210                                         {
211     if(current){
212         QStringList keys = selectedKeys;
213         // If any keys were selected previously that aren't in the keymap now, leave them in
214         // This is important for layout compatibility - e.g. being able to select both bslash_iso and
        bslash, because no single layout contains both
215         const KeyMap& map = light->map();
216         foreach(const QString& key, current->keys()){
217             if(!map.contains(key))
218                 keys << key;
219         }
220         current->keys(keys);
221         emit didUpdateSelection(selectedKeys);
222     }
223     light->restartAnimation();
224 }
```

Here is the call graph for this function:

12.25.3.12 void KbAnimWidget::on_nameBox_textEdited (const QString & *arg1*) [private],[slot]

Definition at line 191 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, current, KbAnim::name(), noReorder, and ui.

Referenced by on_propertyButton_clicked().

```
191                                                     {
192     if(current){
193         noReorder = true;
194         current->name(arg1.trimmed());
195         ui->animList->currentItem()->setText(current->name());
196         noReorder = false;
197     }
198 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.13 void KbAnimWidget::on_opacityBox_valueChanged (double *arg1*) [private],[slot]

Definition at line 200 of file kbanimwidget.cpp.

References current, and KbAnim::opacity().

```
200                                                         {
201     if(current)
202         current->opacity(arg1 / 100.);
203 }
```

Here is the call graph for this function:

12.25.3.14 void KbAnimWidget::on_propertyButton_clicked ( ) [private],[slot]

Definition at line 243 of file kbanimwidget.cpp.

References KbAnim::commitParams(), current, light, AnimSettingDialog::name(), Ui_KbAnimWidget::nameBox, on_nameBox_textEdited(), KbAnim::reInit(), KbAnim::resetParams(), KbLight::restartAnimation(), and ui.

Referenced by addAnim().

```
243                                             {
244     if(!current)
245         return;
246     // Present animation property popup
247     AnimSettingDialog dialog(this, current);
248     dialog.exec();
249     if(dialog.result() != QDialog::Accepted){
250         current->resetParams();
251         return;
252     }
253     // Apply settings and restart all animations
254     current->commitParams();
255     current->reInit();
256     light->restartAnimation();
257     // Update name
258     ui->nameBox->setText(dialog.name());
259     on_nameBox_textEdited(dialog.name());
260 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.15 void KbAnimWidget::refreshList ( ) [private],[slot]

Definition at line 32 of file kbanimwidget.cpp.

References anim, animations, KbLight::animList(), Ui_KbAnimWidget::animList, KbAnim::guid(), light, KbAnim::name(), Ui_KbAnimWidget::noAnimLabel, noReorder, setCurrent(), and ui.

Referenced by duplicateAnim(), and setLight().

```
32                                  {
33     noReorder = true;
34     setCurrent(0);
35     ui->animList->clear();
36     animations.clear();
37     // Add the animations from the new lighting mode
38     if(!light){
39         ui->animList->setVisible(false);
40         ui->noAnimLabel->setVisible(true);
41         return;
42     }
43     QList<KbAnim*> newAnimations = light->animList();
44     if(newAnimations.count() == 0){
45         ui->animList->setVisible(false);
46         ui->noAnimLabel->setVisible(true);
47         return;
48     }
49     ui->animList->setVisible(true);
50     foreach(KbAnim* anim, newAnimations){
51         QListWidgetItem* item = new QListWidgetItem(anim->name(), ui->
       animList);
52         item->setData(Qt::UserRole, anim->guid());
53         item->setFlags(item->flags() | Qt::ItemIsEditable);
54         animations[anim->guid()] = anim;
55         ui->animList->addItem(item);
56     }
57     ui->noAnimLabel->setVisible(false);
58     noReorder = false;
59 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.16 void KbAnimWidget::reorderAnims ( ) [private],[slot]

Definition at line 61 of file kbanimwidget.cpp.

References anim, animations, KbLight::animList(), Ui_KbAnimWidget::animList, light, noReorder, and ui.

Referenced by KbAnimWidget().

```
61                                  {
62      if(light && !noReorder){
63          // Clear and rebuild the list of animations in case the animation moved
64          int count = ui->animList->count();
65          QList<KbAnim*> animList;
66          for(int i = 0; i < count; i++){
67              QListWidgetItem* item = ui->animList->item(i);
68              KbAnim* anim = animations[item->data(Qt::UserRole).toUuid()];
69              if(anim && !animList.contains(anim))
70                  animList.append(anim);
71              item->setFlags(item->flags() | Qt::ItemIsEditable);
72          }
73          light->animList(animList);
74      }
75  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.17 void KbAnimWidget::setCurrent (KbAnim * *newCurrent*) [private]

Definition at line 118 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aNameLabel, animChanged(), Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, AnimScript::copyright(), current, KbAnim::keys(), KbAnim::mode(), AnimScript::name(), KbAnim::name(), Ui_KbAnimWidget::nameBox, KbAnim::opacity(), Ui_KbAnimWidget::opacityBox, KbAnim::script(), KbAnim::scriptName(), selectedKeys, Ui_KbAnimWidget::selectionStack, ui, and AnimScript::version().

Referenced by addAnim(), clearSelection(), duplicateAnim(), KbAnimWidget(), on_animList_currentItemChanged(), on_animList_customContextMenuRequested(), on_deleteButton_clicked(), and refreshList().

```
118                                                 {
119     if(newCurrent != current)
120         emit animChanged(current = newCurrent);
121     if(!current){
122         selectedKeys.clear();
123         ui->selectionStack->setCurrentIndex(0);
124         return;
125     }
126     selectedKeys = current->keys();
127     const AnimScript* script = current->script();
128     if(!script){
129         ui->selectionStack->setCurrentIndex(2);
130         ui->aMissingLabel->setText("The \"" + current->
        scriptName() + "\" script could not be loaded. Please check your animation directory.");
131         return;
132     }
133     ui->selectionStack->setCurrentIndex(1);
134     ui->aNameLabel->setText(script->name());
135     ui->aVerLabel->setText("v" + script->version());
136     ui->aCopyLabel->setText(script->copyright());
137
138     ui->nameBox->setText(current->name());
139     ui->opacityBox->setValue(current->opacity() * 100.);
140     ui->blendBox->setCurrentIndex((int)current->mode());
141 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.18 void KbAnimWidget::setLight (KbLight * *newLight*)

Definition at line 21 of file kbanimwidget.cpp.

References light, and refreshList().

Referenced by KbLightWidget::setLight().

```
{
    if(light != newLight){
        if(light)
            disconnect(light, SIGNAL(didLoad()), this, SLOT(refreshList()));
        if(newLight)
            connect(newLight, SIGNAL(didLoad()), this, SLOT(refreshList()));
        light = newLight;
    }
    refreshList();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.25.3.19 void KbAnimWidget::setSelectedKeys (const QStringList & *keys*)

Definition at line 143 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::keyButton, selectedKeys, and ui.

Referenced by KbLightWidget::newSelection().

```
{
    selectedKeys = keys;
    if(keys.count() == 0)
        ui->keyButton->setVisible(false);
    else
        ui->keyButton->setVisible(true);
}
```

Here is the caller graph for this function:

12.25.4 Field Documentation

12.25.4.1 QHash<QUuid, KbAnim*> KbAnimWidget::animations [private]

Definition at line 53 of file kbanimwidget.h.

Referenced by addAnim(), on_animList_currentItemChanged(), on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_deleteButton_clicked(), refreshList(), and reorderAnims().

12.25.4.2 KbAnim* KbAnimWidget::current [private]

Definition at line 55 of file kbanimwidget.h.

Referenced by on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_blendBox_activated(), on_deleteButton_clicked(), on_keyButton_clicked(), on_nameBox_textEdited(), on_opacityBox_valueChanged(), on_propertyButton_clicked(), and setCurrent().

12.25.4.3 KbLight* KbAnimWidget::light [private]

Definition at line 52 of file kbanimwidget.h.

Referenced by addAnim(), duplicateAnim(), on_deleteButton_clicked(), on_keyButton_clicked(), on_propertyButton_clicked(), refreshList(), reorderAnims(), and setLight().

12.25.4.4 bool KbAnimWidget::noReorder [private]

Definition at line 58 of file kbanimwidget.h.

Referenced by addAnim(), duplicateAnim(), on_animList_itemChanged(), on_nameBox_textEdited(), refreshList(), and reorderAnims().

12.25.4.5 QStringList KbAnimWidget::selectedKeys [private]

Definition at line 57 of file kbanimwidget.h.

Referenced by on_keyButton_clicked(), setCurrent(), and setSelectedKeys().

12.25.4.6 Ui::KbAnimWidget* KbAnimWidget::ui [private]

Definition at line 60 of file kbanimwidget.h.

Referenced by addAnim(), clearSelection(), duplicateAnim(), KbAnimWidget(), on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_deleteButton_clicked(), on_nameBox_textEdited(), on_propertyButton_clicked(), refreshList(), reorderAnims(), setCurrent(), setSelectedKeys(), and ~KbAnimWidget().

The documentation for this class was generated from the following files:

- src/ckb/kbanimwidget.h

- src/ckb/kbanimwidget.cpp
- src/ckb/release/moc_kbanimwidget.cpp

12.26 KbBind Class Reference

`#include <src/ckb/kbbind.h>`

Inheritance diagram for KbBind:

Collaboration diagram for KbBind:

Public Slots

- void keyEvent (const QString &key, bool down)

Signals

- void didLoad ()
- void layoutChanged ()
- void updated ()

Public Member Functions

- KbBind (KbMode *modeParent, Kb *devParent, const KeyMap &keyMap)
- KbBind (KbMode *modeParent, Kb *devParent, const KeyMap &keyMap, const KbBind &other)

  KbBind.
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- const KeyMap & map ()
- void map (const KeyMap &map)
- bool isISO () const
- bool isKeyboard () const
- bool isMouse () const
- KbPerf * perf ()
- KbLight * light ()
- QString action (const QString &key)
- QString defaultAction (const QString &key)

- QString friendlyName (const QString &key)
- QString friendlyActionName (const QString &key)
- void setAction (const QString &key, const QString &action)
- void setAction (const QStringList &keys, const QString &action)
- void resetAction (const QString &key)
- void resetAction (const QStringList &keys)
- void noAction (const QString &key)
- void noAction (const QStringList &keys)
- bool winLock ()
- void winLock (bool newWinLock)
- void update (QFile &cmd, bool force=false)
- void setNeedsUpdate ()
- int getMacroNumber ()

  KbBind::getMacroNumber.
- QString getMacroPath ()

  KbBind::getMacroPath.
- void handleNotificationChannel (bool start)

  handleNotificationChannel sends commands to ckb-daemon for (de-) activating the notify channel. Send a notify cmd to the keyboard to set or clear notification for reading macro definition. The file handle for the cmd pipe is stored in lastCmd.

Static Public Member Functions

- static QString globalRemap (const QString &key)
- static void setGlobalRemap (const QHash< QString, QString > keyToActual)
- static void loadGlobalRemap ()
- static void saveGlobalRemap ()
- static QString defaultAction (const QString &key, KeyMap::Model model)

Private Member Functions

- Kb * devParent () const
- KbMode * modeParent () const
- KeyAction * bindAction (const QString &key)

Private Attributes

- Kb * _devParent
- quint64 lastGlobalRemapTime
- QFile * lastCmd

  lastCmd is a cache-hack. Because the QFile ist opened in Kb, and we need it in the macro processing functions, we cache the value her in lastCmd.
- KeyMap _map
- QHash< QString, KeyAction * > _bind
- bool _winLock
- bool _needsUpdate
- bool _needsSave

Static Private Attributes

- static QHash< QString, QString > _globalRemap
- static quint64 globalRemapTime = 0

Friends

- class KeyAction

12.26.1 Detailed Description

Definition at line 20 of file kbbind.h.

12.26.2 Constructor & Destructor Documentation

12.26.2.1 KbBind::KbBind (KbMode * *modeParent*, Kb * *devParent*, const KeyMap & *keyMap*) [explicit]

Definition at line 12 of file kbbind.cpp.

```
12                                                                  :
13     QObject(modeParent), _devParent(parentBoard),
      lastGlobalRemapTime(globalRemapTime), _map(keyMap),
14     _winLock(false), _needsUpdate(true), _needsSave(true) {
15 }
```

12.26.2.2 KbBind::KbBind (KbMode * *modeParent*, Kb * *parentBoard*, const KeyMap & *keyMap*, const KbBind & *other*)

KbBind::KbBind // copy all existing Key bindings.

Parameters

modeParent	
devParent	
keyMap	
other	This is the KbBind object to copy from Use this constructor to copy an existing Binding
modeParent	
parentBoard	
keyMap	
other	

Create a new Hash table and copy all entries

clear the destination list (there are the original KeyActions as references, so do not delete them)

and move the KeyActions we just created

Definition at line 24 of file kbbind.cpp.

References _bind, KeyAction, map(), and KeyAction::value().

```
24                                                                                  :
25     QObject(modeParent), _devParent(parentBoard),
      lastGlobalRemapTime(globalRemapTime), _bind(other.
      _bind),
26     _winLock(false), _needsUpdate(true), _needsSave(true) {
27     map(keyMap);
28
30     QHash<QString, KeyAction*> newBind;
31     foreach(QString key, _bind.keys()) {
32         KeyAction* act = _bind.value(key);
33         if(act) {
34             newBind[key] = new KeyAction(act->value(), this);
35         }
36     }
37
39     _bind.clear();
40     foreach(QString key, newBind.keys()) {
41         KeyAction* act = newBind.value(key);
42         if(act) {
44             _bind[key] = new KeyAction(act->value(), this);
45         }
46     }
```

```
    newBind.clear();      // here we *must not* delete the KeyActions, because they are referenced by _bind
    now
}
```

Here is the call graph for this function:

12.26.3 Member Function Documentation

12.26.3.1 QString KbBind::action (const QString & *key*)

Definition at line 145 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::value().

Referenced by friendlyActionName(), KbBindWidget::on_copyButton_clicked(), resetAction(), RebindWidget::setSelection(), and KbBindWidget::updateBind().

```
                                        {
    QString rKey = globalRemap(key);
    return bindAction(rKey)->value();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.2 KeyAction * KbBind::bindAction (const QString & *key*) [private]

Definition at line 140 of file kbbind.cpp.

References _bind, KeyAction::defaultAction(), devParent(), and KeyAction.

Referenced by action(), keyEvent(), and update().

```
140                                                 {
141   if(!_bind.contains(key)) return _bind[key] = new KeyAction(
      KeyAction::defaultAction(key, devParent()->model()), this);
142   return _bind[key];
143 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.3 QString KbBind::defaultAction (const QString & *key*)

Definition at line 155 of file kbbind.cpp.

References devParent().

Referenced by KeyWidget::paintEvent(), and RebindWidget::setBind().

```
                                                {
  return defaultAction(key, devParent()->model());
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.4 QString KbBind::defaultAction (const QString & *key*, KeyMap::Model *model*) [static]

Definition at line 150 of file kbbind.cpp.

References KeyAction::defaultAction(), and globalRemap().

```
                                                                {
    QString rKey = globalRemap(key);
    return KeyAction::defaultAction(rKey, model);
}
```

Here is the call graph for this function:

12.26.3.5 Kb* KbBind::devParent ( ) const [inline], [private]

Definition at line 115 of file kbbind.h.

References _devParent.

Referenced by bindAction(), defaultAction(), getMacroNumber(), getMacroPath(), KeyAction::keyEvent(), and save().

```
115 { return _devParent; }
```

Here is the caller graph for this function:

12.26.3.6 void KbBind::didLoad ( ) [signal]

Definition at line 155 of file moc_kbbind.cpp.

Referenced by load().

```
156 {
157     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
158 }
```

Here is the caller graph for this function:

12.26.3.7 QString KbBind::friendlyActionName (const QString & *key*)

Definition at line 166 of file kbbind.cpp.

References _map, action(), and KeyAction.

Referenced by KbBindWidget::updateSelDisplay().

```
166                                                 {
167     QString act = action(key);
168     return KeyAction(act).friendlyName(_map);
169 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.8 QString KbBind::friendlyName (const QString & *key*)

Definition at line 159 of file kbbind.cpp.

References _map, Key::friendlyName(), and globalRemap().

```
159                                                 {
160     const Key& pos = _map[globalRemap(key)];
161     if(!pos)
162         return "(Unknown)";
163     return pos.friendlyName();
164 }
```

Here is the call graph for this function:

12.26.3.9 int KbBind::getMacroNumber ( )

Returns

number of notification channel. Use it in combination with notifyon/off-Statement

Definition at line 266 of file kbbind.cpp.

References devParent(), and Kb::getMacroNumber().

Referenced by handleNotificationChannel(), and RebindWidget::on_btnStartMacro_clicked().

```
266                                 {
267     return devParent()->getMacroNumber();
268 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.10 QString KbBind::getMacroPath ( )

Returns

Filepath of macro notification pipe. If not set, returns initial value ""

Definition at line 274 of file kbbind.cpp.

References devParent(), and Kb::getMacroPath().

Referenced by RebindWidget::on_btnStartMacro_clicked().

```
274                                 {
275     return devParent()->getMacroPath();
276 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.11 QString KbBind::globalRemap (const QString & *key*) [static]

Definition at line 98 of file kbbind.cpp.

References _globalRemap.

Referenced by action(), defaultAction(), friendlyName(), keyEvent(), noAction(), KeyWidget::paintEvent(), resetAction(), setAction(), and SettingsWidget::SettingsWidget().

```
98                                                  {
99      if(!_globalRemap.contains(key))
100         return key;
101      return _globalRemap.value(key);
102 }
```

Here is the caller graph for this function:

12.26.3.12 void KbBind::handleNotificationChannel (bool *start*)

Parameters

start	is boolean. If true, notification channel is opened for all keys, otherwise channel ist closed.
start	If true, notification channel is opened for all keys, otherwise channel ist closed.

Definition at line 284 of file kbbind.cpp.

References getMacroNumber(), and lastCmd.

Referenced by RebindWidget::on_btnStartMacro_clicked(), and RebindWidget::on_btnStopMacro_clicked().

```
284                                                 {
285     if (getMacroNumber() > 0 && lastCmd) {
286         if (start) {
287             lastCmd->write (QString("\nnotifyon %1\n@%1 notify all:on\n").arg(
      getMacroNumber()).toLatin1());
288         } else {
289             lastCmd->write (QString("\n@%1 notify all:off\nnotifyoff %1\n").arg(
      getMacroNumber()).toLatin1());
290         }
291         lastCmd->flush();
292     } else qDebug() << QString("No cmd or valid handle for notification found, macroNumber = %1, lastCmd =
       %2")
293                         .arg(getMacroNumber()).arg(lastCmd? "set" : "unset");
294 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.13 bool KbBind::isISO ( ) const [inline]

Definition at line 43 of file kbbind.h.

References _map, and KeyMap::isISO().

```
43 { return _map.isISO(); }
```

Here is the call graph for this function:

12.26.3.14 bool KbBind::isKeyboard ( ) const [inline]

Definition at line 44 of file kbbind.h.

References _map, and KeyMap::isKeyboard().

```
44 { return _map.isKeyboard(); }
```

Here is the call graph for this function:

12.26.3.15 bool KbBind::isMouse ( ) const [inline]

Definition at line 45 of file kbbind.h.

References _map, and KeyMap::isMouse().

Referenced by KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_resetButton_clicked(), RebindWidget::setBind(), and KbBindWidget::updateSelDisplay().

```
45 { return _map.isMouse(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.16 void KbBind::keyEvent (const QString & *key*, bool *down*) [slot]

Definition at line 296 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::keyEvent().

Referenced by Kb::readNotify().

```
296                                                 {
297     QString rKey = globalRemap(key);
298     KeyAction* act = bindAction(rKey);
299     if(act)
300         act->keyEvent(this, down);
301 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.17 void KbBind::layoutChanged ( ) [signal]

Definition at line 161 of file moc_kbbind.cpp.

Referenced by map().

```
{
    QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
}
```

Here is the caller graph for this function:

12.26.3.18 KbLight * KbBind::light ( )

Definition at line 54 of file kbbind.cpp.

References KbMode::light(), and modeParent().

Referenced by RebindWidget::applyChanges(), KeyAction::keyEvent(), and RebindWidget::setSelection().

```
                    {
    return modeParent()->light();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.19 void KbBind::load (CkbSettings & *settings*)

Definition at line 58 of file kbbind.cpp.

References _bind, _map, _needsSave, _winLock, CkbSettings::childKeys(), didLoad(), KeyMap::fromName(), KeyMap::fromStorage(), KeyAction, map(), and CkbSettings::value().

Referenced by KbMode::KbMode().

```
58                                      {
59     _needsSave = false;
60     SGroup group(settings, "Binding");
61     KeyMap currentMap = _map;
62     _map = KeyMap::fromName(settings.value("KeyMap").toString());
63     // Load key settings
64     bool useReal = settings.value("UseRealNames").toBool();
65     _bind.clear();
66     {
67         SGroup group(settings, "Keys");
68         foreach(QString key, settings.childKeys()){
69             QString name = key.toLower();
70             if(!useReal)
71                 name = _map.fromStorage(name);
72             QString bind = settings.value(key).toString();
73             _bind[name] = new KeyAction(bind, this);
74         }
75     }
76     _winLock = settings.value("WinLock").toBool();
77     emit didLoad();
78     map(currentMap);
79 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.20 void KbBind::loadGlobalRemap ( ) [static]

Definition at line 116 of file kbbind.cpp.

References _globalRemap, CkbSettings::childKeys(), globalRemapTime, and CkbSettings::value().

Referenced by SettingsWidget::SettingsWidget().

```
116                                 {
117     _globalRemap.clear();
118     CkbSettings settings("Program/GlobalRemap");
119     foreach(const QString& key, settings.childKeys())
120         _globalRemap[key] = settings.value(key).toString();
121     globalRemapTime = QDateTime::currentMSecsSinceEpoch();
122 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.21 const KeyMap& KbBind::map ( ) [inline]

Definition at line 41 of file kbbind.h.

References _map.

Referenced by KbBind(), KbMode::keyMap(), load(), map(), KbBindWidget::newLayout(), KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_resetButton_clicked(), RebindWidget::setBind(), KbBindWidget::updateBind(), and KbBindWidget::updateSelDisplay().

```
41 { return _map; }
```

Here is the caller graph for this function:

12.26.3.22 void KbBind::map (const KeyMap & *map*)

Definition at line 133 of file kbbind.cpp.

References _map, _needsSave, _needsUpdate, layoutChanged(), and map().

```
133                                 {
134     _map = map;
135     _needsUpdate = true;
136     _needsSave = true;
137     emit layoutChanged();
138 }
```

Here is the call graph for this function:

12.26.3.23 KbMode* KbBind::modeParent ( ) const [inline], [private]

Definition at line 116 of file kbbind.h.

Referenced by light(), and perf().

```
116 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:

12.26.3.24 bool KbBind::needsSave ( ) const [inline]

Definition at line 38 of file kbbind.h.

References _needsSave.

Referenced by KbMode::needsSave().

```
38 { return _needsSave; }
```

Here is the caller graph for this function:

12.26.3.25 void KbBind::noAction (const QString & *key*)

Definition at line 181 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

Referenced by RebindWidget::applyChanges(), and RebindWidget::on_unbindButton_clicked().

```
181                                         {
182     resetAction(key);
183     QString rKey = globalRemap(key);
184     if(!_map.key(rKey))
185         return;
186     _bind[rKey] = new KeyAction(this);
187 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.26 void KbBind::noAction (const QStringList & *keys*) [inline]

Definition at line 76 of file kbbind.h.

References noAction().

Referenced by noAction().

```
76 { foreach(const QString& key, keys) noAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.27 KbPerf * KbBind::perf ( )

Definition at line 50 of file kbbind.cpp.

References modeParent(), and KbMode::perf().

Referenced by KeyAction::keyEvent(), and RebindWidget::setBind().

```
50                      {
51     return modeParent()->perf();
52 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.28 void KbBind::resetAction (const QString & *key*)

Definition at line 171 of file kbbind.cpp.

References _bind, _needsSave, _needsUpdate, action(), and globalRemap().

Referenced by noAction(), KbBindWidget::on_resetButton_clicked(), RebindWidget::on_resetButton_clicked(), and setAction().

```
171                                         {
172     QString rKey = globalRemap(key);
173     // Clean up existing action (if any)
174     KeyAction* action = _bind.value(rKey);
175     delete action;
176     _bind.remove(rKey);
177     _needsUpdate = true;
178     _needsSave = true;
179 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.29 void KbBind::resetAction (const QStringList & *keys*) [inline]

Definition at line 73 of file kbbind.h.

References resetAction().

Referenced by resetAction().

```
73 { foreach(const QString& key, keys) resetAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.30 void KbBind::save (CkbSettings & *settings*)

Definition at line 81 of file kbbind.cpp.

References _bind, _map, _needsSave, _winLock, KeyAction::defaultAction(), devParent(), KeyMap::name(), CkbSettings::setValue(), and KeyAction::value().

Referenced by KbMode::save().

```
81                                      {
82     _needsSave = false;
83     SGroup group(settings, "Binding");
84     settings.setValue("KeyMap", _map.name());
85     // Save key settings
86     settings.setValue("UseRealNames", true);
87     {
88         SGroup group(settings, "Keys");
89         foreach(QString key, _bind.keys()){
90             KeyAction* act = _bind.value(key);
91             if(act && act->value() != KeyAction::defaultAction(key,
      devParent()->model()))
92                 settings.setValue(key, act->value());
93         }
94     }
95     settings.setValue("WinLock", _winLock);
96 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.31 void KbBind::saveGlobalRemap ( ) [static]

Definition at line 124 of file kbbind.cpp.

References _globalRemap, and CkbSettings::setValue().

Referenced by SettingsWidget::updateModifiers().

```
124                                 {
125     CkbSettings settings("Program/GlobalRemap", true);
126     QHashIterator<QString, QString> i(_globalRemap);
127     while(i.hasNext()){
128         i.next();
129         settings.setValue(i.key(), i.value());
130     }
131 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.32 void KbBind::setAction (const QString & *key*, const QString & *action*)

Definition at line 189 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

Referenced by RebindWidget::applyChanges(), and KbBindWidget::on_copyButton_clicked().

```
189                                                                 {
190     resetAction(key);
191     QString rKey = globalRemap(key);
192     if(!_map.key(rKey))
193         return;
194     _bind[rKey] = new KeyAction(action, this);
195 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.33 void KbBind::setAction (const QStringList & *keys*, const QString & *action*) [inline]

Definition at line 70 of file kbbind.h.

References setAction().

Referenced by setAction().

```
70 { foreach(const QString& key, keys) setAction(key, action); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.34 void KbBind::setGlobalRemap (const QHash< QString, QString > *keyToActual*) [static]

Definition at line 104 of file kbbind.cpp.

References _globalRemap, and globalRemapTime.

Referenced by SettingsWidget::updateModifiers().

```
104                                                                 {
105     _globalRemap.clear();
106     // Ignore any keys with the standard binding
107     QHashIterator<QString, QString> i(keyToActual);
108     while(i.hasNext()){
109         i.next();
110         if(i.key() != i.value())
111             _globalRemap[i.key()] = i.value();
112     }
113     globalRemapTime = QDateTime::currentMSecsSinceEpoch();
114 }
```

Here is the caller graph for this function:

12.26.3.35 void KbBind::setNeedsUpdate ( ) [inline]

Definition at line 85 of file kbbind.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
85 { _needsUpdate = true; }
```

Here is the caller graph for this function:

12.26.3.36 void KbBind::update (QFile & *cmd,* bool *force* = false)

Definition at line 197 of file kbbind.cpp.

References _bind, _globalRemap, _needsUpdate, _winLock, bindAction(), KeyAction::driverName(), globalRemapTime, KeyAction::isValidMacro(), lastCmd, lastGlobalRemapTime, KeyAction::macroContent(), updated(), and KeyAction::value().

Referenced by Kb::frameUpdate().

```
197                                         {
198     if(!force && !_needsUpdate && lastGlobalRemapTime ==
      globalRemapTime)
199         return;
```

```
    lastGlobalRemapTime = globalRemapTime;
    emit updated();
    _needsUpdate = false;
    // Reset all keys and enable notifications for all
    cmd.write("rebind all notify all");
    // Make sure modifier keys are included as they may be remapped globally
    QHash<QString, KeyAction*> bind(_bind);
    if(!_bind.contains("caps")) bind["caps"] = 0;
    if(!_bind.contains("lshift")) bind["lshift"] = 0;
    if(!_bind.contains("rshift")) bind["rshift"] = 0;
    if(!_bind.contains("lctrl")) bind["lctrl"] = 0;
    if(!_bind.contains("rctrl")) bind["rctrl"] = 0;
    if(!_bind.contains("lwin")) bind["lwin"] = 0;
    if(!_bind.contains("rwin")) bind["rwin"] = 0;
    if(!_bind.contains("lalt")) bind["lalt"] = 0;
    if(!_bind.contains("ralt")) bind["ralt"] = 0;
    if(!_bind.contains("fn")) bind["fn"] = 0;
    QHashIterator<QString, KeyAction*> i(bind);

    // Initialize String buffer for macro Key definitions (G-keys)
    // "macro clear" is neccessary, if an older definition is unbound.
    QString macros = "\nmacro clear\n";

    // Write out rebound keys and collect infos for macro definitions
    while(i.hasNext()){
        i.next();
        QString key = i.key();
        KeyAction* act = i.value();
        if(_globalRemap.contains(key))
            act = bindAction(_globalRemap.value(key));
        if(!act)
            continue;
        QString value = act->driverName();
        if(value.isEmpty()){
            // If the key is unbound or is a special action, unbind it
            cmd.write(" unbind ");
            cmd.write(key.toLatin1());
            // if a macro definiton for the key is given,
            // add the converted string to key-buffer "macro"
            if (act->isValidMacro()) {
                if (act->macroContent().length() > 0) {
                    macros.append("macro " + key.toLatin1() + ":" + act->macroContent().toLatin1() + "\n");
                }
            }
        } else {
            // Otherwise, write the binding
            cmd.write(" bind ");
            cmd.write(key.toLatin1());
            cmd.write(":");
            cmd.write(value.toLatin1());
        }
    }
    // If win lock is enabled, unbind windows keys
    if(_winLock)
        cmd.write(" unbind lwin rwin");

    // At last, send Macro definitions if available.
    // If no definitions are made, clear macro will be sent only to reset all macros,
    cmd.write(macros.toLatin1());
    lastCmd = &cmd;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.37 void KbBind::updated ( ) [signal]

Definition at line 167 of file moc_kbbind.cpp.

Referenced by update().

```
168 {
169     QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
170 }
```

Here is the caller graph for this function:

12.26.3.38 bool KbBind::winLock ( ) [inline]

Definition at line 79 of file kbbind.h.

References _winLock.

Referenced by KeyAction::keyEvent().

```
79 { return _winLock; }
```

Here is the caller graph for this function:

12.26.3.39 void KbBind::winLock (bool *newWinLock*) [inline]

Definition at line 80 of file kbbind.h.

References _needsUpdate, and _winLock.

```
80 { _winLock = newWinLock; _needsUpdate = true; }
```

12.26.4 Friends And Related Function Documentation

12.26.4.1 friend class KeyAction [friend]

Definition at line 137 of file kbbind.h.

Referenced by bindAction(), friendlyActionName(), KbBind(), load(), noAction(), and setAction().

12.26.5 Field Documentation

12.26.5.1 QHash<QString, KeyAction*> KbBind::_bind [private]

Definition at line 132 of file kbbind.h.

Referenced by bindAction(), KbBind(), load(), noAction(), resetAction(), save(), setAction(), and update().

12.26.5.2 Kb* KbBind::_devParent [private]

Definition at line 114 of file kbbind.h.

Referenced by devParent().

12.26.5.3 QHash< QString, QString > KbBind::_globalRemap [static], [private]

Definition at line 120 of file kbbind.h.

Referenced by globalRemap(), loadGlobalRemap(), saveGlobalRemap(), setGlobalRemap(), and update().

12.26.5.4 KeyMap KbBind::_map [private]

Definition at line 130 of file kbbind.h.

Referenced by friendlyActionName(), friendlyName(), isISO(), isKeyboard(), isMouse(), load(), map(), noAction(), save(), and setAction().

12.26.5.5 bool KbBind::_needsSave [private]

Definition at line 136 of file kbbind.h.

Referenced by load(), map(), needsSave(), resetAction(), and save().

12.26.5.6 bool KbBind::_needsUpdate [private]

Definition at line 135 of file kbbind.h.

Referenced by map(), resetAction(), setNeedsUpdate(), update(), and winLock().

12.26.5.7 bool KbBind::_winLock [private]

Definition at line 134 of file kbbind.h.

Referenced by load(), save(), update(), and winLock().

12.26.5.8 quint64 KbBind::globalRemapTime = 0 [static], [private]

Definition at line 121 of file kbbind.h.

Referenced by loadGlobalRemap(), setGlobalRemap(), and update().

12.26.5.9 QFile* KbBind::lastCmd [private]

Definition at line 128 of file kbbind.h.

Referenced by handleNotificationChannel(), and update().

12.26.5.10 quint64 KbBind::lastGlobalRemapTime [private]

Definition at line 122 of file kbbind.h.

Referenced by update().

The documentation for this class was generated from the following files:

- src/ckb/kbbind.h
- src/ckb/kbbind.cpp
- src/ckb/release/moc_kbbind.cpp

12.27 Ui::KbBindWidget Class Reference

```
#include <src/ckb/ui_kbbindwidget.h>
```

Inheritance diagram for Ui::KbBindWidget:

Collaboration diagram for Ui::KbBindWidget:

Public Member Functions

- void setupUi (QWidget *KbBindWidget)
- void retranslateUi (QWidget *KbBindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- KeyWidget * keyWidget
- QSpacerItem * horizontalSpacer
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QLabel * selectLabel
- QPushButton * resetButton
- QSpacerItem * verticalSpacer
- QLabel * label_2
- QFrame * line_2
- QWidget * widget
- QGridLayout * gridLayout_2
- RebindWidget * rbWidget

12.27.1 Detailed Description

Definition at line 206 of file ui_kbbindwidget.h.

12.27.2 Member Function Documentation

12.27.2.1 void Ui_KbBindWidget::retranslateUi (QWidget * *KbBindWidget*) [inline],[inherited]

Definition at line 193 of file ui_kbbindwidget.h.

References Ui_KbBindWidget::copyButton, Ui_KbBindWidget::label, Ui_KbBindWidget::label_2, Ui_KbBindWidget::resetButton, and Ui_KbBindWidget::selectLabel.

Referenced by Ui_KbBindWidget::setupUi().

```
    {
        KbBindWidget->setWindowTitle(QApplication::translate("KbBindWidget", "Form", Q_NULLPTR));
        label->setText(QApplication::translate("KbBindWidget", "Keys", Q_NULLPTR));
        copyButton->setText(QApplication::translate("KbBindWidget", "Copy to mode...", Q_NULLPTR));
        selectLabel->setText(QApplication::translate("KbBindWidget", "Click to select keys", Q_NULLPTR));
        resetButton->setText(QApplication::translate("KbBindWidget", "Reset", Q_NULLPTR));
        label_2->setText(QApplication::translate("KbBindWidget", "Binding", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.27.2.2 void Ui_KbBindWidget::setupUi (QWidget * *KbBindWidget*) [inline],[inherited]

Definition at line 51 of file ui_kbbindwidget.h.

References Ui_KbBindWidget::copyButton, Ui_KbBindWidget::gridLayout, Ui_KbBindWidget::gridLayout_2, Ui_KbBindWidget::horizontalLayout_2, Ui_KbBindWidget::horizontalSpacer, Ui_KbBindWidget::horizontalSpacer_2, Ui_KbBindWidget::keyWidget, Ui_KbBindWidget::label, Ui_KbBindWidget::label_2, Ui_KbBindWidget::line, Ui_KbBindWidget::line_2, Ui_KbBindWidget::rbWidget, Ui_KbBindWidget::resetButton, Ui_KbBindWidget::retranslateUi(), Ui_KbBindWidget::selectLabel, Ui_KbBindWidget::verticalLayout, Ui_KbBindWidget::verticalSpacer, and Ui_KbBindWidget::widget.

Referenced by KbBindWidget::KbBindWidget().

```
52     {
53         if (KbBindWidget->objectName().isEmpty())
54             KbBindWidget->setObjectName(QStringLiteral("KbBindWidget"));
55         KbBindWidget->resize(581, 473);
56         verticalLayout = new QVBoxLayout(KbBindWidget);
57         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
58         verticalLayout->setContentsMargins(0, 0, 0, -1);
59         label = new QLabel(KbBindWidget);
60         label->setObjectName(QStringLiteral("label"));
61         QFont font;
62         font.setBold(true);
63         font.setWeight(75);
64         label->setFont(font);
65
66         verticalLayout->addWidget(label);
67
68         line = new QFrame(KbBindWidget);
69         line->setObjectName(QStringLiteral("line"));
70         line->setFrameShape(QFrame::HLine);
71         line->setFrameShadow(QFrame::Sunken);
72
73         verticalLayout->addWidget(line);
74
75         gridLayout = new QGridLayout();
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79         gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);
80
81         keyWidget = new KeyWidget(KbBindWidget);
82         keyWidget->setObjectName(QStringLiteral("keyWidget"));
83         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Preferred);
84         sizePolicy.setHorizontalStretch(0);
85         sizePolicy.setVerticalStretch(0);
86         sizePolicy.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
87         keyWidget->setSizePolicy(sizePolicy);
88
89         gridLayout->addWidget(keyWidget, 0, 1, 1, 3);
90
91         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
92
93         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
94
95         horizontalLayout_2 = new QHBoxLayout();
96         horizontalLayout_2->setSpacing(0);
97         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
98         copyButton = new QPushButton(KbBindWidget);
99         copyButton->setObjectName(QStringLiteral("copyButton"));
100         QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
101         sizePolicy1.setHorizontalStretch(0);
102         sizePolicy1.setVerticalStretch(0);
103         sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
104         copyButton->setSizePolicy(sizePolicy1);
105         copyButton->setMinimumSize(QSize(140, 0));
106         copyButton->setMaximumSize(QSize(140, 16777215));
107
108         horizontalLayout_2->addWidget(copyButton);
109
110         selectLabel = new QLabel(KbBindWidget);
111         selectLabel->setObjectName(QStringLiteral("selectLabel"));
112         QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Preferred);
113         sizePolicy2.setHorizontalStretch(0);
114         sizePolicy2.setVerticalStretch(0);
115         sizePolicy2.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
116         selectLabel->setSizePolicy(sizePolicy2);
117         selectLabel->setAlignment(Qt::AlignCenter);
118
119         horizontalLayout_2->addWidget(selectLabel);
```

```

        resetButton = new QPushButton(KbBindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));
        QSizePolicy sizePolicy3(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
        resetButton->setSizePolicy(sizePolicy3);
        resetButton->setMinimumSize(QSize(140, 0));
        resetButton->setMaximumSize(QSize(140, 16777215));

        horizontalLayout_2->addWidget(resetButton);


        gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);


        verticalLayout->addLayout(gridLayout);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

        verticalLayout->addItem(verticalSpacer);

        label_2 = new QLabel(KbBindWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        verticalLayout->addWidget(label_2);

        line_2 = new QFrame(KbBindWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        verticalLayout->addWidget(line_2);

        widget = new QWidget(KbBindWidget);
        widget->setObjectName(QStringLiteral("widget"));
        QSizePolicy sizePolicy4(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
        widget->setSizePolicy(sizePolicy4);
        widget->setMinimumSize(QSize(0, 280));
        widget->setMaximumSize(QSize(16777215, 280));
        gridLayout_2 = new QGridLayout(widget);
        gridLayout_2->setSpacing(0);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(0, 0, 0, 0);
        rbWidget = new RebindWidget(widget);
        rbWidget->setObjectName(QStringLiteral("rbWidget"));
        QSizePolicy sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy5.setHorizontalStretch(0);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
        rbWidget->setSizePolicy(sizePolicy5);

        gridLayout_2->addWidget(rbWidget, 0, 0, 1, 1);


        verticalLayout->addWidget(widget);

        label->raise();
        line->raise();
        label_2->raise();
        line_2->raise();
        widget->raise();

        retranslateUi(KbBindWidget);

        QMetaObject::connectSlotsByName(KbBindWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.27.3 Field Documentation

12.27.3.1 QPushButton* Ui_KbBindWidget::copyButton [inherited]

Definition at line 41 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.2 QGridLayout* Ui_KbBindWidget::gridLayout [inherited]

Definition at line 36 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.3 QGridLayout* Ui_KbBindWidget::gridLayout_2 [inherited]

Definition at line 48 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.4 QHBoxLayout* Ui_KbBindWidget::horizontalLayout_2 [inherited]

Definition at line 40 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.5 QSpacerItem* Ui_KbBindWidget::horizontalSpacer [inherited]

Definition at line 39 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.6 QSpacerItem* Ui_KbBindWidget::horizontalSpacer_2 [inherited]

Definition at line 37 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.7 KeyWidget* Ui_KbBindWidget::keyWidget [inherited]

Definition at line 38 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::KbBindWidget(), KbBindWidget::newLayout(), KbBindWidget::setBind(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateBind().

12.27.3.8 QLabel* Ui_KbBindWidget::label [inherited]

Definition at line 34 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.9 QLabel* Ui_KbBindWidget::label_2 [inherited]

Definition at line 45 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.10 QFrame* Ui_KbBindWidget::line [inherited]

Definition at line 35 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.11 QFrame* Ui_KbBindWidget::line_2 [inherited]

Definition at line 46 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.12 RebindWidget* Ui_KbBindWidget::rbWidget [inherited]

Definition at line 49 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::newLayout(), KbBindWidget::newSelection(), KbBindWidget::setBind(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateBind().

12.27.3.13 QPushButton* Ui_KbBindWidget::resetButton [inherited]

Definition at line 43 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.14 QLabel* Ui_KbBindWidget::selectLabel [inherited]

Definition at line 42 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateSelDisplay().

12.27.3.15 QVBoxLayout* Ui_KbBindWidget::verticalLayout [inherited]

Definition at line 33 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.16 QSpacerItem* Ui_KbBindWidget::verticalSpacer [inherited]

Definition at line 44 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.17 QWidget* Ui_KbBindWidget::widget [inherited]

Definition at line 47 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbbindwidget.h

12.28 KbBindWidget Class Reference

```
#include <src/ckb/kbbindwidget.h>
```

Inheritance diagram for KbBindWidget:

Collaboration diagram for KbBindWidget:

Public Member Functions

- KbBindWidget (QWidget ∗parent=0)
- ∼KbBindWidget ()
- void setBind (KbBind ∗newBind, KbProfile ∗newProfile)

Private Slots

- void updateBind ()
- void newLayout ()
- void newSelection (QStringList selection)
- void updateSelDisplay ()
- void on_resetButton_clicked ()
- void on_copyButton_clicked ()

Private Attributes

- Ui::KbBindWidget ∗ ui
- KbBind ∗ bind
- KbProfile ∗ profile
- QStringList currentSelection

12.28.1 Detailed Description

Definition at line 12 of file kbbindwidget.h.

12.28.2 Constructor & Destructor Documentation

12.28.2.1 KbBindWidget::KbBindWidget (QWidget * *parent* = 0) [explicit]

Definition at line 7 of file kbbindwidget.cpp.

References Ui_KbBindWidget::keyWidget, newSelection(), KeyWidget::rgbMode(), Ui_KbBindWidget::setupUi(), and ui.

```
7                                          :
8     QWidget(parent),
9     ui(new Ui::KbBindWidget), bind(0), profile(0)
10 {
11     ui->setupUi(this);
12     ui->keyWidget->rgbMode(false);
13     connect(ui->keyWidget, SIGNAL(selectionChanged(QStringList)), this, SLOT(
       newSelection(QStringList)));
14 }
```

Here is the call graph for this function:

12.28.2.2 KbBindWidget::~KbBindWidget ( )

Definition at line 16 of file kbbindwidget.cpp.

References ui.

```
16                                 {
17     delete ui;
18 }
```

12.28.3 Member Function Documentation

12.28.3.1 void KbBindWidget::newLayout ( ) [private],[slot]

Definition at line 50 of file kbbindwidget.cpp.

References bind, Ui_KbBindWidget::keyWidget, KeyWidget::map(), KbBind::map(), profile, Ui_KbBindWidget::rbWidget, RebindWidget::setBind(), ui, and updateSelDisplay().

Referenced by setBind().

```
50                                  {
51      ui->keyWidget->map(bind->map());
52      ui->rbWidget->setBind(bind, profile);
53      updateSelDisplay();
54  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.28.3.2 void KbBindWidget::newSelection (QStringList *selection*) [private],[slot]

Definition at line 56 of file kbbindwidget.cpp.

References currentSelection, Ui_KbBindWidget::rbWidget, RebindWidget::setSelection(), ui, and updateSelDisplay().

Referenced by KbBindWidget(), and setBind().

```
56                                                  {
57     currentSelection = selection;
58     ui->rbWidget->setSelection(selection, true);
59     updateSelDisplay();
60 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.28.3.3 void KbBindWidget::on_copyButton_clicked ( ) [private],[slot]

Definition at line 103 of file kbbindwidget.cpp.

References KbBind::action(), bind, KbMode::bind(), KeyMap::count(), KbProfile::currentMode(), currentSelection, KbBind::isMouse(), KeyMap::keys(), KbBind::map(), KbProfile::modes(), profile, ModeSelectDialog::selection(), KbBind::setAction(), and KeyAction::type().

```
103                                         {
104     QStringList selection = currentSelection;
105     const KeyMap& map = bind->map();
106     int count = selection.count();
107     QString type = bind->isMouse() ? "button" : "key";
108     QString text = tr("%1 %2").arg(count).arg(type) + (count == 1 ? "" : "s");
109     if(count == 0){
110         // Copy all keys if none selected
111         selection = map.keys();
112         text = tr("all %1s").arg(type);
113     }
114     text = "Copy binding for " + text + " to:";
115     // Display popup
116     ModeSelectDialog dialog(this, profile->currentMode(),
      profile->modes(), text);
117     if(dialog.exec() != QDialog::Accepted)
118         return;
119     // Copy selected keys to selected modes
120     QList<KbMode*> selectedModes = dialog.selection();
121     foreach(KbMode* mode, selectedModes){
122         KbBind* modeBind = mode->bind();
123         foreach(const QString& key, selection){
124             modeBind->setAction(key, bind->action(key));
125         }
126     }
127 }
```

Here is the call graph for this function:

12.28.3.4 void KbBindWidget::on_resetButton_clicked ( ) [private],[slot]

Definition at line 82 of file kbbindwidget.cpp.

References bind, KeyMap::count(), currentSelection, KbBind::isMouse(), KeyMap::keys(), KbBind::map(), KbBind::resetAction(), KeyAction::type(), and updateBind().

```
82                                          {
83     QStringList selection = currentSelection;
84     const KeyMap& map = bind->map();
85     if(selection.isEmpty())
86         // Reset all keys if none selected
87         selection = map.keys();
88     uint count = selection.count();
89     QString type = bind->isMouse() ? "button" : "key";
90     QString text;
91     if(count == map.count())
92         text = "<center>Reset all %1s to default?</center>";
93     else if(count == 1)
94         text = "<center>Reset this %1 to default?</center>";
95     else
96         text = tr("<center>Reset %1 %2s to default?</center>").arg(count);
97     if(QMessageBox(QMessageBox::NoIcon, "Confirm action", text.arg(type), QMessageBox::Yes |
       QMessageBox::No, this).exec() != QMessageBox::Yes)
98         return;
99     bind->resetAction(selection);
100     updateBind();
101 }
```

Here is the call graph for this function:

12.28.3.5 void KbBindWidget::setBind (KbBind * *newBind*, KbProfile * *newProfile*)

Definition at line 20 of file kbbindwidget.cpp.

References bind, KeyWidget::clearSelection(), Ui_KbBindWidget::keyWidget, newLayout(), newSelection(), profile, Ui_KbBindWidget::rbWidget, RebindWidget::setBind(), ui, and updateBind().

Referenced by KbWidget::modeChanged().

```
                                                                    {
    ui->keyWidget->clearSelection();
    ui->rbWidget->setBind(newBind, newProfile);
    newSelection(QStringList());
    if(bind == newBind)
        return;
    if(bind){
        disconnect(bind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
        disconnect(bind, SIGNAL(updated()), this, SLOT(updateBind()));
    }
    connect(newBind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
    connect(newBind, SIGNAL(updated()), this, SLOT(updateBind()));
    bind = newBind;
    profile = newProfile;
    newLayout();
    ui->rbWidget->setBind(bind, profile);
    updateBind();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.28.3.6 void KbBindWidget::updateBind ( ) [private],[slot]

Definition at line 39 of file kbbindwidget.cpp.

References KbBind::action(), bind, KeyWidget::bindMap(), currentSelection, KeyMap::keys(), Ui_KbBindWidget::keyWidget, KbBind::map(), Ui_KbBindWidget::rbWidget, RebindWidget::setSelection(), ui, and updateSelDisplay().

Referenced by on_resetButton_clicked(), and setBind().

```
39                                  {
40     const KeyMap& map = bind->map();
41     // Build the action list based on the keymap
42     QHash<QString, QString> actions;
43     foreach(const QString& key, map.keys())
44         actions[key] = bind->action(key);
45     ui->keyWidget->bindMap(actions);
46     ui->rbWidget->setSelection(currentSelection);
47     updateSelDisplay();
48 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.28.3.7 void KbBindWidget::updateSelDisplay ( ) [private],[slot]

Definition at line 62 of file kbbindwidget.cpp.

References bind, currentSelection, KbBind::friendlyActionName(), Key::friendlyName(), KbBind::isMouse(), KbBind::map(), Ui_KbBindWidget::selectLabel, and ui.

Referenced by newLayout(), newSelection(), and updateBind().

```
62                                  {
63     int count = currentSelection.count();
64     if(count == 0){
65         // No keys selected
66         ui->selectLabel->setText("Click to select");
67         return;
68     }
69     if(count == 1){
70         // Single key selected: show key name and binding
71         QString key = currentSelection[0];
72         const Key& pos = bind->map()[key];
73         if(!pos)
74             ui->selectLabel->setText("(Unknown)");
75         else
76             ui->selectLabel->setText(pos.friendlyName(false).split("\n")[0] + " →
     " + bind->friendlyActionName(key).split("\n")[0]);
77         return;
78     }
79     ui->selectLabel->setText(QString("%1 %2 selected").arg(count).arg(
     bind->isMouse() ? "buttons" : "keys"));
80 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.28.4 Field Documentation

12.28.4.1 KbBind* KbBindWidget::bind [private]

Definition at line 34 of file kbbindwidget.h.

Referenced by newLayout(), on_copyButton_clicked(), on_resetButton_clicked(), setBind(), updateBind(), and updateSelDisplay().

12.28.4.2 QStringList KbBindWidget::currentSelection [private]

Definition at line 36 of file kbbindwidget.h.

Referenced by newSelection(), on_copyButton_clicked(), on_resetButton_clicked(), updateBind(), and updateSelDisplay().

12.28.4.3 KbProfile* KbBindWidget::profile [private]

Definition at line 35 of file kbbindwidget.h.

Referenced by newLayout(), on_copyButton_clicked(), and setBind().

12.28.4.4 Ui::KbBindWidget* KbBindWidget::ui [private]

Definition at line 32 of file kbbindwidget.h.

Referenced by KbBindWidget(), newLayout(), newSelection(), setBind(), updateBind(), updateSelDisplay(), and ~KbBindWidget().

The documentation for this class was generated from the following files:

- src/ckb/kbbindwidget.h
- src/ckb/kbbindwidget.cpp

12.29 KbFirmware Class Reference

```
#include <src/ckb/kbfirmware.h>
```

Inheritance diagram for KbFirmware:

Collaboration diagram for KbFirmware:

Data Structures

- struct FW

Signals

- void downloaded ()

Static Public Member Functions

- static bool checkUpdates ()
- static bool hasDownloaded ()
- static float versionForBoard (const QString &features, bool waitForComplete=false)
- static QByteArray dataForBoard (const QString &features)

Data Fields

- QNetworkAccessManager * networkManager

Private Types

- enum { UNKNOWN = -1, NO, YES }

Private Slots

- void processDownload (QNetworkReply *reply)
- void downloadFinished ()

Private Member Functions

- KbFirmware ()
- ~KbFirmware ()
- bool _checkUpdates ()
- float _latestForBoard (const QString &features, bool waitForComplete)
- QByteArray _fileForBoard (const QString &features)

Private Attributes

- quint64 lastCheck
- quint64 lastFinished
- QMap< QString, FW > fwTable
- QByteArray fwTableHash
- QNetworkReply * tableDownload
- enum KbFirmware:: { ... } hasGPG

Static Private Attributes

- static KbFirmware instance

12.29.1 Detailed Description

Definition at line 10 of file kbfirmware.h.

12.29.2 Member Enumeration Documentation

12.29.2.1 anonymous enum [private]

Enumerator

UNKNOWN

NO

YES

Definition at line 52 of file kbfirmware.h.

```
52 { UNKNOWN = -1, NO, YES } hasGPG :2;
```

12.29.3 Constructor & Destructor Documentation

12.29.3.1 KbFirmware::KbFirmware ( ) [private]

Definition at line 14 of file kbfirmware.cpp.

References networkManager.

```
14                          :
15     lastCheck(0), lastFinished(0), networkManager(0),
      tableDownload(0), hasGPG(UNKNOWN)
16 {
17     // Disable bearer polling. This corrects an issue with latency spikes when
18     // using WiFi. The problem and workaround are described here:
19     // https://lostdomain.org/2017/06/17/qt-qnetworkaccessmanager-causing-latency-spikes-on-wifi/
20     qputenv("QT_BEARER_POLL_TIMEOUT", QByteArray::number(-1));
21     networkManager = new QNetworkAccessManager();
22 }
```

12.29.3.2 KbFirmware::~KbFirmware ( ) [private]

Definition at line 24 of file kbfirmware.cpp.

References networkManager.

```
24                          {
25     delete networkManager;
26 }
```

12.29.4 Member Function Documentation

12.29.4.1 bool KbFirmware::_checkUpdates ( ) [private]

Definition at line 28 of file kbfirmware.cpp.

References AUTO_CHECK_TIME, downloadFinished(), lastCheck, networkManager, and tableDownload.

Referenced by checkUpdates().

```
28                                  {
29     quint64 now = QDateTime::currentMSecsSinceEpoch();
30     if(now < lastCheck + AUTO_CHECK_TIME)
31         return false;
```

```
    // First location is for debugging only.
    // tableDownload = networkManager->get(QNetworkRequest(QUrl("https://raw.githubusercontent.com/frickler24/ckb-next/issues-26-Firmware-Inc
    // This one is the production one.
    tableDownload = networkManager->get(QNetworkRequest(QUrl("https://raw.githubusercontent.com/mattanger/ckb-next/master/FIRMWARE")));
    connect(tableDownload, SIGNAL(finished()), this, SLOT(downloadFinished()));
    lastCheck = now;
    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.2 QByteArray KbFirmware::_fileForBoard (const QString & *features*) [private]

Definition at line 180 of file kbfirmware.cpp.

References QuaZip::csInsensitive, KbFirmware::FW::fileName, fwTable, KbFirmware::FW::hash, QuaZip::mdUnzip, networkManager, QuaZip::open(), QuaZipFile::open(), quit(), QuaZip::setCurrentFile(), tableName(), and KbFirmware::FW::url.

Referenced by dataForBoard().

```
180                                                                 {
181     QString name = tableName(features);
182     FW info = fwTable.value(name);
183     if(info.hash.isEmpty())
184         return "";
185     // Download zip from URL. Wait for it to finish.
186     QNetworkReply* reply = networkManager->get(QNetworkRequest(QUrl(info.url)));
187     QEventLoop loop(this);
188     connect(reply, SIGNAL(finished()), &loop, SLOT(quit()));
189     loop.exec();
190     // Download finished, process data
191     if(reply->error() != QNetworkReply::NoError)
192         return "";
193     QByteArray zipData = reply->readAll();
194     QBuffer buffer(&zipData);
195     // Open zip archive
196     QuaZip zip(&buffer);
197     if(!zip.open(QuaZip::mdUnzip))
198         return "";
199     // Find the desired file
200     if(!zip.setCurrentFile(info.fileName, QuaZip::csInsensitive))
201         return "";
202     QuaZipFile binFile(&zip);
203     if(!binFile.open(QIODevice::ReadOnly))
204         return "";
205     QByteArray binary = binFile.readAll();
206     // Check the hash
207     if(QCryptographicHash::hash(binary, QCryptographicHash::Sha256) != info.hash)
208         return "";
209     return binary;
210 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.3 float KbFirmware::_latestForBoard (const QString & *features*, bool *waitForComplete*) [private]

Definition at line 162 of file kbfirmware.cpp.

References checkUpdates(), KbManager::ckbDaemonVersionF(), KbManager::ckbGuiVersionF(), KbFirmware::FW::ckbVersion, downloaded(), fwTable, KbFirmware::FW::fwVersion, KbFirmware::FW::hash, quit(), tableDownload, and tableName().

Referenced by versionForBoard().

```
162                                                                                 {
163     if((tableDownload || checkUpdates()) && waitForComplete){
164         // If waiting is desired, enter an event loop and stay here until the download is finished
165         QEventLoop loop(this);
166         connect(this, SIGNAL(downloaded()), &loop, SLOT(quit()));
167         loop.exec();
168     }
169     // Find this board
170     QString name = tableName(features);
171     FW info = fwTable.value(name);
172     if(info.hash.isEmpty())
173         return 0.f;
174     // Don't return the new version if the current ckb doesn't support it
175     if(info.ckbVersion > KbManager::ckbGuiVersionF() || info.ckbVersion >
    KbManager::ckbDaemonVersionF())
176         return -1.f;
177     return info.fwVersion;
178 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.4 static bool KbFirmware::checkUpdates ( ) [inline], [static]

Definition at line 15 of file kbfirmware.h.

References _checkUpdates(), and instance.

Referenced by _latestForBoard(), and MainWindow::timerTick().

```
15 { return instance._checkUpdates(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.5 static QByteArray KbFirmware::dataForBoard (const QString & *features*) [inline], [static]

Definition at line 25 of file kbfirmware.h.

References _fileForBoard(), and instance.

Referenced by FwUpgradeDialog::exec().

```
25 { return instance._fileForBoard(features); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.6 void KbFirmware::downloaded ( ) [signal]

Definition at line 148 of file moc_kbfirmware.cpp.

Referenced by _latestForBoard(), and downloadFinished().

```
149 {
150     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
151 }
```

Here is the caller graph for this function:

12.29.4.7 void KbFirmware::downloadFinished ( ) [private],[slot]

Definition at line 141 of file kbfirmware.cpp.

References downloaded(), processDownload(), and tableDownload.

Referenced by _checkUpdates().

```
141                                 {
142     if(!tableDownload)
143         return;
144     processDownload(tableDownload);
145     tableDownload->deleteLater();
146     tableDownload = 0;
147     emit downloaded();
148 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.8 static bool KbFirmware::hasDownloaded ( ) [inline],[static]

Definition at line 18 of file kbfirmware.h.

References instance, and lastFinished.

Referenced by KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

```
18 { return instance.lastFinished != 0; }
```

Here is the caller graph for this function:

12.29.4.9 void KbFirmware::processDownload (QNetworkReply * *reply*) [private],[slot]

Definition at line 41 of file kbfirmware.cpp.

References KbFirmware::FW::ckbVersion, KbFirmware::FW::fileName, fwTable, fwTableHash, KbFirmware::FW::fwVersion, hasGPG, KbFirmware::FW::hash, lastCheck, lastFinished, NO, KbManager::parseVersionString(), UNKNOWN, KbFirmware::FW::url, and YES.

Referenced by downloadFinished().

```
                                                {
    if(reply->error() != QNetworkReply::NoError)
        return;
    // Update last check
    lastCheck = lastFinished = QDateTime::currentMSecsSinceEpoch();
    QByteArray data = reply->readAll();
    // Don't do anything if this is the same as the last version downloaded
    QByteArray hash = QCryptographicHash::hash(data, QCryptographicHash::Sha256);
    if(hash == fwTableHash)
        return;
    fwTableHash = hash;
    if(hasGPG == UNKNOWN){
        // Check for a GPG installation
        QProcess gpg;
        gpg.start("gpg", QStringList("--version"));
        gpg.waitForFinished();
        if(gpg.error() == QProcess::FailedToStart)
            // No GPG install
            hasGPG = NO;
        else {
            QString output = QString::fromUtf8(gpg.readAll());
            // Must support RSA keys and SHA256
            if(output.contains("RSA", Qt::CaseInsensitive) && output.contains("SHA256", Qt::CaseInsensitive
    ))
                hasGPG = YES;
            else
                hasGPG = NO;
        }
        if(!hasGPG)
            qDebug() << "No GPG detected, signature verification disabled";
    }
    if(hasGPG){
        // If GPG is available, check the signature on the file before proceeding.
        QDir tmp = QDir::temp();
        // Save file to a temporary path. Include PID to avoid conflicts
        qint64 pid = QCoreApplication::applicationPid();
        QString fwPath = tmp.absoluteFilePath(QString("ckb-%1-firmware").arg(pid));
        QFile firmware(fwPath);
        if(!firmware.open(QIODevice::WriteOnly)
                || firmware.write(data) != data.length()){
            qDebug() << "Failed to write firmware file to temporary location, aborting firmware check";
            return;
        }
        firmware.close();
        // Write GPG key
        QString keyPath = tmp.absoluteFilePath(QString("ckb-%1-key.gpg").arg(pid));
        if(!QFile::copy(":/bin/ckb-next-key.gpg", keyPath)){
            firmware.remove();
            qDebug() << "Failed to write GPG key to temporary location, aborting firmware check";
            return;
        }
        // Check signature
        QProcess gpg;
        gpg.start("gpg", QStringList("--no-default-keyring") << "--keyring" << keyPath << "--verify" <<
    fwPath);
        gpg.waitForFinished();
        // Clean up temp files
        tmp.remove(fwPath);
        tmp.remove(keyPath);
        if(gpg.error() != QProcess::UnknownError || gpg.exitCode() != 0){
            qDebug() << "GPG couldn't verify firmware signature:";
            qDebug() << gpg.readAllStandardOutput();
            qDebug() << gpg.readAllStandardError();
            return;
        }
        // Signature good, proceed to update database
    }
    fwTable.clear();
    QStringList lines = QString::fromUtf8(data).split("\n");
    bool scan = false;
    foreach(QString line, lines){
        // Collapse whitespace
        line.replace(QRegExp("\\s+"), " ").remove(QRegExp("^\\s")).remove(QRegExp("\\s$"));
        // Skip empty or commented-out lines
        if(line.length() == 0 || line.at(0) == '#')
            continue;
        // Don't read anything until the entries begin and don't read anything after they end
        if(!scan){
            if(line == "!BEGIN FW ENTRIES")
                scan = true;
            else
                continue;
        }
        if(line == "!END FW ENTRIES")
            break;
        QStringList components = line.split(" ");
        if(components.length() != 7)
```

```
            continue;
        // "VENDOR-PRODUCT"
        QString device = components[0].toUpper() + "-" + components[1].toUpper();
        FW fw;
        fw.fwVersion = components[2].toFloat();                          // Firmware blob version
        fw.url = QUrl::fromPercentEncoding(components[3].toLatin1());    // URL to zip file
        fw.ckbVersion = KbManager::parseVersionString(components[4]);    //
Minimum ckb version
        fw.fileName = QUrl::fromPercentEncoding(components[5].toLatin1());  // Name of file inside zip
        fw.hash = QByteArray::fromHex(components[6].toLatin1());         // SHA256 of file inside zip
        // Update entry
        fwTable[device] = fw;
    }
    qDebug() << "Downloaded new firmware list." << fwTable.count() << "entries found.";
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.10 static float KbFirmware::versionForBoard (const QString & *features*, bool *waitForComplete* = `false`) `[inline],[static]`

Definition at line 22 of file kbfirmware.h.

References _latestForBoard(), and instance.

Referenced by MainWindow::checkFwUpdates(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

```
22 { return instance._latestForBoard(features, waitForComplete); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.5 Field Documentation

12.29.5.1 QMap<QString, FW> KbFirmware::fwTable [private]

Definition at line 44 of file kbfirmware.h.

Referenced by _fileForBoard(), _latestForBoard(), and processDownload().

12.29.5.2 QByteArray KbFirmware::fwTableHash [private]

Definition at line 46 of file kbfirmware.h.

Referenced by processDownload().

12.29.5.3 enum { ... } KbFirmware::hasGPG [private]

Referenced by processDownload().

12.29.5.4 KbFirmware KbFirmware::instance [static], [private]

Definition at line 58 of file kbfirmware.h.

Referenced by checkUpdates(), dataForBoard(), hasDownloaded(), and versionForBoard().

12.29.5.5 quint64 KbFirmware::lastCheck [private]

Definition at line 35 of file kbfirmware.h.

Referenced by _checkUpdates(), and processDownload().

12.29.5.6 quint64 KbFirmware::lastFinished [private]

Definition at line 35 of file kbfirmware.h.

Referenced by hasDownloaded(), and processDownload().

12.29.5.7 QNetworkAccessManager* KbFirmware::networkManager

Definition at line 28 of file kbfirmware.h.

Referenced by _checkUpdates(), _fileForBoard(), KbFirmware(), and ~KbFirmware().

12.29.5.8 QNetworkReply* KbFirmware::tableDownload [private]

Definition at line 49 of file kbfirmware.h.

Referenced by _checkUpdates(), _latestForBoard(), and downloadFinished().

The documentation for this class was generated from the following files:

- src/ckb/kbfirmware.h
- src/ckb/kbfirmware.cpp
- src/ckb/release/moc_kbfirmware.cpp

12.30 KbLight Class Reference

```
#include <src/ckb/kblight.h>
```

Inheritance diagram for KbLight:

Collaboration diagram for KbLight:

Public Types

- typedef QList< KbAnim * > AnimList

Signals

- void didLoad ()
- void updated ()
- void frameDisplayed (const ColorMap &animatedColors, const QSet< QString > &indicatorList)

Public Member Functions

- KbLight (KbMode *parent, const KeyMap &keyMap)
- KbLight (KbMode *parent, const KeyMap &keyMap, const KbLight &other)
- ~KbLight ()
- const KeyMap & map ()
- void map (const KeyMap &map)
- const QColorMap & colorMap ()
- void color (const QString &key, const QColor &newColor)
- void color (const QColor &newColor)
- int dimming ()
- void dimming (int newDimming)
- KbAnim * addAnim (const AnimScript *base, const QStringList &keys, const QString &name, const QMap< QString, QVariant > &preset)
- KbAnim * duplicateAnim (KbAnim *oldAnim)
- const AnimList & animList ()
- void animList (const AnimList &newAnimList)
- KbAnim * findAnim (const QUuid &guid) const

- int findAnimIdx (const QUuid &guid) const
- void previewAnim (const AnimScript *base, const QStringList &keys, const QMap< QString, QVariant > &preset)
- void stopPreview ()
- void restartAnimation ()
- void animKeypress (const QString &key, bool down)
- void open ()
- bool isStarted ()
- void close ()
- void resetIndicators ()
- void setIndicator (const char *name, QRgb argb)
- void frameUpdate (QFile &cmd, bool monochrome=false)
- void base (QFile &cmd, bool ignoreDim=false, bool monochrome=false)
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const

Static Public Member Functions

- static int shareDimming ()
- static void shareDimming (int newShareDimming)

Static Public Attributes

- static const int MAX_DIM = 3

Private Member Functions

- void rebuildBaseMap ()
- void printRGB (QFile &cmd, const ColorMap &animMap)

Private Attributes

- AnimList _animList
- KbAnim * _previewAnim
- KeyMap _map
- QColorMap _qColorMap
- ColorMap _colorMap
- ColorMap _animMap
- ColorMap _lastFrameAnimMap
- ColorMap _indicatorMap
- ColorMap _lastFrameIndicatorMap
- QSet< QString > _indicatorList
- quint64 lastFrameSignal
- int _dimming
- int _lastFrameDimming
- bool _start
- bool _needsSave
- bool _needsMapRefresh

12.30.1 Detailed Description

Definition at line 17 of file kblight.h.

12.30.2 Member Typedef Documentation

12.30.2.1 typedef QList<KbAnim*> KbLight::AnimList

Definition at line 46 of file kblight.h.

12.30.3 Constructor & Destructor Documentation

12.30.3.1 KbLight::KbLight (KbMode * *parent*, const KeyMap & *keyMap*)

Definition at line 10 of file kblight.cpp.

References map().

```
10                                                    :
11     QObject(parent), _previewAnim(0), lastFrameSignal(0),
      _dimming(0), _lastFrameDimming(0), _start(false),
      _needsSave(true), _needsMapRefresh(true)
12 {
13     map(keyMap);
14 }
```

Here is the call graph for this function:

12.30.3.2 KbLight::KbLight (KbMode * *parent*, const KeyMap & *keyMap*, const KbLight & *other*)

Definition at line 16 of file kblight.cpp.

References _animList, and map().

```
16                                                                    :
17     QObject(parent), _previewAnim(0), _map(other._map),
      _qColorMap(other._qColorMap), lastFrameSignal(0),
      _dimming(other._dimming), _lastFrameDimming(other.
      _lastFrameDimming), _start(false), _needsSave(true),
      _needsMapRefresh(true)
18 {
19     map(keyMap);
20     // Duplicate animations
21     foreach(KbAnim* animation, other._animList)
22         _animList.append(new KbAnim(this, keyMap, *animation));
23 }
```

Here is the call graph for this function:

12.30.3.3 KbLight::~KbLight ( )

Definition at line 45 of file kblight.cpp.

References activeLights.

```
45                  {
46      activeLights.remove(this);
47  }
```

12.30.4 Member Function Documentation

12.30.4.1 KbAnim * KbLight::addAnim (const AnimScript * *base*, const QStringList & *keys*, const QString & *name*, const QMap< QString, QVariant > & *preset*)

Definition at line 100 of file kblight.cpp.

References _animList, _map, _needsSave, _start, anim, KbAnim::commitParams(), KbAnim::parameter(), KbAnim::stop(), stopPreview(), and KbAnim::trigger().

Referenced by KbAnimWidget::addAnim().

```
100
                                {
101     // Stop and restart all existing animations
102     stopPreview();
103     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
104     foreach(KbAnim* anim, _animList){
105         anim->stop();
106         anim->trigger(timestamp);
107     }
108     // Load the new animation and set preset parameters
109     KbAnim* anim = new KbAnim(this, _map, name, keys, base);
110     QMapIterator<QString, QVariant> i(preset);
111     while(i.hasNext()){
112         i.next();
113         anim->parameter(i.key(), i.value());
114     }
115     anim->commitParams();
116     // Add the animation and start it
117     _animList.append(anim);
118     anim->trigger(timestamp);
119     _start = true;
120     _needsSave = true;
121     return anim;
122 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.2 void KbLight::animKeypress (const QString & *key*, bool *down*)

Definition at line 189 of file kblight.cpp.

References _animList, _previewAnim, anim, KbAnim::keypress(), and KbAnim::keys().

Referenced by Kb::readNotify().

```
189                                                     {
190     foreach(KbAnim* anim, _animList){
191         if(anim->keys().contains(key))
192             anim->keypress(key, down, QDateTime::currentMSecsSinceEpoch());
193     }
194     if(_previewAnim){
195         if(_previewAnim->keys().contains(key))
196             _previewAnim->keypress(key, down, QDateTime::currentMSecsSinceEpoch());
197     }
198 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.3 const AnimList& KbLight::animList ( ) [inline]

Definition at line 49 of file kblight.h.

References _animList.

Referenced by RebindWidget::applyChanges(), KbAnimWidget::duplicateAnim(), KbMode::newId(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and RebindWidget::setSelection().

```
49 { return _animList; }
```

Here is the caller graph for this function:

12.30.4.4 void KbLight::animList (const AnimList & *newAnimList*) [inline]

Definition at line 50 of file kblight.h.

References _animList, and _needsSave.

```
50 { _needsSave = true; _animList = newAnimList; }
```

12.30.4.5 void KbLight::base (QFile & *cmd*, bool *ignoreDim* = false, bool *monochrome* = false)

Definition at line 378 of file kblight.cpp.

References _animMap, _colorMap, _dimming, close(), ColorMap::colorForName(), ColorMap::colors(), ColorMap::count(), MAX_DIM, monoRgb(), printRGB(), and rebuildBaseMap().

Referenced by Kb::hwSave().

```
                                                        {
    close();
    if(_dimming == MAX_DIM && !ignoreDim){
        cmd.write(QString().sprintf("rgb 000000").toLatin1());
        return;
    }
    // Set just the background color, ignoring any animation
    rebuildBaseMap();
    _animMap = _colorMap;
    // If monochrome is active, create grayscale
    if(monochrome){
        int count = _animMap.count();
        QRgb* colors = _animMap.colors();
        for(int i = 0; i < count; i++){
            QRgb& rgb = colors[i];
            rgb = monoRgb(qRed(rgb), qGreen(rgb), qBlue(rgb));
        }
    }
    // Set a few indicators to black as the hardware handles them differently
    QRgb* mr = _animMap.colorForName("mr"), *m1 = _animMap.
colorForName("m1"), *m2 = _animMap.colorForName("m2"), *m3 =
_animMap.colorForName("m3"), *lock = _animMap.
colorForName("lock");
    if(mr) *mr = 0;
    if(m1) *m1 = 0;
    if(m2) *m2 = 0;
    if(m3) *m3 = 0;
    if(lock) *lock = 0;
    // Send to driver
    cmd.write("rgb");
    printRGB(cmd, _animMap);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.6 void KbLight::close ( )

Definition at line 215 of file kblight.cpp.

References _animList, _start, activeLights, anim, KbAnim::stop(), and stopPreview().

Referenced by base(), Kb::frameUpdate(), Kb::hwSave(), and Kb::updateLayout().

```
                    {
    activeLights.remove(this);
    foreach(KbAnim* anim, _animList)
        anim->stop();
    stopPreview();
    _start = false;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.7 void KbLight::color (const QString & *key*, const QColor & *newColor*)

Definition at line 49 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _needsSave, _qColorMap, and ColorMap::colorForName().

Referenced by KbLightWidget::changeColor(), load(), printRGB(), Kb::readNotify(), rebuildBaseMap(), and KbLightWidget::toggleSidelight().

```
                                                        {
    QRgb newRgb = newColor.rgb();
    _qColorMap[key] = newRgb;
    _needsSave = true;
    if(!_needsMapRefresh){
        // Update flat map if we're not scheduled to rebuild it
        QByteArray rawName = key.toLatin1();
        QRgb* rawRgb = _colorMap.colorForName(rawName.data());
        if(rawRgb)
            *rawRgb = newRgb;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.8 void KbLight::color (const QColor & *newColor*)

Definition at line 62 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _needsSave, _qColorMap, ColorMap::colors(), and ColorMap::count().

```
62                                          {
63     QRgb newRgb = newColor.rgb();
64     QMutableColorMapIterator i(_qColorMap);
65     while(i.hasNext()){
66         i.next();
67         i.value() = newRgb;
68     }
69     _needsSave = true;
70     // Reset flat map
71     _needsMapRefresh = false;
72     int mapCount = _colorMap.count();
73     QRgb* flat = _colorMap.colors();
74     for(int i = 0; i < mapCount; i++)
75         flat[i] = mapCount;
76 }
```

Here is the call graph for this function:

12.30.4.9 const QColorMap& KbLight::colorMap ( ) [inline]

Definition at line 31 of file kblight.h.

References _qColorMap.

Referenced by KbLightWidget::changeColor(), KbLightWidget::newSelection(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

```
31 { return _qColorMap; }
```

Here is the caller graph for this function:

12.30.4.10 void KbLight::didLoad ( ) [signal]

Definition at line 162 of file moc_kblight.cpp.

Referenced by load().

```
163 {
164     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
165 }
```

Here is the caller graph for this function:

12.30.4.11 int KbLight::dimming ( ) [inline]

Definition at line 39 of file kblight.h.

References _dimming.

Referenced by KeyAction::keyEvent(), KbLightWidget::on_brightnessBox_activated(), open(), shareDimming(), and KbLightWidget::updateLight().

```
39 { return _dimming; }
```

Here is the caller graph for this function:

12.30.4.12 void KbLight::dimming (int *newDimming*)

Definition at line 92 of file kblight.cpp.

References _dimming, _needsSave, _shareDimming, shareDimming(), and updated().

```
92                                  {
93     if(_shareDimming != -1)
94         shareDimming(newDimming);
95     _needsSave = true;
96     _dimming = newDimming;
97     emit updated();
98 }
```

Here is the call graph for this function:

12.30.4.13 KbAnim ∗ KbLight::duplicateAnim (KbAnim ∗ *oldAnim*)

Definition at line 148 of file kblight.cpp.

References _animList, _map, _needsSave, _start, anim, KbAnim::newId(), KbAnim::stop(), and KbAnim::trigger().

Referenced by KbAnimWidget::duplicateAnim().

```
148                                         {
149     // Stop and restart all existing animations
150     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
151     foreach(KbAnim* anim, _animList){
152         anim->stop();
153         anim->trigger(timestamp);
154     }
155     // Same as addAnim, just duplicate the existing one
156     KbAnim* anim = new KbAnim(this, _map, *oldAnim);
157     anim->newId();
158     int index = _animList.indexOf(oldAnim);
159     if(index < 0)
160         _animList.append(anim);
161     else
162         _animList.insert(index + 1, anim);
```

```
    anim->trigger(timestamp);
    _start = true;
    _needsSave = true;
    return anim;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.14 KbAnim* KbLight::findAnim (const QUuid & *guid*) const [inline]

Definition at line 51 of file kblight.h.

References _animList, anim, and KbAnim::guid().

Referenced by findAnimIdx(), and KeyAction::keyEvent().

```
51 { foreach(KbAnim* anim, _animList) { if(anim->guid() == guid) return anim; } return
     0; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.15 int KbLight::findAnimIdx (const QUuid & *guid*) const [inline]

Definition at line 52 of file kblight.h.

References _animList, and findAnim().

Referenced by RebindWidget::setSelection().

```
52 { return _animList.indexOf(findAnim(guid)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.16 void KbLight::frameDisplayed (const ColorMap & *animatedColors*, const QSet< QString > & *indicatorList*) [signal]

Definition at line 174 of file moc_kblight.cpp.

Referenced by frameUpdate().

```
175 {
176     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
      reinterpret_cast<const void*>(&_t2)) };
177     QMetaObject::activate(this, &staticMetaObject, 2, _a);
178 }
```

Here is the caller graph for this function:

12.30.4.17 void KbLight::frameUpdate (QFile & *cmd*, bool *monochrome* = `false`)

Definition at line 296 of file kblight.cpp.

References _animList, _animMap, _colorMap, _dimming, _indicatorList, _indicatorMap, _lastFrameAnimMap, _lastFrameDimming, _lastFrameIndicatorMap, _previewAnim, anim, KbAnim::blend(), ColorMap::colors(), ColorMap::count(), frameDisplayed(), lastFrameSignal, IToS(), monoRgb(), printRGB(), rebuildBaseMap(), and sToL().

Referenced by Kb::frameUpdate().

```
296                                                 {
297     rebuildBaseMap();
298     _animMap = _colorMap;
299     // Advance animations
300     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
301     foreach(KbAnim* anim, _animList)
302         anim->blend(_animMap, timestamp);
303     if(_previewAnim)
304         _previewAnim->blend(_animMap, timestamp);
305
306     // Avoid expensive processing if nothing has changed from the last frame.
307     if(_animMap == _lastFrameAnimMap && _indicatorMap ==
      _lastFrameIndicatorMap && _lastFrameDimming ==
      _dimming)
308         return;
309     _lastFrameAnimMap = _animMap;
310     _lastFrameIndicatorMap = _indicatorMap;
311     _lastFrameDimming = _dimming;
312
313     int count = _animMap.count();
314     QRgb* colors = _animMap.colors();
315     // Apply active indicators and/or perform monochrome conversion
316     if(monochrome || !_indicatorList.isEmpty()){
317         QRgb* indicators = _indicatorMap.colors();
318         for(int i = 0; i < count; i++){
319             QRgb& rgb = colors[i];
320             float r = qRed(rgb);
321             float g = qGreen(rgb);
322             float b = qBlue(rgb);
323             // Apply indicators
324             QRgb rgb2 = indicators[i];
325             if(qAlpha(rgb2) != 0){
326                 float r2 = qRed(rgb2);
327                 float g2 = qGreen(rgb2);
328                 float b2 = qBlue(rgb2);
329                 float a2 = qAlpha(rgb2) / 255.f;
330                 r = round(r2 * a2 + r * (1.f - a2));
331                 g = round(g2 * a2 + g * (1.f - a2));
332                 b = round(b2 * a2 + b * (1.f - a2));
333             }
334             // If monochrome mode is active, average the channels to get a grayscale image
335             if(monochrome)
336                 rgb = monoRgb(r, g, b);
337             else
338                 rgb = qRgb(r, g, b);
339         }
340     }
341
342     // Emit signals for the animation (only do this every 50ms - it can cause a lot of CPU usage)
343     if(timestamp >= lastFrameSignal + 50){
344         emit frameDisplayed(_animMap, _indicatorList);
345         lastFrameSignal = timestamp;
346     }
347
348     // If brightness is at 0%, turn off lighting entirely
349     if(_dimming == 3){
```

```
        cmd.write("rgb 000000");
        return;
    }

    float light = (3 - _dimming) / 3.f;
    // Apply global dimming
    if(light != 1.f || monochrome){
        for(int i = 0; i < count; i++){
            QRgb& rgb = colors[i];
            // Like the monochrome conversion, this should be done in a linear colorspace
            float r = sToL(qRed(rgb));
            float g = sToL(qGreen(rgb));
            float b = sToL(qBlue(rgb));
            r *= light;
            g *= light;
            b *= light;
            r = round(lToS(r));
            g = round(lToS(g));
            b = round(lToS(b));
            rgb = qRgb(r, g, b);
        }
    }

    // Apply light
    cmd.write("rgb");
    printRGB(cmd, _animMap);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.18 bool KbLight::isStarted ( )

Definition at line 169 of file kblight.cpp.

References _animList, _start, and KbAnim::isRunning().

Referenced by Kb::frameUpdate().

```
                        {
    if(!_start)
        return false;
    foreach(KbAnim* animation, _animList){
        if(!animation->isRunning())
            return false;
    }
    return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.19 void KbLight::load (CkbSettings & *settings*)

Definition at line 408 of file kblight.cpp.

References _animList, _dimming, _map, _needsMapRefresh, _needsSave, _qColorMap, anim, CkbSettings::childKeys(), color(), didLoad(), KeyMap::fromName(), KeyMap::fromStorage(), map(), MAX_DIM, and CkbSettings::value().

Referenced by KbMode::KbMode().

```
                                    {
    // Load light settings
    _needsSave = false;
    SGroup group(settings, "Lighting");
    KeyMap currentMap = _map;
    _map = KeyMap::fromName(settings.value("KeyMap").toString());
    _dimming = settings.value("Brightness").toUInt();
    if(_dimming > MAX_DIM)
        _dimming = MAX_DIM;
    // Load RGB settings
    bool useReal = settings.value("UseRealNames").toBool();
    {
        SGroup group(settings, "Keys");
        foreach(QString key, settings.childKeys()){
            QString name = key.toLower();
            if(!useReal)
                name = _map.fromStorage(name);
            QColor color = settings.value(key).toString();
            if(!color.isValid())
                color = QColor(255, 255, 255);
            _qColorMap[name] = color.rgb();
        }
        _needsMapRefresh = true;
    }
    // Load animations
```

```
    foreach(KbAnim* anim, _animList)
        anim->deleteLater();
    _animList.clear();
    {
        SGroup group(settings, "Animations");
        foreach(QString anim, settings.value("List").toStringList()){
            QUuid id = anim;
            _animList.append(new KbAnim(this, _map, id, settings));
        }
    }
    emit didLoad();
    map(currentMap);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.20 const KeyMap& KbLight::map ( ) [inline]

Definition at line 28 of file kblight.h.

References _map.

Referenced by KbLight(), KbMode::keyMap(), load(), map(), KbLightWidget::newSelection(), KbAnimWidget::on_keyButton_clicked(), and KbLightWidget::updateLight().

```
28 { return _map; }
```

Here is the caller graph for this function:

12.30.4.21 void KbLight::map (const KeyMap & *map*)

Definition at line 25 of file kblight.cpp.

References _animList, _animMap, _colorMap, _indicatorMap, _map, _needsMapRefresh, _needsSave, _qColorMap, anim, ColorMap::init(), map(), KbAnim::map(), and updated().

```
25                                  {
26     // If any of the keys are missing from the color map, set them to white
27     QHashIterator<QString, Key> i(map);
28     while(i.hasNext()){
29         i.next();
30         const QString& key = i.key();
31         if(!_qColorMap.contains(key))
32             _qColorMap[key] = 0xFFFFFFFF;
33     }
34     // Set the new map
35     _map = map;
36     foreach(KbAnim* anim, _animList)
37         anim->map(map);
38     _colorMap.init(_map);
39     _animMap.init(_map);
40     _indicatorMap.init(_map);
41     _needsSave = _needsMapRefresh = true;
42     emit updated();
43 }
```

Here is the call graph for this function:

12.30.4.22 bool KbLight::needsSave ( ) const

Definition at line 474 of file kblight.cpp.

References _animList, _needsSave, anim, and KbAnim::needsSave().

Referenced by KbMode::needsSave().

```
474                                 {
475     if(_needsSave)
476         return true;
477     foreach(KbAnim* anim, _animList){
478         if(anim->needsSave())
479             return true;
480     }
481     return false;
482 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.23 void KbLight::open ( )

Definition at line 200 of file kblight.cpp.

References _animList, _dimming, _previewAnim, _shareDimming, _start, activeLights, anim, dimming(), and KbAnim::trigger().

Referenced by Kb::frameUpdate().

```
200                 {
201     // Apply shared dimming if needed
202     if(_shareDimming != -1 && _shareDimming !=
    _dimming)
203         dimming(_shareDimming);
204     activeLights.insert(this);
205     if(_start)
206         return;
207     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
208     foreach(KbAnim* anim, _animList)
209         anim->trigger(timestamp);
210     if(_previewAnim)
211         _previewAnim->trigger(timestamp);
212     _start = true;
213 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.24 void KbLight::previewAnim (const AnimScript * *base*, const QStringList & *keys*, const QMap< QString, QVariant > & *preset*)

Definition at line 124 of file kblight.cpp.

References _map, _previewAnim, _start, anim, KbAnim::commitParams(), KbAnim::parameter(), KbAnim::reInit(), stopPreview(), and KbAnim::trigger().

Referenced by AnimAddDialog::on_presetBox_activated().

```
124
          {
125     if(_previewAnim)
126         stopPreview();
127     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
128     // Load the new animation and set preset parameters
129     KbAnim* anim = new KbAnim(this, _map, "", keys, base);
130     QMapIterator<QString, QVariant> i(preset);
131     while(i.hasNext()){
132         i.next();
133         anim->parameter(i.key(), i.value());
134     }
135     anim->commitParams();
136     anim->reInit();
137     // Add the animation and start it
138     _previewAnim = anim;
139     anim->trigger(timestamp);
140     _start = true;
141 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.25 void KbLight::printRGB (QFile & *cmd*, const ColorMap & *animMap*) [private]

Definition at line 223 of file kblight.cpp.

References color(), ColorMap::colors(), ColorMap::count(), and ColorMap::keyNames().

Referenced by base(), and frameUpdate().

```
223                                                     {
224     int count = animMap.count();
225     const char* const* names = animMap.keyNames();
226     const QRgb* colors = animMap.colors();
227     // Print each color and the corresponding RGB value
228     for(int i = 0; i < count; i++){
229         cmd.write(" ");
230         cmd.write(names[i]);
231         char output[8];
232         QRgb color = colors[i];
233         snprintf(output, sizeof(output), ":%02x%02x%02x", qRed(color), qGreen(color), qBlue(color));
234         cmd.write(output);
235     }
236 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.26 void KbLight::rebuildBaseMap ( ) [private]

Definition at line 238 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _qColorMap, color(), and ColorMap::colorForName().

Referenced by base(), and frameUpdate().

```
238                             {
239     if(!_needsMapRefresh)
240         return;
241     _needsMapRefresh = false;
242     // Copy RGB values from QColorMap to ColorMap
243     QColorMapIterator i(_qColorMap);
244     while(i.hasNext()){
245         i.next();
246         QByteArray rawName = i.key().toLatin1();
247         QRgb color = i.value();
248         QRgb* rawColor = _colorMap.colorForName(rawName.data());
249         if(rawColor)
250             *rawColor = color;
251     }
252 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.27 void KbLight::resetIndicators ( )

Definition at line 254 of file kblight.cpp.

References _indicatorList, _indicatorMap, and ColorMap::clear().

Referenced by KbPerf::applyIndicators().

```
                                {
    _indicatorMap.clear();
    _indicatorList.clear();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.28 void KbLight::restartAnimation ( )

Definition at line 179 of file kblight.cpp.

References _animList, _start, anim, KbAnim::stop(), stopPreview(), and KbAnim::trigger().

Referenced by KbLightWidget::on_animButton_clicked(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_keyButton_clicked(), and KbAnimWidget::on_propertyButton_clicked().

```
                                {
    quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
    foreach(KbAnim* anim, _animList){
        anim->stop();
        anim->trigger(timestamp);
    }
    stopPreview();
    _start = true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.29 void KbLight::save (CkbSettings & *settings*)

Definition at line 447 of file kblight.cpp.

References _animList, _dimming, _map, _needsSave, _qColorMap, anim, KbAnim::guid(), KeyMap::name(), KbAnim::save(), and CkbSettings::setValue().

Referenced by KbMode::save().

```
447                                     {
448     _needsSave = false;
449     SGroup group(settings, "Lighting");
450     settings.setValue("KeyMap", _map.name());
451     settings.setValue("Brightness", _dimming);
452     settings.setValue("UseRealNames", true);
453     {
454         // Save RGB settings
455         SGroup group(settings, "Keys");
456         QMutableColorMapIterator i(_qColorMap);
457         while(i.hasNext()){
458             i.next();
459             settings.setValue(i.key(), QColor(i.value()).name());
460         }
461     }
462     {
463         // Save animations
464         SGroup group(settings, "Animations");
465         QStringList aList;
466         foreach(KbAnim* anim, _animList){
467             aList << anim->guid().toString().toUpper();
468             anim->save(settings);
469         }
470         settings.setValue("List", aList);
471     }
472 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.30 void KbLight::setIndicator (const char * *name*, QRgb *argb*)

Definition at line 259 of file kblight.cpp.

References _indicatorList, _indicatorMap, and ColorMap::colorForName().

Referenced by KbPerf::lightIndicator().

```
259                                                 {
260     QRgb* dest = _indicatorMap.colorForName(name);
261     if(dest){
262         *dest = argb;
263         _indicatorList.insert(name);
264     }
265 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.31 int KbLight::shareDimming ( ) [static]

Definition at line 78 of file kblight.cpp.

References _shareDimming.

Referenced by dimming(), ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_brightnessBox_clicked(), and ExtraSettingsWidget::pollUpdates().

```
78                          {
79     return _shareDimming;
80 }
```

Here is the caller graph for this function:

12.30.4.32 void KbLight::shareDimming (int *newShareDimming*) [static]

Definition at line 82 of file kblight.cpp.

References _shareDimming, activeLights, and dimming().

```
82                                          {
83     if(_shareDimming == newShareDimming)
84         return;
85     _shareDimming = newShareDimming;
86     if(newShareDimming != -1){
87         foreach(KbLight* light, activeLights)
88             light->dimming(newShareDimming);
89     }
90 }
```

Here is the call graph for this function:

12.30.4.33 void KbLight::stopPreview ( )

Definition at line 143 of file kblight.cpp.

References _previewAnim.

Referenced by addAnim(), close(), AnimAddDialog::on_previewBox_clicked(), previewAnim(), restartAnimation(), and AnimAddDialog::~AnimAddDialog().

```
143                         {
144     delete _previewAnim;
145     _previewAnim = 0;
146 }
```

Here is the caller graph for this function:

12.30.4.34 void KbLight::updated ( ) [signal]

Definition at line 168 of file moc_kblight.cpp.

Referenced by dimming(), and map().

```
169 {
170     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
171 }
```

Here is the caller graph for this function:

12.30.5 Field Documentation

12.30.5.1 AnimList KbLight::_animList [private]

Definition at line 89 of file kblight.h.

Referenced by addAnim(), animKeypress(), animList(), close(), duplicateAnim(), findAnim(), findAnimIdx(), frameUpdate(), isStarted(), KbLight(), load(), map(), needsSave(), open(), restartAnimation(), and save().

12.30.5.2 ColorMap KbLight::_animMap [private]

Definition at line 93 of file kblight.h.

Referenced by base(), frameUpdate(), and map().

12.30.5.3 ColorMap KbLight::_colorMap [private]

Definition at line 93 of file kblight.h.

Referenced by base(), color(), frameUpdate(), map(), and rebuildBaseMap().

12.30.5.4 int KbLight::_dimming [private]

Definition at line 96 of file kblight.h.

Referenced by base(), dimming(), frameUpdate(), load(), open(), and save().

12.30.5.5 QSet<QString> KbLight::_indicatorList [private]

Definition at line 94 of file kblight.h.

Referenced by frameUpdate(), resetIndicators(), and setIndicator().

12.30.5.6 ColorMap KbLight::_indicatorMap [private]

Definition at line 93 of file kblight.h.

Referenced by frameUpdate(), map(), resetIndicators(), and setIndicator().

12.30.5.7 ColorMap KbLight::_lastFrameAnimMap [private]

Definition at line 93 of file kblight.h.

Referenced by frameUpdate().

12.30.5.8 int KbLight::_lastFrameDimming [private]

Definition at line 96 of file kblight.h.

Referenced by frameUpdate().

12.30.5.9 ColorMap KbLight::_lastFrameIndicatorMap [private]

Definition at line 93 of file kblight.h.

Referenced by frameUpdate().

12.30.5.10 KeyMap KbLight::_map [private]

Definition at line 91 of file kblight.h.

Referenced by addAnim(), duplicateAnim(), load(), map(), previewAnim(), and save().

12.30.5.11 bool KbLight::_needsMapRefresh [private]

Definition at line 98 of file kblight.h.

Referenced by color(), load(), map(), and rebuildBaseMap().

12.30.5.12 bool KbLight::_needsSave [private]

Definition at line 98 of file kblight.h.

Referenced by addAnim(), animList(), color(), dimming(), duplicateAnim(), load(), map(), needsSave(), and save().

12.30.5.13 KbAnim* KbLight::_previewAnim [private]

Definition at line 90 of file kblight.h.

Referenced by animKeypress(), frameUpdate(), open(), previewAnim(), and stopPreview().

12.30.5.14 QColorMap KbLight::_qColorMap [private]

Definition at line 92 of file kblight.h.

Referenced by color(), colorMap(), load(), map(), rebuildBaseMap(), and save().

12.30.5.15 bool KbLight::_start [private]

Definition at line 97 of file kblight.h.

Referenced by addAnim(), close(), duplicateAnim(), isStarted(), open(), previewAnim(), and restartAnimation().

12.30.5.16 quint64 KbLight::lastFrameSignal [private]

Definition at line 95 of file kblight.h.

Referenced by frameUpdate().

12.30.5.17 const int KbLight::MAX_DIM = 3 [static]

Definition at line 38 of file kblight.h.

Referenced by base(), ExtraSettingsWidget::ExtraSettingsWidget(), KeyAction::keyEvent(), and load().

The documentation for this class was generated from the following files:

- src/ckb/kblight.h
- src/ckb/kblight.cpp
- src/ckb/release/moc_kblight.cpp

12.31 Ui::KbLightWidget Class Reference

```
#include <src/ckb/ui_kblightwidget.h>
```

Inheritance diagram for Ui::KbLightWidget:

Collaboration diagram for Ui::KbLightWidget:

Public Member Functions

- void setupUi (QWidget *KbLightWidget)
- void retranslateUi (QWidget *KbLightWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout_3
- QLabel * label_3
- QCheckBox * showAnimBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_2
- QSpacerItem * horizontalSpacer_5
- QGridLayout * gridLayout
- KeyWidget * keyWidget
- QHBoxLayout * horizontalLayout
- ColorButton * bgButton
- QLabel * selLabel
- QPushButton * animButton
- QSpacerItem * horizontalSpacer_6
- QSpacerItem * verticalSpacer_2
- QGridLayout * gridLayout_2
- QComboBox * brightnessBox
- QLabel * label
- QSpacerItem * horizontalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QLabel * label_2
- QFrame * line
- QWidget * widget
- QGridLayout * gridLayout_4
- KbAnimWidget * animWidget

12.31.1 Detailed Description

Definition at line 263 of file ui_kblightwidget.h.

12.31.2 Member Function Documentation

12.31.2.1 void Ui_KbLightWidget::retranslateUi (QWidget * *KbLightWidget*) [inline],[inherited]

Definition at line 238 of file ui_kblightwidget.h.

References Ui_KbLightWidget::animButton, Ui_KbLightWidget::bgButton, Ui_KbLightWidget::brightnessBox, Ui_KbLightWidget::label, Ui_KbLightWidget::label_2, Ui_KbLightWidget::label_3, Ui_KbLightWidget::selLabel, and Ui_KbLightWidget::showAnimBox.

Referenced by Ui_KbLightWidget::setupUi().

```
    {
        KbLightWidget->setWindowTitle(QApplication::translate("KbLightWidget", "Form", Q_NULLPTR));
        label_3->setText(QApplication::translate("KbLightWidget", "Colors", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        showAnimBox->setToolTip(QApplication::translate("KbLightWidget", "If enabled, the same colors will be displayed here as on the keyboard. If disabled, the base colors will be shown.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        showAnimBox->setText(QApplication::translate("KbLightWidget", "Show animated", Q_NULLPTR));
        bgButton->setText(QApplication::translate("KbLightWidget", "Change color...", Q_NULLPTR));
        selLabel->setText(QApplication::translate("KbLightWidget", "Click to select", Q_NULLPTR));
        animButton->setText(QApplication::translate("KbLightWidget", "New animation...", Q_NULLPTR));
        brightnessBox->clear();
        brightnessBox->insertItems(0, QStringList()
         << QApplication::translate("KbLightWidget", "100%", Q_NULLPTR)
```

```
        << QApplication::translate("KbLightWidget", "67%", Q_NULLPTR)
        << QApplication::translate("KbLightWidget", "33%", Q_NULLPTR)
        << QApplication::translate("KbLightWidget", "Off", Q_NULLPTR)
       );
       label->setText(QApplication::translate("KbLightWidget", "\342\230\274", Q_NULLPTR));
       label_2->setText(QApplication::translate("KbLightWidget", "Animations", Q_NULLPTR));
   } // retranslateUi
```

Here is the caller graph for this function:

12.31.2.2 void Ui_KbLightWidget::setupUi (QWidget * *KbLightWidget*) [inline],[inherited]

Definition at line 63 of file ui_kblightwidget.h.

References Ui_KbLightWidget::animButton, Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, Ui_KbLightWidget::brightnessBox, Ui_KbLightWidget::gridLayout, Ui_KbLightWidget::gridLayout_2, Ui_KbLightWidget::gridLayout_4, Ui_KbLightWidget::horizontalLayout, Ui_KbLightWidget::horizontalLayout_2, Ui_KbLightWidget::horizontalLayout_3, Ui_KbLightWidget::horizontalSpacer_3, Ui_KbLightWidget::horizontalSpacer_4, Ui_KbLightWidget::horizontalSpacer_5, Ui_KbLightWidget::horizontalSpacer_6, Ui_KbLightWidget::keyWidget, Ui_KbLightWidget::label, Ui_KbLightWidget::label_2, Ui_KbLightWidget::label_3, Ui_KbLightWidget::line, Ui_KbLightWidget::line_2, Ui_KbLightWidget::retranslateUi(), Ui_KbLightWidget::selLabel, Ui_KbLightWidget::showAnimBox, Ui_KbLightWidget::verticalLayout, Ui_KbLightWidget::verticalSpacer_2, Ui_KbLightWidget::verticalSpacer_3, and Ui_KbLightWidget::widget.

Referenced by KbLightWidget::KbLightWidget().

```
    {
        if (KbLightWidget->objectName().isEmpty())
            KbLightWidget->setObjectName(QStringLiteral("KbLightWidget"));
        KbLightWidget->resize(632, 540);
        KbLightWidget->setFocusPolicy(Qt::ClickFocus);
        verticalLayout = new QVBoxLayout(KbLightWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        verticalLayout->setContentsMargins(0, 0, 0, -1);
        horizontalLayout_3 = new QHBoxLayout();
        horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
        label_3 = new QLabel(KbLightWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
        label_3->setSizePolicy(sizePolicy);
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label_3->setFont(font);

        horizontalLayout_3->addWidget(label_3);

        showAnimBox = new QCheckBox(KbLightWidget);
        showAnimBox->setObjectName(QStringLiteral("showAnimBox"));
        showAnimBox->setChecked(true);

        horizontalLayout_3->addWidget(showAnimBox);


        verticalLayout->addLayout(horizontalLayout_3);

        line_2 = new QFrame(KbLightWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
         line_2->setFrameShadow(QFrame::Sunken);

         verticalLayout->addWidget(line_2);

```

```
        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_5);

        gridLayout = new QGridLayout();
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        keyWidget = new KeyWidget(KbLightWidget);
        keyWidget->setObjectName(QStringLiteral("keyWidget"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
        keyWidget->setSizePolicy(sizePolicy1);
        keyWidget->setMinimumSize(QSize(100, 100));
        keyWidget->setFocusPolicy(Qt::ClickFocus);

        gridLayout->addWidget(keyWidget, 0, 0, 1, 3);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        bgButton = new ColorButton(KbLightWidget);
        bgButton->setObjectName(QStringLiteral("bgButton"));
        QSizePolicy sizePolicy2(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
        bgButton->setSizePolicy(sizePolicy2);
        bgButton->setMinimumSize(QSize(140, 0));
        bgButton->setMaximumSize(QSize(140, 16777215));

        horizontalLayout->addWidget(bgButton);

        selLabel = new QLabel(KbLightWidget);
        selLabel->setObjectName(QStringLiteral("selLabel"));
        sizePolicy.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
        selLabel->setSizePolicy(sizePolicy);
        selLabel->setAlignment(Qt::AlignCenter);

        horizontalLayout->addWidget(selLabel);

        animButton = new QPushButton(KbLightWidget);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);
        animButton->setMinimumSize(QSize(140, 0));
        animButton->setMaximumSize(QSize(140, 16777215));

        horizontalLayout->addWidget(animButton);


        gridLayout->addLayout(horizontalLayout, 1, 0, 1, 3);


        horizontalLayout_2->addLayout(gridLayout);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout_2);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        gridLayout_2 = new QGridLayout();
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        brightnessBox = new QComboBox(KbLightWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
        sizePolicy2.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
        brightnessBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);

        label = new QLabel(KbLightWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font1;
        font1.setPointSize(20);
        label->setFont(font1);
        label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

```

```
        gridLayout_2->addWidget(label, 1, 2, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 0, 4, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_4, 0, 2, 1, 1);


        verticalLayout->addLayout(gridLayout_2);

        verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_3);

        label_2 = new QLabel(KbLightWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        verticalLayout->addWidget(label_2);

        line = new QFrame(KbLightWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        verticalLayout->addWidget(line);

        widget = new QWidget(KbLightWidget);
        widget->setObjectName(QStringLiteral("widget"));
        widget->setMinimumSize(QSize(0, 170));
        gridLayout_4 = new QGridLayout(widget);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        gridLayout_4->setContentsMargins(-1, 0, -1, 0);
        animWidget = new KbAnimWidget(widget);
        animWidget->setObjectName(QStringLiteral("animWidget"));

        gridLayout_4->addWidget(animWidget, 0, 0, 1, 1);


        verticalLayout->addWidget(widget);


        retranslateUi(KbLightWidget);

        QMetaObject::connectSlotsByName(KbLightWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.31.3 Field Documentation

12.31.3.1 QPushButton* Ui_KbLightWidget::animButton [inherited]

Definition at line 48 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setup-Ui().

12.31.3.2 KbAnimWidget* Ui_KbLightWidget::animWidget [inherited]

Definition at line 61 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), KbLightWidget::on_animButton_-clicked(), KbLightWidget::setLight(), and Ui_KbLightWidget::setupUi().

12.31.3.3 ColorButton* Ui_KbLightWidget::bgButton [inherited]

Definition at line 46 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), Ui_KbLightWidget::retranslate-Ui(), and Ui_KbLightWidget::setupUi().

12.31.3.4 QComboBox* Ui_KbLightWidget::brightnessBox [inherited]

Definition at line 52 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), Ui_KbLightWidget::setupUi(), and KbLightWidget::updateLight().

12.31.3.5 QGridLayout* Ui_KbLightWidget::gridLayout [inherited]

Definition at line 43 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.6 QGridLayout* Ui_KbLightWidget::gridLayout_2 [inherited]

Definition at line 51 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4 [inherited]

Definition at line 60 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.8 QHBoxLayout* Ui_KbLightWidget::horizontalLayout [inherited]

Definition at line 45 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.9 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_2 [inherited]

Definition at line 41 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.10 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_3 [inherited]

Definition at line 37 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.11 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_3 [inherited]

Definition at line 54 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4 [inherited]

Definition at line 55 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.13 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_5 [inherited]

Definition at line 42 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.14 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_6 [inherited]

Definition at line 49 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.15 KeyWidget* Ui_KbLightWidget::keyWidget [inherited]

Definition at line 44 of file ui_kblightwidget.h.

Referenced by KbLightWidget::changeAnim(), KbLightWidget::changeAnimKeys(), KbLightWidget::changeColor(), KbLightWidget::KbLightWidget(), KbLightWidget::on_animButton_clicked(), KbLightWidget::on_bgButton_clicked(), KbLightWidget::on_showAnimBox_clicked(), KbLightWidget::setLight(), KbLightWidget::setMonochrome(), Ui_KbLightWidget::setupUi(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

12.31.3.16 QLabel* Ui_KbLightWidget::label [inherited]

Definition at line 53 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.17 QLabel* Ui_KbLightWidget::label_2 [inherited]

Definition at line 57 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.18 QLabel* Ui_KbLightWidget::label_3 [inherited]

Definition at line 38 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.19 QFrame* Ui_KbLightWidget::line [inherited]

Definition at line 58 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.20 QFrame* Ui_KbLightWidget::line_2 [inherited]

Definition at line 40 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.21 QLabel* Ui_KbLightWidget::selLabel [inherited]

Definition at line 47 of file ui_kblightwidget.h.

Referenced by KbLightWidget::newSelection(), Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.22 QCheckBox* Ui_KbLightWidget::showAnimBox [inherited]

Definition at line 39 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), Ui_KbLightWidget::retranslateUi(), KbLightWidget::setLight(), and Ui_KbLightWidget::setupUi().

12.31.3.23 QVBoxLayout* Ui_KbLightWidget::verticalLayout [inherited]

Definition at line 36 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.24 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2 [inherited]

Definition at line 50 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3 [inherited]

Definition at line 56 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.26 QWidget* Ui_KbLightWidget::widget [inherited]

Definition at line 59 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kblightwidget.h

12.32 KbLightWidget Class Reference

```
#include <src/ckb/kblightwidget.h>
```

Inheritance diagram for KbLightWidget:

Collaboration diagram for KbLightWidget:

Public Member Functions

- KbLightWidget (QWidget ∗parent=0)
- ∼KbLightWidget ()
- void setLight (KbLight ∗newLight)
- void setMonochrome ()

Private Slots

- void updateLight ()
- void newSelection (QStringList selection)
- void changeColor (QColor newColor)
- void changeAnim (KbAnim ∗newAnim)
- void changeAnimKeys (QStringList keys)
- void on_brightnessBox_activated (int index)
- void on_animButton_clicked ()
- void on_bgButton_clicked ()
- void on_showAnimBox_clicked (bool checked)
- void toggleSidelight ()

Private Attributes

- KbLight ∗ light
- QStringList currentSelection
- Ui::KbLightWidget ∗ ui

12.32.1 Detailed Description

Definition at line 15 of file kblightwidget.h.

12.32.2 Constructor & Destructor Documentation

12.32.2.1 KbLightWidget::KbLightWidget (QWidget * *parent* = 0) [explicit]

Definition at line 6 of file kblightwidget.cpp.

References Ui_KbLightWidget::animButton, Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, changeAnim(), changeAnimKeys(), changeColor(), AnimScript::count(), CkbSettings::get(), Ui_KbLightWidget::keyWidget, newSelection(), Ui_KbLightWidget::setupUi(), Ui_KbLightWidget::showAnimBox, toggleSidelight(), and ui.

```
6                                          :
7     QWidget(parent), light(0),
8     ui(new Ui::KbLightWidget)
9 {
10     ui->setupUi(this);
11     if(AnimScript::count() == 0)
12         ui->animButton->setVisible(false);
13
14     connect(ui->bgButton, SIGNAL(colorChanged(QColor)), this, SLOT(
      changeColor(QColor)));
15     connect(ui->keyWidget, SIGNAL(selectionChanged(QStringList)), this, SLOT(
      newSelection(QStringList)));
16     connect(ui->keyWidget, SIGNAL(sidelightToggled()), this, SLOT(
      toggleSidelight())); // click on a toggle button, like sidelight
17     connect(ui->animWidget, SIGNAL(animChanged(KbAnim*)), this, SLOT(
      changeAnim(KbAnim*)));
18     connect(ui->animWidget, SIGNAL(didUpdateSelection(QStringList)), this, SLOT(
      changeAnimKeys(QStringList)));
19
20     // Restore "show animated" setting
21     ui->showAnimBox->setChecked(!CkbSettings::get("UI/Light/ShowBaseOnly").
      toBool());
22 }
```

Here is the call graph for this function:

12.32.2.2 KbLightWidget::~KbLightWidget ( )

Definition at line 24 of file kblightwidget.cpp.

References ui.

```
24                                  {
25     delete ui;
26 }
```

12.32.3 Member Function Documentation

12.32.3.1 void KbLightWidget::changeAnim (KbAnim * *newAnim*) [private],[slot]

Definition at line 121 of file kblightwidget.cpp.

References KeyWidget::clearSelection(), KbAnim::keys(), Ui_KbLightWidget::keyWidget, KeyWidget::setAnimationToSelection(), KeyWidget::setSelection(), and ui.

Referenced by KbLightWidget().

```
121                                                 {
122     if(newAnim)
123         ui->keyWidget->setSelection(newAnim->keys());
124     else
125         ui->keyWidget->clearSelection();
126     ui->keyWidget->setAnimationToSelection();
127 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.2 void KbLightWidget::changeAnimKeys (QStringList *keys*) [private],[slot]

Definition at line 129 of file kblightwidget.cpp.

References Ui_KbLightWidget::keyWidget, KeyWidget::setAnimation(), and ui.

Referenced by KbLightWidget().

```
129                                                 {
130     ui->keyWidget->setAnimation(keys);
131 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.3 void KbLightWidget::changeColor (QColor *newColor*) [private],[slot]

Definition at line 99 of file kblightwidget.cpp.

References KbLight::color(), KeyWidget::colorMap(), KbLight::colorMap(), currentSelection, Ui_KbLightWidget::keyWidget, light, and ui.

Referenced by KbLightWidget().

```
99                                                  {
100     if(light){
101         foreach(QString key, currentSelection)
102             light->color(key, newColor);
103         ui->keyWidget->colorMap(light->colorMap());
104     }
105 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.4 void KbLightWidget::newSelection (QStringList *selection*) [private],[slot]

Definition at line 72 of file kblightwidget.cpp.

References Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, ColorButton::color(), KbLight::colorMap(), currentSelection, KeyMap::isMouse(), light, KbLight::map(), Ui_KbLightWidget::selLabel, KbAnimWidget::setSelectedKeys(), and ui.

Referenced by KbLightWidget().

```
72                                                  {
73     // Determine selected color (invalid color if no selection or if they're not all the same)
74     QColor selectedColor;
75     const QColorMap& colorMap = light->colorMap();
76     foreach(const QString& key, selection){
77         QColor color = colorMap.value(key);
78         if(!selectedColor.isValid())
79             selectedColor = color;
80         else if(color != selectedColor){
81             selectedColor = QColor();
82             break;
83         }
84     }
85
86     currentSelection = selection;
87     ui->animWidget->setSelectedKeys(selection);
88     ui->bgButton->color(selectedColor);
89     int count = selection.count();
90     if(count == 0){
91         ui->selLabel->setText("Click to select");
92         return;
93     } else if(count == 1)
94         ui->selLabel->setText(tr("1 %1 selected").arg(light->map().
      isMouse() ? "zone" : "key"));
95     else
96         ui->selLabel->setText(tr("%1 %2 selected").arg(count).arg(
      light->map().isMouse() ? "zones" : "keys"));
97 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.5 void KbLightWidget::on_animButton_clicked ( ) [private],[slot]

Definition at line 143 of file kblightwidget.cpp.

References KbAnimWidget::addAnim(), Ui_KbLightWidget::animWidget, AnimAddDialog::chosenPreset(), AnimAddDialog::chosenScript(), AnimScript::count(), currentSelection, Ui_KbLightWidget::keyWidget, light, AnimScript::preset(), AnimScript::presets(), KbLight::restartAnimation(), KeyWidget::selectAll(), and ui.

```
143                                         {
144     if(AnimScript::count() == 0)
145         return;
146     if(currentSelection.isEmpty())
147         ui->keyWidget->selectAll();
148     AnimAddDialog dialog(this, light, currentSelection);
149     dialog.exec();
150     if(dialog.result() != QDialog::Accepted)
151         return;
152     const AnimScript* script = dialog.chosenScript();
153     int presetId = dialog.chosenPreset();
154     ui->animWidget->addAnim(script, currentSelection, script->
      presets()[presetId], script->preset(presetId));
155     light->restartAnimation();
156 }
```

Here is the call graph for this function:

12.32.3.6 void KbLightWidget::on_bgButton_clicked ( ) [private],[slot]

Definition at line 138 of file kblightwidget.cpp.

References currentSelection, Ui_KbLightWidget::keyWidget, KeyWidget::selectAll(), and ui.

```
138                                     {
139     if(currentSelection.isEmpty())
140         ui->keyWidget->selectAll();
141 }
```

Here is the call graph for this function:

12.32.3.7 void KbLightWidget::on_brightnessBox_activated (int *index*) [private],[slot]

Definition at line 133 of file kblightwidget.cpp.

References KbLight::dimming(), and light.

```
133                                                     {
134     if(light)
135         light->dimming(index);
136 }
```

Here is the call graph for this function:

12.32.3.8 void KbLightWidget::on_showAnimBox_clicked (bool *checked*) [private],[slot]

Definition at line 52 of file kblightwidget.cpp.

References KeyWidget::displayColorMap(), Ui_KbLightWidget::keyWidget, light, CkbSettings::set(), and ui.

Referenced by setLight().

```
52                                                  {
53     // FIXME: set globally if there's more than one KbLightWidget active
54     // Connect/disconnect animation slot
55     if(checked){
56         if(light)
57             connect(light, SIGNAL(frameDisplayed(const ColorMap&,const QSet<QString>&)),
       ui->keyWidget, SLOT(displayColorMap(const ColorMap&,const QSet<QString>&)));
58     } else {
59         if(light)
60             disconnect(light, SIGNAL(frameDisplayed(const ColorMap&,const QSet<QString>&)),
       ui->keyWidget, SLOT(displayColorMap(const ColorMap&,const QSet<QString>&)));
61         ui->keyWidget->displayColorMap(ColorMap());
62     }
63     CkbSettings::set("UI/Light/ShowBaseOnly", !checked);
64 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.9 void KbLightWidget::setLight (KbLight * *newLight*)

Definition at line 28 of file kblightwidget.cpp.

References Ui_KbLightWidget::animWidget, KeyWidget::clearAnimation(), KbAnimWidget::clearSelection(), KeyWidget::clearSelection(), Ui_KbLightWidget::keyWidget, light, on_showAnimBox_clicked(), KeyWidget::setAnimation(), KbAnimWidget::setLight(), Ui_KbLightWidget::showAnimBox, ui, and updateLight().

Referenced by KbWidget::modeChanged().

```
{
    ui->keyWidget->clearSelection();
    ui->keyWidget->clearAnimation();
    ui->animWidget->clearSelection();
    if(light == newLight)
        return;
    if(light){
        disconnect(light, SIGNAL(updated()), this, SLOT(updateLight()));
        // Disabled animated colors for previous light
        on_showAnimBox_clicked(false);
    }
    connect(newLight, SIGNAL(updated()), this, SLOT(updateLight()));
    light = newLight;
    updateLight();
    ui->keyWidget->setAnimation(QStringList());
    ui->animWidget->setLight(newLight);
    if(ui->showAnimBox->isChecked())
        on_showAnimBox_clicked(true);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.10 void KbLightWidget::setMonochrome ( )

Definition at line 48 of file kblightwidget.cpp.

References Ui_KbLightWidget::keyWidget, KeyWidget::monochrome(), and ui.

Referenced by KbWidget::KbWidget().

```
48                                  {
49      ui->keyWidget->monochrome(true);
50  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.11 void KbLightWidget::toggleSidelight ( ) [private],[slot]

Definition at line 107 of file kblightwidget.cpp.

References KbLight::color(), KeyWidget::colorMap(), KbLight::colorMap(), Ui_KbLightWidget::keyWidget, light, and ui.

Referenced by KbLightWidget().

```
107                                     {
108     if(light){
109         if (light->colorMap()["lsidel"] == 0xFF000000){
110                 light->color("lsidel",QRgb(0xFFFFFFFF));
111                 light->color("rsidel",QRgb(0xFFFFFFFF));
112         } else {
113                 light->color("lsidel", QRgb(0xFF000000));
114                 light->color("rsidel", QRgb(0xFF000000));
115         }
116         ui->keyWidget->colorMap(light->colorMap());
117     }
118 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.3.12 void KbLightWidget::updateLight ( ) [private],[slot]

Definition at line 66 of file kblightwidget.cpp.

References Ui_KbLightWidget::brightnessBox, KeyWidget::colorMap(), KbLight::colorMap(), KbLight::dimming(), Ui_KbLightWidget::keyWidget, light, KeyWidget::map(), KbLight::map(), and ui.

Referenced by setLight().

```
66                                {
67     ui->keyWidget->map(light->map());
68     ui->keyWidget->colorMap(light->colorMap());
69     ui->brightnessBox->setCurrentIndex(light->dimming());
70 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.32.4 Field Documentation

12.32.4.1 QStringList KbLightWidget::currentSelection [private]

Definition at line 44 of file kblightwidget.h.

Referenced by changeColor(), newSelection(), on_animButton_clicked(), and on_bgButton_clicked().

12.32.4.2 KbLight* KbLightWidget::light [private]

Definition at line 43 of file kblightwidget.h.

Referenced by changeColor(), newSelection(), on_animButton_clicked(), on_brightnessBox_activated(), on_showAnimBox_clicked(), setLight(), toggleSidelight(), and updateLight().

12.32.4.3 Ui::KbLightWidget* KbLightWidget::ui [private]

Definition at line 46 of file kblightwidget.h.

Referenced by changeAnim(), changeAnimKeys(), changeColor(), KbLightWidget(), newSelection(), on_animButton_clicked(), on_bgButton_clicked(), on_showAnimBox_clicked(), setLight(), setMonochrome(), toggleSidelight(), updateLight(), and ~KbLightWidget().

The documentation for this class was generated from the following files:

- src/ckb/kblightwidget.h

- src/ckb/kblightwidget.cpp

12.33 KbManager Class Reference

```
#include <src/ckb/kbmanager.h>
```

Inheritance diagram for KbManager:

Collaboration diagram for KbManager:

Signals

- void kbConnected (Kb ∗device)
- void kbDisconnected (Kb ∗device)
- void versionUpdated ()

Static Public Member Functions

- static void init (QString guiVersion)
- static void stop ()
- static KbManager ∗ kbManager ()
- static QString ckbGuiVersion ()
- static QString ckbDaemonVersion ()
- static float parseVersionString (QString version)
- static float ckbGuiVersionF ()
- static float ckbDaemonVersionF ()
- static const QSet< Kb ∗ > devices ()
- static QTimer ∗ eventTimer ()
- static void fps (int framerate)
- static QTimer ∗ scanTimer ()

Private Slots

- void scanKeyboards ()

Private Member Functions

- KbManager (QObject *parent=0)

Private Attributes

- QSet< Kb * > _devices
- QTimer * _eventTimer
- QTimer * _scanTimer

Static Private Attributes

- static KbManager * _kbManager = 0
- static QString _guiVersion
- static QString _daemonVersion = "<unavailable>"

12.33.1 Detailed Description

Definition at line 14 of file kbmanager.h.

12.33.2 Constructor & Destructor Documentation

12.33.2.1 KbManager::KbManager (QObject * *parent* = 0) [explicit],[private]

Definition at line 26 of file kbmanager.cpp.

References _eventTimer, _scanTimer, and scanKeyboards().

Referenced by init().

```
26                                  : QObject(parent){
27     // Set up the timers
28     _eventTimer = new QTimer(this);
29     _eventTimer->setTimerType(Qt::PreciseTimer);
30     _scanTimer = new QTimer(this);
31     _scanTimer->start(1000);
32     connect(_scanTimer, SIGNAL(timeout()), this, SLOT(scanKeyboards()));
33
34     // Scan for keyboards immediately so they show up as soon as the GUI appears.
35     QTimer::singleShot(0,this,SLOT(scanKeyboards()));
36 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3 Member Function Documentation

12.33.3.1 static QString KbManager::ckbDaemonVersion ( ) [inline],[static]

Definition at line 27 of file kbmanager.h.

References _daemonVersion.

Referenced by MainWindow::updateVersion().

```
27 { return _daemonVersion; }
```

Here is the caller graph for this function:

12.33.3.2 static float KbManager::ckbDaemonVersionF ( ) [inline],[static]

Definition at line 31 of file kbmanager.h.

References _daemonVersion, DAEMON_UNAVAILABLE_STR, and parseVersionString().

Referenced by KbFirmware::_latestForBoard(), and MainWindow::updateVersion().

```
31 { return _daemonVersion == DAEMON_UNAVAILABLE_STR ? INFINITY :
     parseVersionString(_daemonVersion); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3.3 static QString KbManager::ckbGuiVersion ( ) [inline],[static]

Definition at line 26 of file kbmanager.h.

References _guiVersion.

```
26 { return _guiVersion; }
```

12.33.3.4 static float KbManager::ckbGuiVersionF ( ) [inline],[static]

Definition at line 30 of file kbmanager.h.

References _guiVersion, and parseVersionString().

Referenced by KbFirmware::_latestForBoard(), and MainWindow::updateVersion().

```
30 { return parseVersionString(_guiVersion); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3.5 static const QSet<Kb*> KbManager::devices ( ) [inline], [static]

Definition at line 34 of file kbmanager.h.

References _devices, and _kbManager.

```
34 { return _kbManager ? _kbManager->_devices : QSet<Kb*>(); }
```

12.33.3.6 static QTimer* KbManager::eventTimer ( ) [inline], [static]

Definition at line 38 of file kbmanager.h.

References _eventTimer, and _kbManager.

Referenced by fps().

```
38 { return _kbManager ? _kbManager->_eventTimer : 0; }
```

Here is the caller graph for this function:

12.33.3.7 void KbManager::fps (int *framerate*) [static]

Definition at line 38 of file kbmanager.cpp.

References eventTimer().

Referenced by Kb::frameRate().

```
38                                  {
39     QTimer* timer = eventTimer();
40     if(!timer)
41         return;
42     if(timer->isActive())
43         timer->setInterval(1000 / framerate);
44     else
45         timer->start(1000 / framerate);
46 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3.8 void KbManager::init (QString *guiVersion*) [static]

Definition at line 12 of file kbmanager.cpp.

References _guiVersion, _kbManager, and KbManager().

Referenced by MainWindow::MainWindow().

```
12                                          {
13     _guiVersion = guiVersion;
14     if(_kbManager)
15         return;
16     _kbManager = new KbManager();
17 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3.9 void KbManager::kbConnected (Kb * *device*) [signal]

Definition at line 174 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
175 {
176     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
177     QMetaObject::activate(this, &staticMetaObject, 0, _a);
178 }
```

Here is the caller graph for this function:

12.33.3.10 void KbManager::kbDisconnected (Kb * *device*) [signal]

Definition at line 181 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
182 {
183     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
184     QMetaObject::activate(this, &staticMetaObject, 1, _a);
185 }
```

Here is the caller graph for this function:

12.33.3.11 static KbManager* KbManager::kbManager ( ) [inline],[static]

Definition at line 23 of file kbmanager.h.

References _kbManager.

Referenced by MainWindow::MainWindow().

```
23 { return _kbManager; }
```

Here is the caller graph for this function:

12.33.3.12 float KbManager::parseVersionString (QString *version*) [static]

Definition at line 48 of file kbmanager.cpp.

Referenced by ckbDaemonVersionF(), ckbGuiVersionF(), and KbFirmware::processDownload().

```
48                                                  {
49     // Remove extraneous info (anything after a +, anything non-numeric)
50     QStringList dots = version.replace(QRegExp("\\+.+"), "").replace(QRegExp("[^\\d\\.]"), "").split(".");
51     float base = 1.f;
52     float res = 0.f;
53     // A number like "1.2.3" will result in 1.0203
54     // NB: will fail if a point version goes over 99 or if using more than two dots. floats can only
       reliably encode 7 decimal digits.
55     foreach(const QString& dot, dots){
56         res += dot.toFloat() * base;
57         base /= 100.f;
58     }
59     return res;
60 }
```

Here is the caller graph for this function:

12.33.3.13 void KbManager::scanKeyboards ( ) [private], [slot]

Definition at line 62 of file kbmanager.cpp.

References _daemonVersion, _devices, _eventTimer, _scanTimer, DAEMON_UNAVAILABLE_STR, devpath, Kb::isOpen(), kbConnected(), kbDisconnected(), Kb::load(), Kb::matches(), Kb::save(), and versionUpdated().

Referenced by KbManager().

```
62                                  {
63     QString rootdev = devpath.arg(0);
64     QFile connected(rootdev + "/connected");
65     if(!connected.open(QIODevice::ReadOnly)){
66         // No root controller - remove all keyboards
67         foreach(Kb* kb, _devices){
68             emit kbDisconnected(kb);
69             kb->save();
70             delete kb;
71         }
72         _devices.clear();
73         if(_daemonVersion != DAEMON_UNAVAILABLE_STR){
```

```
            _daemonVersion = DAEMON_UNAVAILABLE_STR;
            emit versionUpdated();
        }
        return;
    }
    // Check daemon version
    QFile version(rootdev + "/version");
    QString vString;
    if(version.open(QIODevice::ReadOnly)){
        vString = QString::fromUtf8(version.readLine()).trimmed();
        version.close();
    } else
        vString = DAEMON_UNAVAILABLE_STR;
    if(_daemonVersion != vString){
        _daemonVersion = vString;
        emit versionUpdated();
    }

    // Scan connected devices
    QList<QStringList> lines;
    while(1){
        QString line = connected.readLine().trimmed();
        if(line.isEmpty())
            break;
        QStringList components = line.split(" ");
        if(components.length() < 2)             // "<path> <serial> <name>" (we're only interested in the first two)
            continue;
         lines.append(components);
     }
     connected.close();

     // Remove any active devices not in the list
     QMutableSetIterator<Kb*> i(_devices);
     while(i.hasNext()){
         Kb* kb = i.next();
         bool matched = false;
         foreach(const QStringList& line, lines){
             if(kb->matches(line[0], line[1])){
                 matched = true;
                 break;
             }
         }
         if(matched)
             continue;
         // Device not found, remove
         i.remove();
         emit kbDisconnected(kb);
         kb->save();
         delete kb;
     }

     // Add any new devices found in the list
     foreach(const QStringList& line, lines){
         bool matched = false;
         foreach(Kb* kb, _devices){
             if(kb->matches(line[0], line[1])){
                 matched = true;
                 break;
             }
         }
         if(matched)
             continue;
         // Device not found, create new
         Kb* kb = new Kb(this, line[0]);
         if(!kb->isOpen()){
             delete kb;
             continue;
         }
         _devices.insert(kb);
         // Load preferences and send signal
         emit kbConnected(kb);
         kb->load();
         connect(_eventTimer, SIGNAL(timeout()), kb, SLOT(frameUpdate()));
         connect(_scanTimer, SIGNAL(timeout()), kb, SLOT(autoSave()));
     }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.33.3.14 static QTimer* KbManager::scanTimer ( ) [inline],[static]

Definition at line 43 of file kbmanager.h.

References _kbManager, and _scanTimer.

Referenced by MainWindow::MainWindow().

```
43 { return _kbManager ? _kbManager->_scanTimer : 0; }
```

Here is the caller graph for this function:

12.33.3.15 void KbManager::stop ( ) [static]

Definition at line 19 of file kbmanager.cpp.

References _kbManager.

Referenced by MainWindow::cleanup().

```
                    {
    if(!_kbManager)
        return;
    delete _kbManager;
    _kbManager = 0;
}
```

Here is the caller graph for this function:

12.33.3.16 void KbManager::versionUpdated ( ) [signal]

Definition at line 188 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
{
    QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
}
```

Here is the caller graph for this function:

12.33.4 Field Documentation

12.33.4.1 QString KbManager::_daemonVersion = "<unavailable>" [static], [private]

Definition at line 59 of file kbmanager.h.

Referenced by ckbDaemonVersion(), ckbDaemonVersionF(), and scanKeyboards().

12.33.4.2 QSet<Kb*> KbManager::_devices [private]

Definition at line 63 of file kbmanager.h.

Referenced by devices(), and scanKeyboards().

12.33.4.3 QTimer* KbManager::_eventTimer [private]

Definition at line 64 of file kbmanager.h.

Referenced by eventTimer(), KbManager(), and scanKeyboards().

12.33.4.4 QString KbManager::_guiVersion [static],[private]

Definition at line 59 of file kbmanager.h.

Referenced by ckbGuiVersion(), ckbGuiVersionF(), and init().

12.33.4.5 KbManager * KbManager::_kbManager = 0 [static],[private]

Definition at line 58 of file kbmanager.h.

Referenced by devices(), eventTimer(), init(), kbManager(), scanTimer(), and stop().

12.33.4.6 QTimer * KbManager::_scanTimer [private]

Definition at line 64 of file kbmanager.h.

Referenced by KbManager(), scanKeyboards(), and scanTimer().

The documentation for this class was generated from the following files:

- src/ckb/kbmanager.h
- src/ckb/kbmanager.cpp
- src/ckb/release/moc_kbmanager.cpp

12.34 KbMode Class Reference

```
#include <src/ckb/kbmode.h>
```

Inheritance diagram for KbMode:

Collaboration diagram for KbMode:

Signals

- void updated ()

Public Member Functions

- KbMode (Kb *parent, const KeyMap &keyMap, const QString &guid="", const QString &modified="")
- KbMode (Kb *parent, const KeyMap &keyMap, CkbSettings &settings)
- KbMode (Kb *parent, const KeyMap &keyMap, const KbMode &other)

  KbMode::KbMode.
- ~KbMode ()

  KbMode::~KbMode Destructor may be used for Debugging (issue #38 with SIGSEGV). Insert qDebug-statement.
- const QString & name () const
- void name (const QString &newName)
- UsbId & id ()
- void id (const UsbId &newId)
- void newId ()
- void keyMap (const KeyMap &keyMap)
- KbLight * light ()
- KbBind * bind ()
- KbPerf * perf ()

- void save (CkbSettings &settings)
- bool needsSave () const
- void setNeedsSave ()
- void setNeedsUpdate ()

Private Slots

- void doUpdate ()

Private Attributes

- QString _name
- UsbId _id
- KbLight * _light
- KbBind * _bind
- KbPerf * _perf
- bool _needsSave

12.34.1 Detailed Description

Definition at line 36 of file kbmode.h.

12.34.2 Constructor & Destructor Documentation

12.34.2.1 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, const QString & *guid* = " ", const QString & *modified* = " ")

Definition at line 4 of file kbmode.cpp.

References _id, _light, doUpdate(), UsbId::guid, and updated().

```
4                                                                                                                    :
5     QObject(parent),
6     _name("Unnamed"), _id(guid, modified),
7     _light(new KbLight(this, keyMap)), _bind(new KbBind(this, parent, keyMap)),
      _perf(new KbPerf(this)),
8     _needsSave(true)
9 {
10     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
11     if(_id.guid.isNull())
12         _id.guid = QUuid::createUuid();
13 }
```

Here is the call graph for this function:

12.34.2.2 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, CkbSettings & *settings*)

Definition at line 30 of file kbmode.cpp.

References _bind, _id, _light, _name, _perf, CkbSettings::contains(), doUpdate(), UsbId::guid, UsbId::hwModified, UsbId::hwModifiedString(), KbPerf::load(), KbBind::load(), KbLight::load(), UsbId::modified, updated(), and CkbSettings::value().

```
30                                                                  :
31     QObject(parent),
32     _name(settings.value("Name").toString().trimmed()),
33     _id(settings.value("GUID").toString().trimmed(), settings.value("Modified").toString().
      trimmed()),
34     _light(new KbLight(this, keyMap)), _bind(new KbBind(this, parent, keyMap)),
      _perf(new KbPerf(this)),
35     _needsSave(false)
36 {
37     if(settings.contains("HwModified"))
38         _id.hwModifiedString(settings.value("HwModified").toString());
39     else
40         _id.hwModified = _id.modified;
41
42     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
43     if(_id.guid.isNull())
44         _id.guid = QUuid::createUuid();
45     if(_name == "")
46         _name = "Unnamed";
47     _light->load(settings);
48     _bind->load(settings);
49     _perf->load(settings);
50 }
```

Here is the call graph for this function:

12.34.2.3 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, const KbMode & *other*)

Parameters

parent	Kb as parent (append to the Keyboard list
keyMap	Map to copy from

other	Mode to copy from Constructor to copy an existing Keyboard-Mode KbMode &other

Definition at line 21 of file kbmode.cpp.

References _light, doUpdate(), and updated().

```
21                                                                  :
22     QObject(parent),
23     _name(other._name), _id(other._id),
24     _light(new KbLight(this, keyMap, *other._light)), _bind(new
      KbBind(this, parent, keyMap, *other._bind)), _perf(new KbPerf(this, *other.
      _perf)),
25     _needsSave(true)
26 {
27     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
28 }
```

Here is the call graph for this function:

12.34.2.4 KbMode::~KbMode ( )

Definition at line 89 of file kbmode.cpp.

```
89                 {
90 }
```

12.34.3 Member Function Documentation

12.34.3.1 KbBind* KbMode::bind ( ) [inline]

Definition at line 61 of file kbmode.h.

References _bind.

Referenced by KbPerf::bind(), Kb::currentBind(), Kb::frameUpdate(), KbBindWidget::on_copyButton_clicked(), and Kb::readNotify().

```
61 { return _bind; }
```

Here is the caller graph for this function:

12.34.3.2 void KbMode::doUpdate ( ) [private],[slot]

Definition at line 82 of file kbmode.cpp.

References updated().

Referenced by KbMode().

```
82                      {
83     emit updated();
84 }
```

Here is the caller graph for this function:

12.34.3.3 UsbId& KbMode::id ( ) [inline]

Definition at line 52 of file kbmode.h.

References _id.

Referenced by KbProfile::find(), Kb::hwSave(), KbProfile::KbProfile(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemChanged(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), Kb::readNotify(), and KbProfile::save().

```
52 { return _id; }
```

Here is the caller graph for this function:

12.34.3.4 void KbMode::id (const UsbId & *newId*) [inline]

Definition at line 53 of file kbmode.h.

References _id, _needsSave, and newId().

```
53 { _needsSave = true; _id = newId; }
```

Here is the call graph for this function:

12.34.3.5 void KbMode::keyMap (const KeyMap & *keyMap*)

Definition at line 60 of file kbmode.cpp.

References _bind, _light, _needsSave, KbLight::map(), and KbBind::map().

Referenced by KbProfile::keyMap().

```
60                                          {
61     _needsSave = true;
62     _light->map(keyMap);
63     _bind->map(keyMap);
64 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.34.3.6 KbLight* KbMode::light ( ) [inline]

Definition at line 60 of file kbmode.h.

References _light.

Referenced by Kb::currentLight(), Kb::frameUpdate(), Kb::hwSave(), KbBind::light(), KbPerf::light(), Kb::readNotify(), and Kb::updateLayout().

```
60 { return _light; }
```

Here is the caller graph for this function:

12.34.3.7 const QString& KbMode::name ( ) const [inline]

Definition at line 50 of file kbmode.h.

References _name.

Referenced by Kb::hwSave(), ModeSelectDialog::ModeSelectDialog(), KbWidget::on_modesList_itemChanged(), KbWidget::profileChanged(), Kb::readNotify(), and RebindWidget::setBind().

```
50 { return _name; }
```

Here is the caller graph for this function:

12.34.3.8 void KbMode::name (const QString & *newName*) [inline]

Definition at line 51 of file kbmode.h.

References _name, and _needsSave.

```
51 { _needsSave = true; _name = newName.trimmed(); if(_name == "")
      _name = "Unnamed"; }
```

12.34.3.9 bool KbMode::needsSave ( ) const

Definition at line 78 of file kbmode.cpp.

References _bind, _light, _needsSave, _perf, KbPerf::needsSave(), KbBind::needsSave(), and KbLight::needsSave().

Referenced by KbProfile::needsSave().

```
78                                {
79     return _needsSave || _light->needsSave() || _bind->
      needsSave() || _perf->needsSave();
80 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.34.3.10 void KbMode::newId ( )

Definition at line 52 of file kbmode.cpp.

References _id, _light, _needsSave, anim, KbLight::animList(), and KbAnim::newId().

Referenced by id(), KbProfile::newId(), and KbWidget::on_modesList_customContextMenuRequested().

```
52                  {
53     _needsSave = true;
54     _id = UsbId();
55     // Create new IDs for animations
56     foreach(KbAnim* anim, _light->animList())
57         anim->newId();
58 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.34.3.11 KbPerf* KbMode::perf ( ) [inline]

Definition at line 62 of file kbmode.h.

References _perf.

Referenced by Kb::currentPerf(), Kb::frameUpdate(), Kb::hwSave(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), KbBind::perf(), and Kb::readNotify().

```
62 { return _perf; }
```

Here is the caller graph for this function:

12.34.3.12 void KbMode::save (CkbSettings & *settings*)

Definition at line 66 of file kbmode.cpp.

References _bind, _id, _light, _name, _needsSave, _perf, UsbId::guidString(), UsbId::hwModifiedString(), UsbId::modifiedString(), UsbId::newModified(), KbPerf::save(), KbBind::save(), KbLight::save(), and CkbSettings::setValue().

Referenced by KbProfile::save().

```
66                                          {
67     _needsSave = false;
68     _id.newModified();
69     settings.setValue("GUID", _id.guidString());
70     settings.setValue("Modified", _id.modifiedString());
71     settings.setValue("HwModified", _id.hwModifiedString());
72     settings.setValue("Name", _name);
73     _light->save(settings);
74     _bind->save(settings);
75     _perf->save(settings);
76 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.34.3.13 void KbMode::setNeedsSave ( ) [inline]

Definition at line 67 of file kbmode.h.

References _needsSave.

Referenced by Kb::hwSave(), and Kb::readNotify().

```
67 { _needsSave = true; }
```

Here is the caller graph for this function:

12.34.3.14 void KbMode::setNeedsUpdate ( ) [inline]

Definition at line 68 of file kbmode.h.

References _bind, _perf, KbBind::setNeedsUpdate(), and KbPerf::setNeedsUpdate().

Referenced by KbProfile::setNeedsUpdate().

```
68 { _bind->setNeedsUpdate(); _perf->setNeedsUpdate(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.34.3.15 void KbMode::updated ( ) [signal]

Definition at line 131 of file moc_kbmode.cpp.

Referenced by doUpdate(), and KbMode().

```
132 {
133     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
134 }
```

Here is the caller graph for this function:

12.34.4 Field Documentation

12.34.4.1 KbBind* KbMode::_bind [private]

Definition at line 78 of file kbmode.h.

Referenced by bind(), KbMode(), keyMap(), needsSave(), save(), and setNeedsUpdate().

12.34.4.2 UsbId KbMode::_id [private]

Definition at line 75 of file kbmode.h.

Referenced by id(), KbMode(), newId(), and save().

12.34.4.3 KbLight* KbMode::_light [private]

Definition at line 77 of file kbmode.h.

Referenced by KbMode(), keyMap(), light(), needsSave(), newId(), and save().

12.34.4.4 QString KbMode::_name [private]

Definition at line 74 of file kbmode.h.

Referenced by KbMode(), name(), and save().

12.34.4.5 bool KbMode::_needsSave [private]

Definition at line 81 of file kbmode.h.

Referenced by id(), keyMap(), name(), needsSave(), newId(), save(), and setNeedsSave().

12.34.4.6 KbPerf* KbMode::_perf [private]

Definition at line 79 of file kbmode.h.

Referenced by KbMode(), needsSave(), perf(), save(), and setNeedsUpdate().

The documentation for this class was generated from the following files:

- src/ckb/kbmode.h
- src/ckb/kbmode.cpp
- src/ckb/release/moc_kbmode.cpp

12.35 KbPerf Class Reference

```
#include <src/ckb/kbperf.h>
```

Inheritance diagram for KbPerf:

Collaboration diagram for KbPerf:

Public Types

- enum height {
  LOW = 1, LOWMED, MEDIUM, MEDHIGH,
  HIGH }
- enum indicator {
  NUM, CAPS, SCROLL, HW_IMAX = SCROLL,
  MODE, MACRO, LIGHT, LOCK,
  MUTE }
- enum i_hw { NONE = -1, NORMAL, ON, OFF }

Signals

- void didLoad ()
- void settingsUpdated ()

Public Member Functions

- KbPerf (KbMode *parent)
- KbPerf (KbMode *parent, const KbPerf &other)
- const KbPerf & operator= (const KbPerf &rhs)
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- height liftHeight () const
- void liftHeight (height newHeight)
- bool angleSnap () const
- void angleSnap (bool newAngleSnap)
- QPoint dpi (int index) const
- void dpi (int index, const QPoint &newValue)
- QPoint sniperDpi () const
- void sniperDpi (const QPoint &newValue)

- void dpi (int index, int newValue)
- void sniperDpi (int newValue)
- int baseDpiIdx () const
- void baseDpiIdx (int newIdx)
- void dpiUp ()
- void dpiDown ()
- void dpiCycleUp ()
- void dpiCycleDown ()
- bool dpiEnabled (int index) const
- void dpiEnabled (int index, bool newEnabled)
- quint64 pushDpi (const QPoint &newDpi)
- quint64 pushDpi (int newDpi)
- quint64 pushSniper ()
- void popDpi (quint64 pushIdx)
- float iOpacity () const
- void iOpacity (float newIOpacity)
- bool dpiIndicator () const
- void dpiIndicator (bool newDpiIndicator)
- QColor dpiColor (int index) const
- void dpiColor (int index, const QColor &newColor)
- void getIndicator (indicator index, QColor &color1, QColor &color2, QColor &color3, bool &software_enable, i_hw &hardware_enable)
- void setIndicator (indicator index, const QColor &color1, const QColor &color2, const QColor &color3=QColor(), bool software_enable=true, i_hw hardware_enable=NORMAL)
- void update (QFile &cmd, int notifyNumber, bool force, bool saveCustomDpi)
- void setNeedsUpdate ()
- void applyIndicators (int modeIndex, const bool indicatorState[HW_I_COUNT])

Static Public Attributes

- static const int DPI_COUNT = 6
- static const int SNIPER = 0
- static const int DPI_MIN = 100
- static const int DPI_MAX = 12000
- static const int OTHER = DPI_COUNT
- static const int I_COUNT = (int)MUTE + 1
- static const int HW_I_COUNT = (int)HW_IMAX + 1

Private Member Functions

- KbMode * modeParent () const
- KbBind * bind () const
- KbLight * light () const
- void lightIndicator (const char *name, QRgb rgba)
- void _curDpi (const QPoint &newDpi)

Private Attributes

- int dpiX [DPI_COUNT]
- int dpiY [DPI_COUNT]
- int dpiCurX
- int dpiCurY
- int dpiBaseIdx
- QColor dpiClr [DPI_COUNT+1]
- bool dpiOn [DPI_COUNT]
- QMap< quint64, QPoint > pushedDpis
- uint runningPushIdx
- float _iOpacity
- QColor iColor [I_COUNT][2]
- QColor light100Color
- QColor muteNAColor
- bool iEnable [I_COUNT]
- i_hw hwIType [HW_I_COUNT]
- bool _dpiIndicator
- height _liftHeight
- bool _angleSnap
- bool _needsUpdate
- bool _needsSave

12.35.1 Detailed Description

Definition at line 15 of file kbperf.h.

12.35.2 Member Enumeration Documentation

12.35.2.1 enum KbPerf::height

Enumerator

LOW

LOWMED

MEDIUM

MEDHIGH

HIGH

Definition at line 31 of file kbperf.h.

```
31                  {
32          LOW = 1,
33          LOWMED,
34          MEDIUM,
35          MEDHIGH,
36          HIGH
37      };
```

12.35.2.2 enum KbPerf::i_hw

Enumerator

NONE

NORMAL

ON

OFF

Definition at line 101 of file kbperf.h.

```
101                 {
102         NONE = -1,  // For non-hardware indicators
103         NORMAL,
104         ON,
105         OFF
106     };
```

12.35.2.3 enum KbPerf::indicator

Enumerator

NUM

CAPS

SCROLL

HW_IMAX

MODE

MACRO

LIGHT

LOCK

MUTE

Definition at line 88 of file kbperf.h.

```
88                      {
89          // Hardware
90          NUM,
91          CAPS,
92          SCROLL, HW_IMAX = SCROLL,
93          // Software
94          MODE,
95          MACRO,
96          LIGHT,
97          LOCK,
98          MUTE
99      };
```

12.35.3 Constructor & Destructor Documentation

12.35.3.1 KbPerf::KbPerf (KbMode * *parent*) [explicit]

Definition at line 13 of file kbperf.cpp.

References CAPS, DPI_COUNT, dpiBaseIdx, dpiClr, dpiCurX, dpiCurY, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MODE, MUTE, muteNAColor, NORMAL, NUM, and SCROLL.

```
                                :
    QObject(parent), runningPushIdx(1),
    _iOpacity(1.f), _dpiIndicator(true), _liftHeight(MEDIUM), _angleSnap(false),
    _needsUpdate(true), _needsSave(true) {
    // Default DPI settings
    dpiX[0] = dpiY[0] = 400;
    dpiX[1] = dpiY[1] = 450;
    dpiX[2] = dpiY[2] = 800;
    dpiX[3] = dpiY[3] = 1500;
    dpiX[4] = dpiY[4] = 3000;
    dpiX[5] = dpiY[5] = 6000;
    dpiClr[0] = QColor(255, 0, 0);
    dpiClr[1] = QColor(255, 192, 0);
    dpiClr[2] = QColor(255, 255, 0);
    dpiClr[3] = QColor(0, 255, 0);
    dpiClr[4] = QColor(0, 255, 255);
    dpiClr[5] = QColor(255, 255, 255);
    dpiClr[6] = QColor(192, 192, 192);
    for(int i = 0; i < DPI_COUNT; i++)
        dpiOn[i] = true;
    dpiBaseIdx = 3;
    dpiCurX = dpiX[dpiBaseIdx];
    dpiCurY = dpiY[dpiBaseIdx];
    // Default indicators
    iColor[NUM][0] = iColor[CAPS][0] = iColor[SCROLL][0] = QColor(0, 255, 0);   // Lock lights: on = green, off = black
    iColor[NUM][1] = iColor[CAPS][1] = iColor[SCROLL][1] = QColor(0, 0, 0);
    iColor[MACRO][0] = QColor(255, 0, 0);                                       // Macro: on = red, off = black
    iColor[LOCK][0] = QColor(255, 255, 255);                                    // Win lock: on = white, off = black
    iColor[MODE][0] = iColor[MUTE][0] = QColor(255, 255, 255, 0);               // Mode, mute: on = transparent, off = black
    iColor[MODE][1] = iColor[MACRO][1] = iColor[LOCK][1] = iColor[MUTE][1] = muteNAColor = QColor(0, 0, 0);
    iColor[LIGHT][0] = QColor(255, 0, 0);       // Brightness: red, yellow, white
    iColor[LIGHT][1] = QColor(255, 255, 0);
    light100Color = QColor(255, 255, 255);
    for(int i = 0; i < HW_I_COUNT; i++){
        // Set all lock lights to HW mode
        iEnable[i] = false;
        hwIType[i] = NORMAL;
    }
    for(int i = HW_I_COUNT; i < I_COUNT; i++){
        // Turn all other indicators on
        iEnable[i] = true;
    }
}
```

12.35.3.2 KbPerf::KbPerf (KbMode * *parent*, const KbPerf & *other*)

Definition at line 57 of file kbperf.cpp.

References _curDpi(), dpi(), DPI_COUNT, dpiBaseIdx, dpiClr, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, and iEnable.

```
                                                :
    QObject(parent), dpiCurX(other.dpiCurX), dpiCurY(other.dpiCurY), dpiBaseIdx(other.dpiBaseIdx), runningPushIdx(1),
    _iOpacity(other._iOpacity), light100Color(other.light100Color), muteNAColor(other.muteNAColor), _dpiIndicator(other._dpiIndicator),
    _liftHeight(other._liftHeight), _angleSnap(other._angleSnap),
    _needsUpdate(true), _needsSave(true) {
    memcpy(dpiX, other.dpiX, sizeof(dpiX));
    memcpy(dpiY, other.dpiY, sizeof(dpiY));
    for(int i = 0; i < DPI_COUNT + 1; i++)
        dpiClr[i] = other.dpiClr[i];
    memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
    for(int i = 0; i < I_COUNT; i++){
        iColor[i][0] = other.iColor[i][0];
        iColor[i][1] = other.iColor[i][1];
    }
    memcpy(iEnable, other.iEnable, sizeof(iEnable));
    memcpy(hwIType, other.hwIType, sizeof(hwIType));
    // Don't copy pushed DPI states. If the other mode has any, restore the original DPI
    _curDpi(dpi(dpiBaseIdx));
}
```

Here is the call graph for this function:

12.35.4 Member Function Documentation

12.35.4.1 void KbPerf::_curDpi (const QPoint & *newDpi*) [private]

Definition at line 259 of file kbperf.cpp.

References _needsSave, _needsUpdate, dpiCurX, and dpiCurY.

Referenced by baseDpiIdx(), dpi(), KbPerf(), load(), operator=(), popDpi(), and pushDpi().

```
259                                         {
260     dpiCurX = newDpi.x();
261     dpiCurY = newDpi.y();
262     _needsUpdate = _needsSave = true;
263 }
```

Here is the caller graph for this function:

12.35.4.2 bool KbPerf::angleSnap ( ) const [inline]

Definition at line 42 of file kbperf.h.

References _angleSnap.

Referenced by MPerfWidget::on_aSnapBox_clicked(), Kb::readNotify(), and MPerfWidget::setPerf().

```
42 { return _angleSnap; }
```

Here is the caller graph for this function:

12.35.4.3 void KbPerf::angleSnap (bool *newAngleSnap*)

Definition at line 380 of file kbperf.cpp.

References _angleSnap, _needsSave, and _needsUpdate.

```
380                                         {
381     _angleSnap = newAngleSnap;
382     _needsUpdate = _needsSave = true;
383 }
```

12.35.4.4 void KbPerf::applyIndicators (int *modeIndex*, const bool *indicatorState[HW_I_COUNT]*)

Definition at line 439 of file kbperf.cpp.

References _dpiIndicator, _iOpacity, baseDpiIdx(), bind(), CAPS, dpiClr, getMuteState(), Kb::HWMODE_MAX, iColor, iEnable, LIGHT, light(), light100Color, lightIndicator(), LOCK, MACRO, MODE, MUTE, MUTED, muteNAColor, NUM, OTHER, KbLight::resetIndicators(), SCROLL, and UNMUTED.

Referenced by Kb::frameUpdate().

```
439                                                                         {
440     light()->resetIndicators();
441     if(_iOpacity <= 0.f)
442         return;
443     if(_dpiIndicator){
444         // Set DPI indicator according to index
445         int index = baseDpiIdx();
446         if(index == -1 || index > OTHER)
447             index = OTHER;
448         lightIndicator("dpi", dpiClr[index].rgba());
449     }
450     // KB indicators
451     if(iEnable[MODE]){
452         for(int i = 0; i < Kb::HWMODE_MAX; i++){
453             char name[4];
454             snprintf(name, sizeof(name), "m%d", i + 1);
455             if(modeIndex == i)
456                 lightIndicator(name, iColor[MODE][0].rgba());
457             else
458                 lightIndicator(name, iColor[MODE][1].rgba());
459         }
460     }
461     if(iEnable[MACRO])
462         lightIndicator("mr", iColor[MUTE][1].rgba());
463     if(iEnable[LIGHT]){
464         switch(light()->dimming()){
465         case 0: // 100%
466             lightIndicator("light", light100Color.rgba());
467             break;
468         case 1: // 67%
469             lightIndicator("light", iColor[LIGHT][1].rgba());
470             break;
471         case 2: // 33%
472         case 3: // light off
473             lightIndicator("light", iColor[LIGHT][0].rgba());
474             break;
```

```
        }
    }
    if(iEnable[LOCK]){
        if(bind()->winLock())
            lightIndicator("lock", iColor[LOCK][0].rgba());
        else
            lightIndicator("lock", iColor[LOCK][1].rgba());
    }
    if(iEnable[MUTE]){
        switch(getMuteState()){
        case MUTED:
            lightIndicator("mute", iColor[MUTE][0].rgba());
            break;
        case UNMUTED:
            lightIndicator("mute", iColor[MUTE][1].rgba());
            break;
        default:
            lightIndicator("mute", muteNAColor.rgba());
            break;
        }
    }
    // Lock lights
    if(iEnable[NUM])
        lightIndicator("numlock", indicatorState[0] ? iColor[NUM][0].rgba() : iColor[NUM][1].rgba());
    if(iEnable[CAPS])
        lightIndicator("caps", indicatorState[1] ? iColor[CAPS][0].rgba() : iColor[CAPS][1].rgba());
    if(iEnable[SCROLL])
        lightIndicator("scroll", indicatorState[2] ? iColor[SCROLL][0].rgba() : iColor[SCROLL][1].rgba());
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.5 int KbPerf::baseDpiIdx ( ) const [inline]

Definition at line 61 of file kbperf.h.

References dpiBaseIdx.

Referenced by applyIndicators(), dpiCycleDown(), dpiCycleUp(), dpiDown(), dpiUp(), KeyAction::keyEvent(), and Kb::readNotify().

```
61 { return dpiBaseIdx; }
```

Here is the caller graph for this function:

12.35.4.6 void KbPerf::baseDpiIdx (int *newIdx*)

Definition at line 265 of file kbperf.cpp.

References _curDpi(), _needsSave, _needsUpdate, dpi(), dpiBaseIdx, and pushedDpis.

```
265                                 {
266     if (pushedDpis.isEmpty() && dpiBaseIdx == newIdx)
267         return;
268     pushedDpis.clear();
269     dpiBaseIdx = newIdx;
270     _curDpi(dpi(dpiBaseIdx));
271     _needsUpdate = _needsSave = true;
272 }
```

Here is the call graph for this function:

12.35.4.7 KbBind * KbPerf::bind ( ) const [private]

Definition at line 98 of file kbperf.cpp.

References KbMode::bind(), and modeParent().

Referenced by applyIndicators().

```
{
    return modeParent()->bind();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.8 void KbPerf::didLoad ( ) [signal]

Definition at line 134 of file moc_kbperf.cpp.

Referenced by load().

```
{
    QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
}
```

Here is the caller graph for this function:

12.35.4.9 QPoint KbPerf::dpi (int *index*) const [inline]

Definition at line 50 of file kbperf.h.

References DPI_COUNT, dpiX, and dpiY.

Referenced by baseDpiIdx(), MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), KbPerf(), load(), operator=(), popDpi(), Kb::readNotify(), RebindWidget::setBind(), MPerfWidget::setPerf(), MPerfWidget::sliderXMoved(), MPerfWidget::sliderYMoved(), and sniperDpi().

```
50 { if(index < 0 || index >= DPI_COUNT) return QPoint(); return QPoint(
      dpiX[index], dpiY[index]); }
```

Here is the caller graph for this function:

12.35.4.10 void KbPerf::dpi (int *index*, const QPoint & *newValue*)

Definition at line 247 of file kbperf.cpp.

References _curDpi(), _needsSave, _needsUpdate, DPI_COUNT, dpiBaseIdx, dpiX, dpiY, and pushedDpis.

```
247                                                 {
248     if(index < 0 || index >= DPI_COUNT)
249         return;
250     dpiX[index] = newValue.x();
251     dpiY[index] = newValue.y();
252     // Update current DPI if needed
253     if(dpiBaseIdx == index && pushedDpis.isEmpty()) {
254         _curDpi(QPoint(dpiX[index], dpiY[index]));
255     }
256     _needsUpdate = _needsSave = true;
257 }
```

Here is the call graph for this function:

12.35.4.11 void KbPerf::dpi (int *index*, int *newValue*) [inline]

Definition at line 55 of file kbperf.h.

References dpi().

Referenced by dpi().

```
55 { dpi(index, QPoint(newValue, newValue)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.12 QColor KbPerf::dpiColor (int *index*) const [inline]

Definition at line 85 of file kbperf.h.

References dpiClr.

Referenced by MPerfWidget::colorChanged(), Kb::readNotify(), MPerfWidget::setPerf(), and update().

```
85 { return dpiClr[index]; }
```

Here is the caller graph for this function:

12.35.4.13 void KbPerf::dpiColor (int *index*, const QColor & *newColor*) [inline]

Definition at line 86 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiClr.

```
86 { dpiClr[index] = newColor; _needsUpdate = _needsSave = true; }
```

12.35.4.14 void KbPerf::dpiCycleDown ( )

Definition at line 329 of file kbperf.cpp.

References baseDpiIdx(), DPI_COUNT, dpiOn, and SNIPER.

Referenced by KeyAction::keyEvent().

```
329                         {
330     int idx = baseDpiIdx();
331     do {
332         idx--;
333         if(idx <= SNIPER)
334             idx = DPI_COUNT - 1;
335     if(idx == baseDpiIdx())
336             return;
337     } while(!dpiOn[idx]);
338     baseDpiIdx(idx);
339 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.15 void KbPerf::dpiCycleUp ( )

Definition at line 317 of file kbperf.cpp.

References baseDpiIdx(), DPI_COUNT, dpiOn, and SNIPER.

Referenced by KeyAction::keyEvent().

```
317                         {
318     int idx = baseDpiIdx();
319     do {
320         idx++;
321         if(idx >= DPI_COUNT)
322             idx = SNIPER + 1;
323         if(idx == baseDpiIdx())
324             return;
325     } while(!dpiOn[idx]);
326     baseDpiIdx(idx);
327 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.16 void KbPerf::dpiDown ( )

Definition at line 306 of file kbperf.cpp.

References baseDpiIdx(), dpiOn, and SNIPER.

Referenced by KeyAction::keyEvent().

```
306                         {
```

```
    int idx = baseDpiIdx();
    do {
        idx--;
        if(idx <= SNIPER)
            return;
    } while(!dpiOn[idx]);
    baseDpiIdx(idx);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.17 bool KbPerf::dpiEnabled (int *index*) const [inline]

Definition at line 68 of file kbperf.h.

References dpiOn.

Referenced by MPerfWidget::enableChanged(), Kb::readNotify(), and MPerfWidget::setPerf().

```
68 { return dpiOn[index]; }
```

Here is the caller graph for this function:

12.35.4.18 void KbPerf::dpiEnabled (int *index*, bool *newEnabled*) [inline]

Definition at line 69 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiOn.

```
69 { if(index <= 0) return; dpiOn[index] = newEnabled; _needsUpdate =
      _needsSave = true; }
```

12.35.4.19 bool KbPerf::dpiIndicator ( ) const [inline]

Definition at line 82 of file kbperf.h.

References _dpiIndicator.

Referenced by MPerfWidget::on_indicBox_clicked(), and MPerfWidget::setPerf().

```
82 { return _dpiIndicator; }
```

Here is the caller graph for this function:

12.35.4.20 void KbPerf::dpiIndicator (bool *newDpiIndicator*) [inline]

Definition at line 83 of file kbperf.h.

References _dpiIndicator, and _needsSave.

```
83 { _dpiIndicator = newDpiIndicator; _needsSave = true; }
```

12.35.4.21 void KbPerf::dpiUp ( )

Definition at line 295 of file kbperf.cpp.

References baseDpiIdx(), DPI_COUNT, and dpiOn.

Referenced by KeyAction::keyEvent().

```
295                 {
296     // Scroll past disabled DPIs and choose the next one up
297     int idx = baseDpiIdx();
298     do {
299         idx++;
300         if(idx >= DPI_COUNT)
301             return;
302     } while(!dpiOn[idx]);
303     baseDpiIdx(idx);
304 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.22 void KbPerf::getIndicator (indicator *index*, QColor & *color1*, QColor & *color2*, QColor & *color3*, bool & *software_enable*, i_hw & *hardware_enable*)

Definition at line 341 of file kbperf.cpp.

References HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, and NONE.

Referenced by KPerfWidget::setPerf().

```
341                                                 {
342     if(index < 0 || index >= I_COUNT)
343         return;
344     color1 = iColor[index][0];
345     color2 = iColor[index][1];
346     if(index == LIGHT)
347         color3 = light100Color;
348     else if(index == MUTE)
349         color3 = muteNAColor;
350     else
351         color3 = QColor();
352     software_enable = iEnable[index];
353     hardware_enable = (index <= HW_IMAX ? hwIType[index] : NONE);
354 }
```

Here is the caller graph for this function:

12.35.4.23 float KbPerf::iOpacity ( ) const [inline]

Definition at line 79 of file kbperf.h.

References _iOpacity.

Referenced by KPerfWidget::on_intensityBox_valueChanged(), MPerfWidget::on_spinBox_valueChanged(), KPerfWidget::setPerf(), and MPerfWidget::setPerf().

```
79 { return _iOpacity; }
```

Here is the caller graph for this function:

12.35.4.24 void KbPerf::iOpacity (float *newIOpacity*) [inline]

Definition at line 80 of file kbperf.h.

References _iOpacity, and _needsSave.

```
80 { _iOpacity = newIOpacity; _needsSave = true; }
```

12.35.4.25 height KbPerf::liftHeight ( ) const [inline]

Definition at line 38 of file kbperf.h.

References _liftHeight.

Referenced by MPerfWidget::on_lHeightBox_activated(), Kb::readNotify(), and MPerfWidget::setPerf().

```
38 { return _liftHeight; }
```

Here is the caller graph for this function:

12.35.4.26 void KbPerf::liftHeight (height *newHeight*)

Definition at line 373 of file kbperf.cpp.

References _liftHeight, _needsSave, _needsUpdate, and HIGH.

```
373                                     {
374     if(newHeight < LOW || newHeight > HIGH)
375         return;
376     _liftHeight = newHeight;
377     _needsUpdate = _needsSave = true;
378 }
```

12.35.4.27 KbLight * KbPerf::light ( ) const [private]

Definition at line 102 of file kbperf.cpp.

References KbMode::light(), and modeParent().

Referenced by applyIndicators(), and lightIndicator().

```
102                                 {
103     return modeParent()->light();
104 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.28 void KbPerf::lightIndicator (const char * *name*, QRgb *rgba*) [private]

Definition at line 432 of file kbperf.cpp.

References _iOpacity, light(), and KbLight::setIndicator().

Referenced by applyIndicators().

```
432                                                     {
433     int a = round(qAlpha(rgba) * _iOpacity);
434     if(a <= 0)
435         return;
436     light()->setIndicator(name, qRgba(qRed(rgba), qGreen(rgba), qBlue(rgba), a));
437 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.29 void KbPerf::load (CkbSettings & *settings*)

Definition at line 106 of file kbperf.cpp.

References _angleSnap, _curDpi(), _dpiIndicator, _iOpacity, _liftHeight, _needsSave, CkbSettings::contains(), CkbSettings::containsGroup(), didLoad(), dpi(), DPI_COUNT, dpiBaseIdx, dpiClr, dpiOn, dpiX, dpiY, HIGH, HW_IMAX, hwlType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MEDIUM, MODE, MUTE, muteNAColor, NORMAL, OTHER, pushedDpis, runningPushIdx, and CkbSettings::value().

Referenced by KbMode::KbMode().

```
106                                     {
107     pushedDpis.clear();
108     runningPushIdx = 1;
109     _needsSave = false;
110     bool readIndicators = true;
111     if(!settings.containsGroup("Performance/Indicators")){
112         // Read old indicator settings from the lighting group, if present
113         // (ckb <= v0.2.0)
114         SGroup group(settings, "Lighting");
115         if(settings.contains("InactiveIndicators")){
116             bool inOk = false;
117             int inactive = settings.value("InactiveIndicators").toInt(&inOk);
118             if(!inOk || inactive > 2)
119                 inactive = 2;
120             if(inactive == 1)
121                 _iOpacity = 0.75f;
122             else if(inactive == 0)
123                 _iOpacity = 0.5f;
124             else if(inactive < 0){
125                 // Indicators disabled
126                 iEnable[MODE] = iEnable[MACRO] = iEnable[
      LIGHT] = iEnable[LOCK]  = iEnable[MUTE] = false;
127             }
128             bool showMute = (settings.value("ShowMute").toInt(&inOk) != 0);
129             if(inOk && !showMute)
130                 iEnable[MUTE] = false;
131             readIndicators = false;
132         }
133     }
134     SGroup group(settings, "Performance");
135     // Read DPI settings
136     {
137         SGroup group(settings, "DPI");
138         for(int i = 0; i < DPI_COUNT; i++){
139             QString iStr = QString::number(i);
```

```
            QPoint value = settings.value(iStr).toPoint();
            if(value.isNull())
                continue;
            dpiX[i] = value.x(); dpiY[i] = value.y();
            QColor color = settings.value(iStr + "RGB").toString();
            if(color.isValid())
                dpiClr[i] = color;
            if(i != 0)
                dpiOn[i] = !settings.value(iStr + "Disabled").toBool();
        }
        QColor color = settings.value("6RGB").toString();
        if(color.isValid())
            dpiClr[OTHER] = color;
        if (settings.contains("CurIdx")) {
            dpiBaseIdx = settings.value("CurIdx").toInt();
        } else {
            // If there isn't a setting for current DPI stage, pick the first
            // enabled one. Failing that just pick stage 1.
            dpiBaseIdx = 1;
            for (int i = 1; i < DPI_COUNT; i++) {
                if (dpiOn[i]) {
                    dpiBaseIdx = i;
                    break;
                }
            }
        }
        _curDpi(dpi(dpiBaseIdx));
    }
    // Read misc. mouse settings
    _liftHeight = (height)settings.value("LiftHeight").toInt();
    if(_liftHeight < LOW || _liftHeight > HIGH)
        _liftHeight = MEDIUM;
    _angleSnap = settings.value("AngleSnap").toBool();
    if(settings.contains("NoIndicator")){
        // ckb <= v0.2.0
        _dpiIndicator = !settings.value("NoIndicator").toBool();
    } else {
        _dpiIndicator = settings.value("Indicators/DPI", true).toBool();
    }
    // Read indicator settings
    if(readIndicators){
        SGroup group(settings, "Indicators");
        _iOpacity = settings.value("Opacity", 100).toInt() / 100.f;
        for(int i = 0; i < I_COUNT; i++){
            SGroup group(settings, QString::number(i));
            QColor color = settings.value("RGB0").toString();
            if(color.isValid())
                iColor[i][0] = color;
            color = settings.value("RGB1").toString();
            if(color.isValid())
                iColor[i][1] = color;
            if(i == LIGHT){
                color = settings.value("RGB2").toString();
                if(color.isValid())
                    light100Color = color;
            } else if(i == MUTE){
                color = settings.value("RGB2").toString();
                if(color.isValid())
                    muteNAColor = color;
            }
            if(i <= HW_IMAX){
                iEnable[i] = settings.value("Enable", false).toBool();
                hwIType[i] = (i_hw)settings.value("Hardware", (int)
    NORMAL).toInt();
            } else {
                iEnable[i] = settings.value("Enable", true).toBool();
            }
        }
    }
    emit didLoad();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.30 KbMode* KbPerf::modeParent ( ) const [inline], [private]

Definition at line 127 of file kbperf.h.

Referenced by bind(), and light().

```
127 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:

12.35.4.31 bool KbPerf::needsSave ( ) const [inline]

Definition at line 28 of file kbperf.h.

References _needsSave.

Referenced by KbMode::needsSave().

```
28 { return _needsSave; }
```

Here is the caller graph for this function:

12.35.4.32 const KbPerf & KbPerf::operator= (const KbPerf & *rhs*)

Definition at line 77 of file kbperf.cpp.

References _angleSnap, _curDpi(), _dpiIndicator, _iOpacity, _liftHeight, _needsSave, _needsUpdate, dpi(), DPI_COUNT, dpiBaseIdx, dpiClr, dpiCurX, dpiCurY, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, iEnable, light100Color, muteNAColor, and runningPushIdx.

```
77                                                  {
78     dpiCurX = other.dpiCurX; dpiCurY = other.dpiCurY; dpiBaseIdx = other.dpiBaseIdx
      ; runningPushIdx = 1;
79     _iOpacity = other._iOpacity; light100Color = other.light100Color;
      muteNAColor = other.muteNAColor; _dpiIndicator = other._dpiIndicator;
80     _liftHeight = other._liftHeight; _angleSnap = other._angleSnap;
81     _needsUpdate = true; _needsSave = true;
82     memcpy(dpiX, other.dpiX, sizeof(dpiX));
83     memcpy(dpiY, other.dpiY, sizeof(dpiY));
84     for(int i = 0; i < DPI_COUNT + 1; i++)
85         dpiClr[i] = other.dpiClr[i];
86     memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
87     for(int i = 0; i < I_COUNT; i++){
88         iColor[i][0] = other.iColor[i][0];
89         iColor[i][1] = other.iColor[i][1];
90     }
91     memcpy(iEnable, other.iEnable, sizeof(iEnable));
92     memcpy(hwIType, other.hwIType, sizeof(hwIType));
93     // Don't copy pushed DPI states. If the other mode has any, restore the original DPI
94     _curDpi(dpi(dpiBaseIdx));
95     return other;
96 }
```

Here is the call graph for this function:

12.35.4.33 void KbPerf::popDpi (quint64 *pushIdx*)

Definition at line 281 of file kbperf.cpp.

References _curDpi(), _needsSave, _needsUpdate, dpi(), dpiBaseIdx, map_last, and pushedDpis.

Referenced by KeyAction::keyEvent().

```
                                    {
    if(!pushedDpis.contains(pushIdx)) {
      return;
    }
    pushedDpis.remove(pushIdx);
    if (pushedDpis.isEmpty()) {
        _curDpi(dpi(dpiBaseIdx));
    } else {
        // Set the DPI to the last-pushed value still on the stack
        _curDpi(map_last(pushedDpis));
    }
    _needsUpdate = _needsSave = true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.34 quint64 KbPerf::pushDpi (const QPoint & *newDpi*)

Definition at line 274 of file kbperf.cpp.

References _curDpi(), pushedDpis, and runningPushIdx.

Referenced by KeyAction::keyEvent(), and pushSniper().

```
                                    {
    quint64 index = runningPushIdx++;
    pushedDpis[index] = newDpi;
    _curDpi(newDpi);
    return index;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.35 quint64 KbPerf::pushDpi (int *newDpi*) [inline]

Definition at line 74 of file kbperf.h.

References pushDpi().

Referenced by pushDpi().

```
74 { return pushDpi(QPoint(newDpi, newDpi)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.36 quint64 KbPerf::pushSniper ( ) [inline]

Definition at line 75 of file kbperf.h.

References pushDpi(), and sniperDpi().

Referenced by KeyAction::keyEvent().

```
75 { return pushDpi(sniperDpi()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.37 void KbPerf::save (CkbSettings & *settings*)

Definition at line 211 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _liftHeight, _needsSave, DPI_COUNT, dpiBaseIdx, dpiClr, dpiOn, dpiX, dpiY, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, OTHER, and CkbSettings::setValue().

Referenced by KbMode::save().

```
211                                     {
212     _needsSave = false;
213     SGroup group(settings, "Performance");
214     {
215         SGroup group(settings, "DPI");
216         for(int i = 0; i < DPI_COUNT; i++){
217             QString iStr = QString::number(i);
218             settings.setValue(iStr, QPoint(dpiX[i], dpiY[i]));
219             settings.setValue(iStr + "RGB", dpiClr[i].name(QColor::HexArgb));
220             if(i != 0)
221                 settings.setValue(iStr + "Disabled", !dpiOn[i]);
222         }
223         settings.setValue("6RGB", dpiClr[OTHER].name(QColor::HexArgb));
224     // Ignore pushed modes when saving current DPI.
225         settings.setValue("CurIdx", dpiBaseIdx);
226     }
227     settings.setValue("LiftHeight", _liftHeight);
228     settings.setValue("AngleSnap", _angleSnap);
229     {
230         SGroup group(settings, "Indicators");
231         settings.setValue("DPI", _dpiIndicator);
232         for(int i = 0; i < I_COUNT; i++){
233             SGroup group(settings, QString::number(i));
```

```
            settings.setValue("RGB0", iColor[i][0].name(QColor::HexArgb));
            settings.setValue("RGB1", iColor[i][1].name(QColor::HexArgb));
            if(i == LIGHT)
                settings.setValue("RGB2", light100Color.name(QColor::HexArgb));
            else if(i == MUTE)
                settings.setValue("RGB2", muteNAColor.name(QColor::HexArgb));
            settings.setValue("Enable", iEnable[i]);
            if(i <= HW_IMAX)
                settings.setValue("Hardware", (int)hwIType[i]);
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.38 void KbPerf::setIndicator (indicator *index*, const QColor & *color1*, const QColor & *color2*, const QColor & *color3* = `QColor()`, bool *software_enable* = `true`, i_hw *hardware_enable* = NORMAL)

Definition at line 356 of file kbperf.cpp.

References _needsSave, _needsUpdate, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, NONE, and NORMAL.

Referenced by KPerfWidget::uiUpdated().

```
356                                                 {
357     if(index < 0 || index >= I_COUNT)
358         return;
359     iColor[index][0] = color1;
360     iColor[index][1] = color2;
361     if(index == LIGHT)
362         light100Color = color3;
363     else if(index == MUTE)
364         muteNAColor = color3;
365     iEnable[index] = software_enable;
366     if(hardware_enable == NONE)
367         hardware_enable = NORMAL;
368     if(index <= HW_IMAX)
369         hwIType[index] = hardware_enable;
370     _needsUpdate = _needsSave = true;
371 }
```

Here is the caller graph for this function:

12.35.4.39 void KbPerf::setNeedsUpdate ( ) [inline]

Definition at line 116 of file kbperf.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
116 { _needsUpdate = true; }
```

Here is the caller graph for this function:

12.35.4.40 void KbPerf::settingsUpdated ( ) [signal]

Definition at line 140 of file moc_kbperf.cpp.

Referenced by update().

```
141 {
142     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
143 }
```

Here is the caller graph for this function:

12.35.4.41 QPoint KbPerf::sniperDpi ( ) const [inline]

Definition at line 52 of file kbperf.h.

References dpi(), and SNIPER.

Referenced by pushSniper().

```
52 { return dpi(SNIPER); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.42 void KbPerf::sniperDpi (const QPoint & *newValue*) [inline]

Definition at line 53 of file kbperf.h.

References dpi(), and SNIPER.

```
53 { dpi(SNIPER, newValue); }
```

Here is the call graph for this function:

12.35.4.43 void KbPerf::sniperDpi (int *newValue*) [inline]

Definition at line 56 of file kbperf.h.

References sniperDpi().

Referenced by sniperDpi().

```
56 { sniperDpi(QPoint(newValue, newValue)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.44 void KbPerf::update (QFile & *cmd,* int *notifyNumber,* bool *force,* bool *saveCustomDpi*)

Definition at line 385 of file kbperf.cpp.

References _angleSnap, _liftHeight, _needsUpdate, DPI_COUNT, dpiBaseIdx, dpiColor(), dpiCurX, dpiCurY, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, OFF, ON, pushedDpis, and settingsUpdated().

Referenced by Kb::frameUpdate(), and Kb::hwSave().

```
385                                                                                 {
386     if(!force && !_needsUpdate)
387         return;
388     emit settingsUpdated();
389     _needsUpdate = false;
390     // Save DPI stage 0 (sniper)
391     // If the mouse is set to a custom DPI, save it in stage 0
392     int stage = pushedDpis.isEmpty() ? dpiBaseIdx : 0;
393     if(!pushedDpis.isEmpty() && saveCustomDpi) {
394         cmd.write(QString("dpi 0:%1,%2").arg(dpiCurX).arg(dpiCurY).toLatin1());
395     } else {
396         // Otherwise, save stage 0 normally
397         cmd.write(QString("dpi 0:%1,%2").arg(dpiX[0]).arg(dpiY[0]).toLatin1());
398     }
399     // Save stages 1 - 5
400     for(int i = 1; i < DPI_COUNT; i++){
401         if(!dpiOn[i] && stage != i)
402             cmd.write(QString(" %1:off").arg(i).toLatin1());
403         else
404         cmd.write(QString(" %1:%2,%3").arg(i).arg(dpiX[i]).arg(dpiY[i]).toLatin1());
405     }
406     // Save stage selection, lift height, and angle snap
407     cmd.write(QString(" dpisel %1 lift %2 snap %3").arg(stage).arg(
    _liftHeight).arg(_angleSnap ? "on" : "off").toLatin1());
408     // Save DPI colors
409     cmd.write(" rgb");
410     for(int i = 0; i < DPI_COUNT; i++){
```

```
        QColor color = dpiColor(i);
        cmd.write(" dpi");
        char output[9];
        snprintf(output, sizeof(output), "%1d:%02x%02x%02x", i, color.red(), color.green(), color.blue());
        cmd.write(output);
    }
    // Enable indicator notifications
    cmd.write(QString("\n@%1 inotify all").arg(notifyNumber).toLatin1());
    // Set indicator state
    const char* iNames[HW_I_COUNT] = { "num", "caps", "scroll" };
    for(int i = 0; i < HW_I_COUNT; i++){
        if(hwIType[i] == ON)
            cmd.write(" ion ");
        else if(hwIType[i] == OFF)
            cmd.write(" ioff ");
        else
            cmd.write(" iauto ");
        cmd.write(iNames[i]);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.5 Field Documentation

12.35.5.1 bool KbPerf::_angleSnap [private]

Definition at line 164 of file kbperf.h.

Referenced by angleSnap(), load(), operator=(), save(), and update().

12.35.5.2 bool KbPerf::_dpiIndicator [private]

Definition at line 160 of file kbperf.h.

Referenced by applyIndicators(), dpiIndicator(), load(), operator=(), and save().

12.35.5.3 float KbPerf::_iOpacity [private]

Definition at line 155 of file kbperf.h.

Referenced by applyIndicators(), iOpacity(), lightIndicator(), load(), and operator=().

12.35.5.4 height KbPerf::_liftHeight [private]

Definition at line 163 of file kbperf.h.

Referenced by liftHeight(), load(), operator=(), save(), and update().

12.35.5.5 bool KbPerf::_needsSave [private]

Definition at line 166 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), baseDpiIdx(), dpi(), dpiColor(), dpiEnabled(), dpiIndicator(), iOpacity(), liftHeight(), load(), needsSave(), operator=(), popDpi(), save(), and setIndicator().

12.35.5.6 bool KbPerf::_needsUpdate [private]

Definition at line 166 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), baseDpiIdx(), dpi(), dpiColor(), dpiEnabled(), liftHeight(), operator=(), popDpi(), setIndicator(), setNeedsUpdate(), and update().

12.35.5.7 const int KbPerf::DPI_COUNT = 6 [static]

Definition at line 46 of file kbperf.h.

Referenced by dpi(), dpiCycleDown(), dpiCycleUp(), dpiUp(), KbPerf(), KeyAction::keyEvent(), load(), operator=(), Kb::readNotify(), save(), RebindWidget::setBind(), and update().

12.35.5.8 const int KbPerf::DPI_MAX = 12000 [static]

Definition at line 47 of file kbperf.h.

12.35.5.9 const int KbPerf::DPI_MIN = 100 [static]

Definition at line 47 of file kbperf.h.

Referenced by dpiExp(), and dpiLog().

12.35.5.10 int KbPerf::dpiBaseIdx [private]

Definition at line 142 of file kbperf.h.

Referenced by baseDpiIdx(), dpi(), KbPerf(), load(), operator=(), popDpi(), save(), and update().

12.35.5.11 QColor KbPerf::dpiClr[DPI_COUNT+1] [private]

Definition at line 143 of file kbperf.h.

Referenced by applyIndicators(), dpiColor(), KbPerf(), load(), operator=(), and save().

12.35.5.12 int KbPerf::dpiCurX [private]

Definition at line 138 of file kbperf.h.

Referenced by _curDpi(), KbPerf(), operator=(), and update().

12.35.5.13 int KbPerf::dpiCurY [private]

Definition at line 138 of file kbperf.h.

Referenced by _curDpi(), KbPerf(), operator=(), and update().

12.35.5.14 bool KbPerf::dpiOn[DPI_COUNT] [private]

Definition at line 144 of file kbperf.h.

Referenced by dpiCycleDown(), dpiCycleUp(), dpiDown(), dpiEnabled(), dpiUp(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.15 int KbPerf::dpiX[DPI_COUNT] [private]

Definition at line 135 of file kbperf.h.

Referenced by dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.16 int KbPerf::dpiY[DPI_COUNT] [private]

Definition at line 136 of file kbperf.h.

Referenced by dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.17 const int KbPerf::HW_I_COUNT = (int)HW_IMAX + 1 [static]

Definition at line 107 of file kbperf.h.

Referenced by KbPerf(), and update().

12.35.5.18 i_hw KbPerf::hwiType[HW_I_COUNT] [private]

Definition at line 159 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), setIndicator(), and update().

12.35.5.19 const int KbPerf::I_COUNT = (int)MUTE + 1 [static]

Definition at line 107 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.20 QColor KbPerf::iColor[I_COUNT][2] [private]

Definition at line 156 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.21 bool KbPerf::iEnable[I_COUNT] [private]

Definition at line 158 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.22 QColor KbPerf::light100Color [private]

Definition at line 157 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.23 QColor KbPerf::muteNAColor [private]

Definition at line 157 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.24 const int KbPerf::OTHER = DPI_COUNT [static]

Definition at line 84 of file kbperf.h.

Referenced by applyIndicators(), MPerfWidget::colorChanged(), load(), save(), and MPerfWidget::setPerf().

12.35.5.25 QMap<quint64, QPoint> KbPerf::pushedDpis [private]

Definition at line 148 of file kbperf.h.

Referenced by baseDpiIdx(), dpi(), load(), popDpi(), pushDpi(), and update().

12.35.5.26 uint KbPerf::runningPushIdx [private]

Definition at line 149 of file kbperf.h.

Referenced by load(), operator=(), and pushDpi().

12.35.5.27 const int KbPerf::SNIPER = 0 [static]

Definition at line 46 of file kbperf.h.

Referenced by dpiCycleDown(), dpiCycleUp(), dpiDown(), and sniperDpi().

The documentation for this class was generated from the following files:

- src/ckb/kbperf.h
- src/ckb/kbperf.cpp
- src/ckb/release/moc_kbperf.cpp

12.36 KbProfile Class Reference

```
#include <src/ckb/kbprofile.h>
```

Inheritance diagram for KbProfile:

Collaboration diagram for KbProfile:

Public Types

- typedef QList< KbMode * > ModeList

Public Member Functions

- KbProfile (Kb *parent, const KeyMap &keyMap, const KbProfile &other)
- KbProfile (Kb *parent, const KeyMap &keyMap, const QString &guid="", const QString &modified="")
- KbProfile (Kb *parent, const KeyMap &keyMap, CkbSettings &settings, const QString &guid)
- void save (CkbSettings &settings)
- bool needsSave () const
- void setNeedsSave ()
- QString name () const
- void name (const QString &newName)
- UsbId & id ()
- void id (const UsbId &newId)
- void newId ()
- const KeyMap & keyMap () const
- void keyMap (const KeyMap &newKeyMap)
- const ModeList & modes () const
- void modes (const QList< KbMode * > &newModes)
- void append (KbMode *newMode)
- void insert (int index, KbMode *newMode)
- void removeAll (KbMode *mode)
- void move (int from, int to)
- int modeCount () const
- int indexOf (KbMode *mode) const
- KbMode * find (const QUuid &id)
- KbMode * currentMode () const
- void currentMode (KbMode *newCurrentMode)

Private Member Functions

- void setNeedsUpdate ()

Private Attributes

- KbMode * _currentMode
- QString _name
- UsbId _id
- KeyMap _keyMap
- ModeList _modes
- bool _needsSave

12.36.1 Detailed Description

Definition at line 11 of file kbprofile.h.

12.36.2 Member Typedef Documentation

12.36.2.1 typedef QList<KbMode*> KbProfile::ModeList

Definition at line 41 of file kbprofile.h.

12.36.3 Constructor & Destructor Documentation

12.36.3.1 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, const KbProfile & *other*) [explicit]

Definition at line 4 of file kbprofile.cpp.

References _currentMode, _modes, and modes().

```
4                                                                                    :
5     QObject(parent), _currentMode(0), _name(other._name),
      _id(other._id), _keyMap(keyMap), _needsSave(true)
6 {
7     foreach(KbMode* mode, other.modes()){
8         KbMode* newMode = new KbMode(parent, keyMap, *mode);
9         if(!_currentMode || mode == other._currentMode)
10            _currentMode = newMode;
11         _modes.append(newMode);
12     }
13 }
```

Here is the call graph for this function:

12.36.3.2 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, const QString & *guid* = " ", const QString & *modified* = "") [explicit]

Definition at line 15 of file kbprofile.cpp.

References _id, and UsbId::guid.

```
15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
16     QObject(parent), _currentMode(0), _id(guid, modified.toUInt(0, 16)),
      _keyMap(keyMap), _needsSave(true)
17 {
18     if(_id.guid.isNull())
19         _id.guid = QUuid::createUuid();
20 }
```

12.36.3.3 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, CkbSettings & *settings*, const QString & *guid*) [explicit]

Definition at line 22 of file kbprofile.cpp.

References _currentMode, _id, _keyMap, _modes, _name, CkbSettings::contains(), current, UsbId::guid, UsbId::hwModified, UsbId::hwModifiedString(), KbMode::id(), UsbId::modified, UsbId::modifiedString(), and CkbSettings::value().

```
22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
23     QObject(parent), _currentMode(0), _id(guid, 0),
      _keyMap(keyMap), _needsSave(false)
24 {
25     // Load data from preferences
26     SGroup group(settings, guid);
27     _name = settings.value("Name").toString().trimmed();
28     if(_name == "")
29         _name = "Unnamed";
30     _id.modifiedString(settings.value("Modified").toString());
31     if(settings.contains("HwModified"))
32         _id.hwModifiedString(settings.value("HwModified").toString());
33     else
34         _id.hwModified = _id.modified;
35     QUuid current = settings.value("CurrentMode").toString().trimmed();
36     // Load modes
37     uint count = settings.value("ModeCount").toUInt();
38     for(uint i = 0; i < count; i++){
39         SGroup group(settings, QString::number(i));
40         KbMode* mode = new KbMode(parent, _keyMap, settings);
41         _modes.append(mode);
42         // Set currentMode to the mode matching the current GUID, or the first mode in case it's not found
43         if(current == mode->id().guid || !_currentMode)
44             _currentMode = mode;
45     }
46 }
```

Here is the call graph for this function:

12.36.4 Member Function Documentation

12.36.4.1 void KbProfile::append (KbMode * *newMode*) [inline]

Definition at line 44 of file kbprofile.h.

References _modes, and setNeedsUpdate().

Referenced by Kb::hwSave(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::profileList_reordered(), Kb::readNotify(), and Kb::setCurrentProfile().

```
44 { setNeedsUpdate(); _modes.append(newMode); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.2 KbMode* KbProfile::currentMode ( ) const [inline]

Definition at line 54 of file kbprofile.h.

References _currentMode.

Referenced by KeyAction::keyEvent(), KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), Kb::setCurrentMode(), and Kb::setCurrentProfile().

```
54 { return _currentMode; }
```

Here is the caller graph for this function:

12.36.4.3 void KbProfile::currentMode (KbMode * *newCurrentMode*) [inline]

Definition at line 55 of file kbprofile.h.

References _currentMode, and _needsSave.

```
55 { _needsSave = true; _currentMode = newCurrentMode; }
```

12.36.4.4 KbMode* KbProfile::find (const QUuid & *id*) [inline]

Definition at line 51 of file kbprofile.h.

References _modes, UsbId::guid, id(), and KbMode::id().

Referenced by KbWidget::modesList_reordered(), and KbWidget::on_modesList_currentItemChanged().

```
51 { foreach(KbMode* mode, _modes) { if(mode->id().guid == id) return mode; } return 0; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.5 UsbId& KbProfile::id ( ) [inline]

Definition at line 30 of file kbprofile.h.

References _id.

Referenced by find(), Kb::find(), Kb::hwSave(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbProfileDialog::on_profileList_itemClicked(), Kb::readNotify(), KbProfileDialog::repopulate(), Kb::save(), and Kb::writeProfileHeader().

```
30 { return _id; }
```

Here is the caller graph for this function:

12.36.4.6 void KbProfile::id (const UsbId & *newId*) [inline]

Definition at line 31 of file kbprofile.h.

References _id, _needsSave, and newId().

```
31 { _needsSave = true; _id = newId; }
```

Here is the call graph for this function:

12.36.4.7 int KbProfile::indexOf (KbMode * *mode*) const [inline]

Definition at line 50 of file kbprofile.h.

References _modes.

Referenced by Kb::frameUpdate(), KeyAction::keyEvent(), KbWidget::modeChanged(), KbWidget::on_modesList_-customContextMenuRequested(), and Kb::readNotify().

```
50 { return _modes.indexOf(mode); }
```

Here is the caller graph for this function:

12.36.4.8 void KbProfile::insert (int *index*, KbMode * *newMode*) [inline]

Definition at line 45 of file kbprofile.h.

References _modes, and setNeedsUpdate().

Referenced by KbWidget::on_modesList_customContextMenuRequested().

```
45 { setNeedsUpdate(); _modes.insert(index, newMode); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.9 const KeyMap& KbProfile::keyMap ( ) const [inline]

Definition at line 37 of file kbprofile.h.

References _keyMap.

Referenced by KPerfWidget::setPerf(), and Kb::updateLayout().

```
37 { return _keyMap; }
```

Here is the caller graph for this function:

12.36.4.10 void KbProfile::keyMap (const KeyMap & *newKeyMap*)

Definition at line 85 of file kbprofile.cpp.

References _keyMap, _modes, KbMode::keyMap(), and setNeedsUpdate().

```
85                                                  {
86     _keyMap = newKeyMap;
87     foreach(KbMode* mode, _modes)
88         mode->keyMap(newKeyMap);
89     setNeedsUpdate();
90 }
```

Here is the call graph for this function:

12.36.4.11 int KbProfile::modeCount ( ) const [inline]

Definition at line 49 of file kbprofile.h.

References _modes.

Referenced by Kb::hwSave(), KeyAction::keyEvent(), KbWidget::on_modesList_customContextMenuRequested(), Kb::readNotify(), save(), and Kb::setCurrentProfile().

```
49 { return _modes.count(); }
```

Here is the caller graph for this function:

12.36.4.12 const ModeList& KbProfile::modes ( ) const [inline]

Definition at line 42 of file kbprofile.h.

References _modes.

Referenced by Kb::hwSave(), KbProfile(), KeyAction::keyEvent(), KbWidget::modesList_reordered(), KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::profileChanged(), Kb::readNotify(), RebindWidget::setBind(), Kb::setCurrentMode(), Kb::setCurrentProfile(), and Kb::updateLayout().

```
42 { return _modes; }
```

Here is the caller graph for this function:

12.36.4.13 void KbProfile::modes (const QList< KbMode * > & *newModes*) [inline]

Definition at line 43 of file kbprofile.h.

References _modes, and setNeedsUpdate().

```
43 { setNeedsUpdate(); _modes = newModes; }
```

Here is the call graph for this function:

12.36.4.14 void KbProfile::move (int *from*, int *to*) [inline]

Definition at line 47 of file kbprofile.h.

References _modes, and setNeedsUpdate().

Referenced by Kb::readNotify().

```
47 { setNeedsUpdate(); _modes.move(from, to); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.15 QString KbProfile::name ( ) const [inline]

Definition at line 28 of file kbprofile.h.

References _name.

Referenced by KbProfileDialog::on_profileList_itemChanged(), Kb::readNotify(), KbProfileDialog::repopulate(), save(), KbWidget::updateProfileList(), and Kb::writeProfileHeader().

```
28 { return _name; }
```

Here is the caller graph for this function:

12.36.4.16 void KbProfile::name (const QString & *newName*) [inline]

Definition at line 29 of file kbprofile.h.

References _name, and _needsSave.

```
29 { _needsSave = true; _name = newName.trimmed(); if(_name == "")
     _name = "Unnamed"; }
```

12.36.4.17 bool KbProfile::needsSave ( ) const

Definition at line 68 of file kbprofile.cpp.

References _modes, _needsSave, and KbMode::needsSave().

Referenced by Kb::needsSave().

```
68                                  {
69      if(_needsSave)
70          return true;
71      foreach(KbMode* mode, _modes){
72          if(mode->needsSave())
73              return true;
74      }
75      return false;
76  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.18 void KbProfile::newId ( )

Definition at line 78 of file kbprofile.cpp.

References _id, _modes, _needsSave, and KbMode::newId().

Referenced by id(), and KbProfileDialog::on_profileList_customContextMenuRequested().

```
78                          {
79      _needsSave = true;
80      _id = UsbId();
81      foreach(KbMode* mode, _modes)
82          mode->newId();
83  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.19 void KbProfile::removeAll (KbMode * *mode*) [inline]

Definition at line 46 of file kbprofile.h.

References _modes, and setNeedsUpdate().

Referenced by KbWidget::on_modesList_customContextMenuRequested(), and KbProfileDialog::on_profileList_-customContextMenuRequested().

```
46 { setNeedsUpdate(); _modes.removeAll(mode); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.20 void KbProfile::save (CkbSettings & *settings*)

Definition at line 48 of file kbprofile.cpp.

References _currentMode, _id, _modes, _needsSave, UsbId::guidString(), UsbId::hwModifiedString(), KbMode::id(), modeCount(), UsbId::modifiedString(), name(), UsbId::newModified(), KbMode::save(), and CkbSettings::setValue().

Referenced by Kb::save().

```
48                                          {
49     _needsSave = false;
50     _id.newModified();
51     // Save data to preferences
52     SGroup group(settings, id().guidString());
53     settings.setValue("Name", name());
54     settings.setValue("Modified", _id.modifiedString());
55     settings.setValue("HwModified", _id.hwModifiedString());
56     if(_currentMode)
57         settings.setValue("CurrentMode", _currentMode->id().
    guidString());
58     // Save modes
59     uint count = modeCount();
60     settings.setValue("ModeCount", count);
61     for(uint i = 0; i < count; i++){
62         SGroup group(settings, QString::number(i));
63         KbMode* mode = _modes.at(i);
64         mode->save(settings);
65     }
66 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.4.21 void KbProfile::setNeedsSave ( ) [inline]

Definition at line 25 of file kbprofile.h.

References _needsSave.

Referenced by Kb::hwSave(), Kb::readNotify(), and setNeedsUpdate().

```
25 { _needsSave = true; }
```

Here is the caller graph for this function:

12.36.4.22 void KbProfile::setNeedsUpdate ( ) [inline],[private]

Definition at line 66 of file kbprofile.h.

References _modes, setNeedsSave(), and KbMode::setNeedsUpdate().

Referenced by append(), insert(), keyMap(), modes(), move(), and removeAll().

```
66 { setNeedsSave(); foreach(KbMode* mode, _modes){ mode->
     setNeedsUpdate(); } }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.36.5 Field Documentation

12.36.5.1 KbMode* KbProfile::_currentMode [private]

Definition at line 58 of file kbprofile.h.

Referenced by currentMode(), KbProfile(), and save().

12.36.5.2 UsbId KbProfile::_id [private]

Definition at line 60 of file kbprofile.h.

Referenced by id(), KbProfile(), newId(), and save().

12.36.5.3 KeyMap KbProfile::_keyMap [private]

Definition at line 61 of file kbprofile.h.

Referenced by KbProfile(), and keyMap().

12.36.5.4 ModeList KbProfile::_modes [private]

Definition at line 62 of file kbprofile.h.

Referenced by append(), find(), indexOf(), insert(), KbProfile(), keyMap(), modeCount(), modes(), move(), needsSave(), newId(), removeAll(), save(), and setNeedsUpdate().

12.36.5.5 QString KbProfile::_name [private]

Definition at line 59 of file kbprofile.h.

Referenced by KbProfile(), and name().

12.36.5.6 bool KbProfile::_needsSave [private]

Definition at line 63 of file kbprofile.h.

Referenced by currentMode(), id(), name(), needsSave(), newId(), save(), and setNeedsSave().

The documentation for this class was generated from the following files:

- src/ckb/kbprofile.h
- src/ckb/kbprofile.cpp

12.37 KbProfileDialog Class Reference

```
#include <src/ckb/kbprofiledialog.h>
```

Inheritance diagram for KbProfileDialog:

Collaboration diagram for KbProfileDialog:

Public Member Functions

- KbProfileDialog (KbWidget ∗parent=0)
- ∼KbProfileDialog ()

Private Slots

- void profileList_reordered ()
- void on_profileList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void on_profileList_itemClicked (QListWidgetItem ∗item)
- void on_profileList_itemChanged (QListWidgetItem ∗item)
- void on_profileList_customContextMenuRequested (const QPoint &pos)

Private Member Functions

- void repopulate ()
- void addNewProfileItem ()

Private Attributes

- Ui::KbProfileDialog ∗ ui
- Kb ∗ device

Static Private Attributes

- static const int GUID = Qt::UserRole
- static const int NEW_FLAG = Qt::UserRole + 1

12.37.1 Detailed Description

Definition at line 11 of file kbprofiledialog.h.

12.37.2 Constructor & Destructor Documentation

12.37.2.1 KbProfileDialog::KbProfileDialog (KbWidget * *parent* = 0) [explicit]

Definition at line 5 of file kbprofiledialog.cpp.

References Ui_KbProfileDialog::profileList, profileList_reordered(), repopulate(), Ui_KbProfileDialog::setupUi(), and ui.

```
5                                                   :
6     QDialog(parent),
7     ui(new Ui::KbProfileDialog), device(parent->
      device)
8 {
9     ui->setupUi(this);
10     connect(ui->profileList, SIGNAL(orderChanged()), this, SLOT(
      profileList_reordered()));
11
12     // Populate profile list
13     repopulate();
14 }
```

Here is the call graph for this function:

12.37.2.2 KbProfileDialog::~KbProfileDialog ( )

Definition at line 16 of file kbprofiledialog.cpp.

References ui.

```
16                                      {
17     delete ui;
18 }
```

12.37.3 Member Function Documentation

12.37.3.1 void KbProfileDialog::addNewProfileItem ( ) [private]

Definition at line 66 of file kbprofiledialog.cpp.

References NEW_FLAG, Ui_KbProfileDialog::profileList, and ui.

Referenced by on_profileList_itemClicked(), and repopulate().

```
66                                          {
67     // Add an item for creating a new profile. Make it editable but not dragable.
68     QListWidgetItem* item = new QListWidgetItem("New profile...", ui->
      profileList);
69     item->setFlags((item->flags() | Qt::ItemIsEditable) & ~Qt::ItemIsDragEnabled & ~Qt::ItemIsDropEnabled);
70     item->setData(NEW_FLAG, 1);
```

```
    QFont font = item->font();
    font.setItalic(true);
    item->setFont(font);
    item->setIcon(QIcon(":/img/icon_plus.png"));
    ui->profileList->addItem(item);
}
```

Here is the caller graph for this function:

12.37.3.2 void KbProfileDialog::on_profileList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 39 of file kbprofiledialog.cpp.

References device, Kb::find(), GUID, and Kb::setCurrentProfile().

```
39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
40      if(!current)
41          return;
42      KbProfile* profile = device->find(current->data(
      GUID).toUuid());
43      if(!profile)
44          return;
45      device->setCurrentProfile(profile);
46  }
```

Here is the call graph for this function:

12.37.3.3 void KbProfileDialog::on_profileList_customContextMenuRequested (const QPoint & *pos*) [private], [slot]

Definition at line 109 of file kbprofiledialog.cpp.

References Kb::currentProfile(), device, Kb::find(), UsbId::guid, GUID, Kb::hwProfile(), Kb::hwSave(), KbProfile::id(), Kb::indexOf(), NEW_FLAG, KbProfile::newId(), Kb::newProfile(), Ui_KbProfileDialog::profileList, Kb::profiles(), KbProfile::removeAll(), repopulate(), Kb::setCurrentProfile(), and ui.

```
                                                                                {
    QListWidgetItem* item = ui->profileList->itemAt(pos);
    KbProfile* currentProfile = device->currentProfile();
    if(!item || !currentProfile || item->data(GUID).toUuid() != currentProfile->id().guid)
        return;
    int index = device->indexOf(currentProfile);
    QList<KbProfile*> profiles = device->profiles();

    QMenu menu(this);
    QAction* rename = new QAction("Rename...", this);
    QAction* duplicate = new QAction("Duplicate", this);
    QAction* del = new QAction("Delete", this);
    bool canDelete = (profiles.count() > 1);
    if(!canDelete)
        // Can't delete the last profile on the device
        del->setEnabled(false);
    QAction* hwsave = new QAction("Save to Hardware", this);
    QAction* moveup = new QAction("Move Up", this);
    if(index == 0)
        moveup->setEnabled(false);
    QAction* movedown = new QAction("Move Down", this);
    if(index >= profiles.count() - 1)
        movedown->setEnabled(false);
    menu.addAction(rename);
    menu.addAction(duplicate);
    menu.addAction(del);
    menu.addSeparator();
    menu.addAction(hwsave);
    menu.addSeparator();
    menu.addAction(moveup);
    menu.addAction(movedown);
    QAction* result = menu.exec(QCursor::pos());
    if(result == rename){
        ui->profileList->editItem(item);
    } else if(result == duplicate){
        KbProfile* newProfile = device->newProfile(currentProfile);
        newProfile->newId();
        profiles.insert(index + 1, newProfile);
        device->profiles(profiles);
        device->setCurrentProfile(newProfile);
    } else if(result == del){
        if(!canDelete)
            return;
        profiles.removeAll(currentProfile);
        device->profiles(profiles);
        currentProfile->deleteLater();
        // Select next profile
        if(index < profiles.count())
            device->setCurrentProfile(profiles.at(index));
        else
            device->setCurrentProfile(profiles.last());
    } else if(result == hwsave){
        device->hwSave();
        // Refresh item icons
        int count = ui->profileList->count();
        for(int i = 0; i < count; i++){
            QListWidgetItem* item = ui->profileList->item(i);
            if(item->data(NEW_FLAG).toUInt() == 1)
                continue;
            KbProfile* profile = device->find(item->data(GUID).toUuid());
            item->setIcon(QIcon((profile == device->hwProfile()) ? ":/img/icon_profile_hardware.png" : ":/img/icon_profile.png"));
        }
    } else if(result == moveup){
        profiles.removeAll(currentProfile);
        profiles.insert(index - 1, currentProfile);
        device->profiles(profiles);
    } else if(result == movedown){
        profiles.removeAll(currentProfile);
        profiles.insert(index + 1, currentProfile);
        device->profiles(profiles);
    }
    repopulate();
}
```

Here is the call graph for this function:

12.37.3.4 void KbProfileDialog::on_profileList_itemChanged (QListWidgetItem * *item*) [private],[slot]

Definition at line 100 of file kbprofiledialog.cpp.

References Kb::currentProfile(), device, UsbId::guid, GUID, KbProfile::id(), and KbProfile::name().

```
100                                                                 {
101     KbProfile* currentProfile = device->currentProfile();
102     if(!item || !currentProfile || item->data(GUID).toUuid() != currentProfile->
    id().guid)
103         return;
104     currentProfile->name(item->text());
105     // Set the text to the actual name (trimmed, "" replaced with "Unnamed")
106     item->setText(currentProfile->name());
107 }
```

Here is the call graph for this function:

12.37.3.5 void KbProfileDialog::on_profileList_itemClicked (QListWidgetItem * *item*) [private],[slot]

Definition at line 78 of file kbprofiledialog.cpp.

References addNewProfileItem(), Kb::appendProfile(), device, UsbId::guid, GUID, KbProfile::id(), NEW_FLAG, Kb::newProfile(), Ui_KbProfileDialog::profileList, Kb::setCurrentProfile(), and ui.

```
78                                                                  {
79     QUuid guid = item->data(GUID).toUuid();
80     if(guid.isNull() && item->data(NEW_FLAG).toInt() == 1){
81         // New profile
82         item->setText("");
83         ui->profileList->editItem(item);
84         item->setFlags(item->flags() | Qt::ItemIsEditable | Qt::ItemIsDragEnabled | Qt::ItemIsDropEnabled);
85         QFont font = item->font();
86         font.setItalic(false);
87         item->setFont(font);
88         item->setIcon(QIcon(":/img/icon_profile.png"));
89         // Add the new profile and assign it to this item
90         KbProfile* newProfile = device->newProfile();
91         device->appendProfile(newProfile);
92         item->setData(GUID, newProfile->id().guid);
93         item->setData(NEW_FLAG, 0);
94         device->setCurrentProfile(newProfile);
95         // Create another "new profile" item to replace this one
96         addNewProfileItem();
97     }
98 }
```

Here is the call graph for this function:

12.37.3.6 void KbProfileDialog::profileList_reordered ( ) [private],[slot]

Definition at line 20 of file kbprofiledialog.cpp.

References KbProfile::append(), device, Kb::find(), GUID, Ui_KbProfileDialog::profileList, Kb::profiles(), and ui.

Referenced by KbProfileDialog().

```
20                                          {
21     // Rebuild profile list from items
22     QList<KbProfile*> newProfiles;
23     int count = ui->profileList->count();
24     for(int i = 0; i < count; i++){
25         QListWidgetItem* item = ui->profileList->item(i);
26         KbProfile* profile = device->find(item->data(GUID).toUuid());
27         if(profile && !newProfiles.contains(profile))
28             newProfiles.append(profile);
29         item->setFlags(item->flags() | Qt::ItemIsEditable);
30     }
31     // Add any missing profiles at the end of the list
32     foreach(KbProfile* profile, device->profiles()){
33         if(!newProfiles.contains(profile))
34             newProfiles.append(profile);
35     }
36     device->profiles(newProfiles);
37 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.37.3.7 void KbProfileDialog::repopulate ( ) [private]

Definition at line 48 of file kbprofiledialog.cpp.

References addNewProfileItem(), current, Kb::currentProfile(), device, UsbId::guid, GUID, Kb::hwProfile(), KbProfile::id(), KbProfile::name(), Ui_KbProfileDialog::profileList, Kb::profiles(), and ui.

Referenced by KbProfileDialog(), and on_profileList_customContextMenuRequested().

```
48                                          {
49     ui->profileList->clear();
50     QListWidgetItem* current = 0;
51     foreach(KbProfile* profile, device->profiles()){
52         QListWidgetItem* item = new QListWidgetItem(QIcon((profile == device->
      hwProfile()) ? ":/img/icon_profile_hardware.png" : ":/img/icon_profile.png"), profile->
```

```
    name(), ui->profileList);
        item->setData(GUID, profile->id().guid);
        item->setFlags(item->flags() | Qt::ItemIsEditable);
        if(profile == device->currentProfile()){
            item->setSelected(true);
            current = item;
        }
        ui->profileList->addItem(item);
    }
    if(current)
        ui->profileList->setCurrentItem(current);
    addNewProfileItem();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.37.4 Field Documentation

12.37.4.1 Kb* KbProfileDialog::device [private]

Definition at line 29 of file kbprofiledialog.h.

Referenced by on_profileList_currentItemChanged(), on_profileList_customContextMenuRequested(), on_profileList_itemChanged(), on_profileList_itemClicked(), profileList_reordered(), and repopulate().

12.37.4.2 const int KbProfileDialog::GUID = Qt::UserRole [static], [private]

Definition at line 30 of file kbprofiledialog.h.

Referenced by on_profileList_currentItemChanged(), on_profileList_customContextMenuRequested(), on_profileList_itemChanged(), on_profileList_itemClicked(), profileList_reordered(), and repopulate().

12.37.4.3 const int KbProfileDialog::NEW_FLAG = Qt::UserRole + 1 [static], [private]

Definition at line 31 of file kbprofiledialog.h.

Referenced by addNewProfileItem(), on_profileList_customContextMenuRequested(), and on_profileList_itemClicked().

12.37.4.4 Ui::KbProfileDialog* KbProfileDialog::ui [private]

Definition at line 27 of file kbprofiledialog.h.

Referenced by addNewProfileItem(), KbProfileDialog(), on_profileList_customContextMenuRequested(), on_profileList_itemClicked(), profileList_reordered(), repopulate(), and ~KbProfileDialog().

The documentation for this class was generated from the following files:

- src/ckb/kbprofiledialog.h
- src/ckb/kbprofiledialog.cpp

12.38 Ui::KbProfileDialog Class Reference

```
#include <src/ckb/ui_kbprofiledialog.h>
```

Inheritance diagram for Ui::KbProfileDialog:

Collaboration diagram for Ui::KbProfileDialog:

Public Member Functions

- void setupUi (QDialog *KbProfileDialog)
- void retranslateUi (QDialog *KbProfileDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- RListWidget * profileList
- QDialogButtonBox * buttonBox

12.38.1 Detailed Description

Definition at line 81 of file ui_kbprofiledialog.h.

12.38.2 Member Function Documentation

12.38.2.1 void Ui_KbProfileDialog::retranslateUi (QDialog * *KbProfileDialog*) [inline],[inherited]

Definition at line 73 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

```
{
    KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles", Q_NULLPTR));
} // retranslateUi
```

Here is the caller graph for this function:

12.38.2.2 void Ui_KbProfileDialog::setupUi (QDialog * *KbProfileDialog*) [inline],[inherited]

Definition at line 34 of file ui_kbprofiledialog.h.

References Ui_KbProfileDialog::buttonBox, Ui_KbProfileDialog::gridLayout, Ui_KbProfileDialog::horizontalSpacer, Ui_KbProfileDialog::horizontalSpacer_2, Ui_KbProfileDialog::profileList, and Ui_KbProfileDialog::retranslateUi().

Referenced by KbProfileDialog::KbProfileDialog().

```
{
    if (KbProfileDialog->objectName().isEmpty())
        KbProfileDialog->setObjectName(QStringLiteral("KbProfileDialog"));
    KbProfileDialog->resize(400, 300);
    KbProfileDialog->setFocusPolicy(Qt::ClickFocus);
    gridLayout = new QGridLayout(KbProfileDialog);
    gridLayout->setObjectName(QStringLiteral("gridLayout"));
    horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

    gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);

    horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

    gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);

    profileList = new RListWidget(KbProfileDialog);
    profileList->setObjectName(QStringLiteral("profileList"));
    profileList->setContextMenuPolicy(Qt::CustomContextMenu);
    profileList->setFrameShadow(QFrame::Plain);
    profileList->setIconSize(QSize(24, 24));

    gridLayout->addWidget(profileList, 0, 1, 1, 1);

    buttonBox = new QDialogButtonBox(KbProfileDialog);
    buttonBox->setObjectName(QStringLiteral("buttonBox"));
    buttonBox->setOrientation(Qt::Horizontal);
    buttonBox->setStandardButtons(QDialogButtonBox::Ok);

    gridLayout->addWidget(buttonBox, 1, 0, 1, 3);


    retranslateUi(KbProfileDialog);
    QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
    QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));

    QMetaObject::connectSlotsByName(KbProfileDialog);
} // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.38.3 Field Documentation

12.38.3.1 QDialogButtonBox* Ui_KbProfileDialog::buttonBox [inherited]

Definition at line 32 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.2 QGridLayout* Ui_KbProfileDialog::gridLayout [inherited]

Definition at line 28 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.3 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer [inherited]

Definition at line 29 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.4 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer_2 [inherited]

Definition at line 30 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.5 RListWidget* Ui_KbProfileDialog::profileList [inherited]

Definition at line 31 of file ui_kbprofiledialog.h.

Referenced by KbProfileDialog::addNewProfileItem(), KbProfileDialog::KbProfileDialog(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and Ui_KbProfileDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbprofiledialog.h

12.39 KbWidget Class Reference

```
#include <src/ckb/kbwidget.h>
```

Inheritance diagram for KbWidget:

Collaboration diagram for KbWidget:

Public Slots

- void showFirstTab ()
- void showLastTab ()
- void showFwUpdate ()

Public Member Functions

- KbWidget (QWidget ∗parent, Kb ∗_device)
- ∼KbWidget ()
- QString name () const
- void updateFwButton ()

Data Fields

- Kb ∗ device
- bool hasShownNewFW

Private Slots

- void updateProfileList ()
- void profileChanged ()
- void on_profileBox_activated (int index)
- QIcon modeIcon (int i)
- void addNewModeItem ()
- void modeChanged (bool spontaneous=true)
- void on_modesList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void modesList_reordered ()
- void on_modesList_itemChanged (QListWidgetItem ∗item)
- void on_modesList_itemClicked (QListWidgetItem ∗item)
- void on_modesList_customContextMenuRequested (const QPoint &pos)

  KbWidget::on_modesList_customContextMenuRequested.
- void devUpdate ()
- void modeUpdate ()
- void on_hwSaveButton_clicked ()
- void on_tabWidget_currentChanged (int index)
- void on_fwUpdButton_clicked ()

Private Attributes

- Ui::KbWidget ∗ ui
- quint64 lastAutoSave
- KbMode ∗ currentMode

Static Private Attributes

- static const int GUID = Qt::UserRole
- static const int NEW_FLAG = Qt::UserRole + 1

12.39.1 Detailed Description

Definition at line 15 of file kbwidget.h.

12.39.2 Constructor & Destructor Documentation

12.39.2.1 KbWidget::KbWidget (QWidget ∗ *parent*, Kb ∗ *_device*) [explicit]

Definition at line 15 of file kbwidget.cpp.

References device, devUpdate(), Kb::features, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::fwUpdLayout, Kb::isKeyboard(), Kb::isMouse(), Ui_KbWidget::kPerfTab, Ui_KbWidget::lightTab, Ui_KbWidget::lightWidget, modeChanged(), Ui_KbWidget::modesList, modesList_reordered(), Kb::monochrome, Ui_KbWidget::mPerfTab, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, profileChanged(), KbLightWidget::setMonochrome(), Ui_KbWidget::setupUi(), Ui_KbWidget::tabWidget, ui, and updateProfileList().

```
15                                                  :
16     QWidget(parent),
17     device(_device), hasShownNewFW(false),
18     ui(new Ui::KbWidget),
19     currentMode(0)
20 {
21     ui->setupUi(this);
22     connect(ui->modesList, SIGNAL(orderChanged()), this, SLOT(
       modesList_reordered()));
23
```

```
    connect(device, SIGNAL(infoUpdated()), this, SLOT(devUpdate()));
    connect(device, SIGNAL(profileAdded()), this, SLOT(updateProfileList()));
    connect(device, SIGNAL(profileChanged()), this, SLOT(profileChanged()));
    connect(device, SIGNAL(profileRenamed()), this, SLOT(updateProfileList()));
    connect(device, SIGNAL(modeRenamed()), this, SLOT(profileChanged()));
    connect(device, SIGNAL(modeRenamed()), this, SLOT(modeChanged()));
    connect(device, SIGNAL(modeChanged(bool)), this, SLOT(modeChanged(bool)));

    // Remove the Lighting and Performance tabs from non-RGB keyboards
    if(!device->features.contains("rgb")){
        ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->lightTab));
        ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->kPerfTab));
        ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->mPerfTab));
    } else {
        // Remove mouse Performance tab from non-mice
        if(!device->isMouse())
            ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->mPerfTab));
        // Remove keyboard Performance tab from non-keyboards
        if(!device->isKeyboard())
            ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->kPerfTab));
    }
    // Hide poll rate and FW update as appropriate
    if(!device->features.contains("pollrate")){
        ui->pollLabel->hide();
        ui->pollLabel2->hide();
    }
    if(!device->features.contains("fwupdate")){
        ui->fwUpdButton->hide();
        ui->fwUpdLabel->hide();
        ui->fwUpdLayout->removeItem(ui->fwUpdLayout->itemAt(1));
    }
    // Set monochrome mode according to hardware
    if(device->monochrome)
        ui->lightWidget->setMonochrome();
}
```

Here is the call graph for this function:

12.39.2.2 KbWidget::∼KbWidget ( )

Definition at line 60 of file kbwidget.cpp.

References ui.

```
60                  {
61      delete ui;
62  }
```

12.39.3 Member Function Documentation

12.39.3.1 void KbWidget::addNewModeItem ( ) [private],[slot]

Definition at line 136 of file kbwidget.cpp.

References Ui_KbWidget::modesList, NEW_FLAG, and ui.

Referenced by on_modesList_itemClicked(), and profileChanged().

```
                                {
    // Add an item for creating a new mode. Make it editable but not dragable.
    QListWidgetItem* item = new QListWidgetItem("New mode...", ui->modesList);
    item->setFlags((item->flags() | Qt::ItemIsEditable) & ~Qt::ItemIsDragEnabled & ~Qt::ItemIsDropEnabled);
    item->setData(NEW_FLAG, 1);
    QFont font = item->font();
    font.setItalic(true);
    item->setFont(font);
    item->setIcon(QIcon(":/img/icon_plus.png"));
    ui->modesList->addItem(item);
}
```

Here is the caller graph for this function:

12.39.3.2 void KbWidget::devUpdate ( ) [private],[slot]

Definition at line 300 of file kbwidget.cpp.

References device, Kb::firmware, Ui_KbWidget::fwLabel, Ui_KbWidget::pollLabel, Kb::pollrate, Ui_KbWidget::serialLabel, ui, and Kb::usbSerial.

Referenced by KbWidget().

```
                        {
    // Update device tab
    ui->serialLabel->setText(device->usbSerial);
    ui->fwLabel->setText(device->firmware);
    ui->pollLabel->setText(device->pollrate);
}
```

Here is the caller graph for this function:

12.39.3.3 void KbWidget::modeChanged (bool *spontaneous* = true) [private],[slot]

Definition at line 148 of file kbwidget.cpp.

References Ui_KbWidget::bindWidget, Kb::currentBind(), Kb::currentLight(), currentMode, Kb::currentMode(), Kb::currentPerf(), Kb::currentProfile(), device, KbProfile::indexOf(), Ui_KbWidget::kPerfWidget, Ui_KbWidget::lightWidget, Ui_KbWidget::modesList, modeUpdate(), Ui_KbWidget::mPerfWidget, KbBindWidget::setBind(), KbLightWidget::setLight(), KPerfWidget::setPerf(), MPerfWidget::setPerf(), and ui.

Referenced by KbWidget(), and on_modesList_customContextMenuRequested().

```
                                        {
    int index = device->currentProfile()->indexOf(device->currentMode());
    if(index < 0)
        return;
    // Update tabs
    ui->lightWidget->setLight(device->currentLight());
    ui->bindWidget->setBind(device->currentBind(), device->currentProfile());
    ui->kPerfWidget->setPerf(device->currentPerf(), device->currentProfile());
    ui->mPerfWidget->setPerf(device->currentPerf(), device->currentProfile());
    // Update selection
    if(spontaneous)
        ui->modesList->setCurrentRow(index);
    // Connect signals
    if(currentMode)
        disconnect(currentMode, SIGNAL(updated()), this, SLOT(modeUpdate()));
    currentMode = device->currentMode();
    connect(currentMode, SIGNAL(updated()), this, SLOT(modeUpdate()));
    modeUpdate();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.4 QIcon KbWidget::modeIcon (int *i*) [private],[slot]

Definition at line 127 of file kbwidget.cpp.

References Kb::currentProfile(), device, Kb::hwModeCount, and Kb::hwProfile().

Referenced by modesList_reordered(), and profileChanged().

```
127                                 {
128     KbProfile* currentProfile = device->currentProfile(), *hwProfile =
      device->hwProfile();
129     int hwModeCount = device->hwModeCount;
130     if(i >= hwModeCount)
131         return QIcon(":/img/icon_mode.png");
132     else
133         return QIcon(QString(currentProfile == hwProfile ? ":/img/icon_mode%1_hardware.png" : "
      :/img/icon_mode%1.png").arg(i + 1));
134 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.5 void KbWidget::modesList_reordered ( ) [private],[slot]

Definition at line 177 of file kbwidget.cpp.

References Kb::currentProfile(), device, KbProfile::find(), GUID, modeIcon(), KbProfile::modes(), Ui_KbWidget::modesList, NEW_FLAG, and ui.

Referenced by KbWidget().

```
177                                 {
178     KbProfile* currentProfile = device->currentProfile();
179     // Rebuild mode list from items
180     QList<KbMode*> newModes;
181     int count = ui->modesList->count();
182     for(int i = 0; i < count; i++){
183         QListWidgetItem* item = ui->modesList->item(i);
184         KbMode* mode = currentProfile->find(item->data(GUID).toUuid());
185         if(mode && !newModes.contains(mode))
186             newModes.append(mode);
187         if(item->data(NEW_FLAG).toInt() != 1)
188             item->setIcon(modeIcon(i));
189         item->setFlags(item->flags() | Qt::ItemIsEditable);
190     }
191     // Add any missing modes at the end of the list
192     foreach(KbMode* mode, currentProfile->modes()){
193         if(!newModes.contains(mode))
194             newModes.append(mode);
195     }
196     currentProfile->modes(newModes);
197 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.6 void KbWidget::modeUpdate ( ) [private],[slot]

Definition at line 307 of file kbwidget.cpp.

Referenced by modeChanged().

```
307                         {
308 }
```

Here is the caller graph for this function:

12.39.3.7 QString KbWidget::name ( ) const [inline]

Definition at line 25 of file kbwidget.h.

References device, and Kb::usbModel.

Referenced by MainWindow::addDevice().

```
25 { return device->usbModel; }
```

Here is the caller graph for this function:

12.39.3.8 void KbWidget::on_fwUpdButton_clicked ( ) [private],[slot]

Definition at line 339 of file kbwidget.cpp.

References device, FwUpgradeDialog::exec(), Kb::features, Kb::firmware, Ui_KbWidget::fwUpdButton, KbFirmware::hasDownloaded(), ui, updateFwButton(), and KbFirmware::versionForBoard().

Referenced by showFwUpdate().

```
339                                     {
340     // If alt is pressed, ignore upgrades and go straight to the manual prompt
341     if(!(qApp->keyboardModifiers() & Qt::AltModifier)){
342         // Check version numbers
343         if(!KbFirmware::hasDownloaded()){
344             ui->fwUpdButton->setText("Checking...");
345             ui->fwUpdButton->setEnabled(false);
346         }
347         float newVersion = KbFirmware::versionForBoard(
    device->features, true);
348         float oldVersion = device->firmware.toFloat();
349         ui->fwUpdButton->setEnabled(true);
350         updateFwButton();
351         if(newVersion == -1.f){
352             QMessageBox::information(this, "Firmware update", "<center>There is a new firmware available
     for this device.<br />However, it requires a newer version of ckb.<br />Please upgrade ckb and try
     again.</center>");
353             return;
354         } else if(newVersion == 0.f){
355             if(QMessageBox::question(this, "Firmware update", "<center>There was a problem getting the
     status for this device.<br />Would you like to select a file manually?</center>") != QMessageBox::Yes)
356                 return;
357             // "Yes" -> fall through to browse file
358         } else if(newVersion <= oldVersion){
359             if(QMessageBox::question(this, "Firmware update", "<center>Your firmware is already up to
     date.<br />Would you like to select a file manually?</center>") != QMessageBox::Yes)
360                 return;
361             // "Yes" -> fall through to browse file
362         } else {
363             // Automatic upgrade. Fetch file from web.
364             // FwUpgradeDialog can't be parented to KbWidget because KbWidget may be deleted before the
     dialog exits
365             FwUpgradeDialog dialog(parentWidget(), newVersion, "",
    device);
366             dialog.exec();
367             return;
368         }
369     }
370     // Browse for file
371     QString path = QFileDialog::getOpenFileName(this, "Select firmware file",
    QStandardPaths::writableLocation(QStandardPaths::DownloadLocation), "Firmware blobs (*.bin)");
372     if(path.isEmpty())
373         return;
374     QFile file(path);
375     if(!file.open(QIODevice::ReadOnly)){
376         QMessageBox::warning(parentWidget(), "Error", "<center>File could not be read.</center>");
377         return;
378     }
379     QByteArray blob = file.readAll();
380     FwUpgradeDialog dialog(parentWidget(), 0.f, blob, device);
381     dialog.exec();
382 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.9 void KbWidget::on_hwSaveButton_clicked ( ) [private], [slot]

Definition at line 310 of file kbwidget.cpp.

References device, Kb::hwSave(), profileChanged(), Kb::save(), and updateProfileList().

```
310                                     {
311     device->save();
312     device->hwSave();
313     updateProfileList();
314     profileChanged();
315 }
```

Here is the call graph for this function:

12.39.3.10 void KbWidget::on_modesList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private],[slot]

Definition at line 168 of file kbwidget.cpp.

References Kb::currentProfile(), device, KbProfile::find(), GUID, and Kb::setCurrentMode().

```
168                                                                                                                                {
169     if(!current)
170         return;
171     KbMode* mode = device->currentProfile()->find(
      current->data(GUID).toUuid());
172     if(!mode)
173         return;
174     device->setCurrentMode(mode, false);
175 }
```

Here is the call graph for this function:

12.39.3.11 void KbWidget::on_modesList_customContextMenuRequested (const QPoint & *pos*) [private], [slot]

Parameters

pos	Opens on right click in the profiles list a context sensitive menue at position pos.

When clicking on a command it is located and executed.

Definition at line 236 of file kbwidget.cpp.

References currentMode, Kb::currentProfile(), device, UsbId::guid, GUID, Kb::hwModeCount, KbMode::id(), KbProfile::indexOf(), KbProfile::insert(), modeChanged(), KbProfile::modeCount(), KbProfile::modes(), Ui_KbWidget::modesList, KbMode::newId(), Kb::newMode(), profileChanged(), KbProfile::removeAll(), Kb::setCurrentMode(), and ui.

```
236                                                                                 {
237     QListWidgetItem* item = ui->modesList->itemAt(pos);
238     if(!item || !currentMode || item->data(GUID).toUuid() !=
    currentMode->id().guid)
239         return;
240     KbProfile* currentProfile = device->currentProfile();
241     int index = currentProfile->indexOf(currentMode);
242
243     QMenu menu(this);
244     QAction* rename = new QAction("Rename...", this);
245     QAction* duplicate = new QAction("Duplicate", this);
246     QAction* del = new QAction("Delete", this);
247     bool canDelete = (device->currentProfile()->modeCount() >
    device->hwModeCount);
248     if(!canDelete)
249         // Can't delete modes if they're required by hardware
250         del->setEnabled(false);
251     QAction* moveup = new QAction("Move Up", this);
252     if(index == 0)
253         moveup->setEnabled(false);
254     QAction* movedown = new QAction("Move Down", this);
255     if(index >= currentProfile->modeCount() - 1)
256         movedown->setEnabled(false);
257     menu.addAction(rename);
258     menu.addAction(duplicate);
259     menu.addAction(del);
260     menu.addSeparator();
261     menu.addAction(moveup);
262     menu.addAction(movedown);
263     QAction* result = menu.exec(QCursor::pos());
264     if(result == rename){
265         ui->modesList->editItem(item);
266     } else if(result == duplicate){
267         KbMode* newMode = device->newMode(currentMode);
268         newMode->newId();
269         currentProfile->insert(index + 1, newMode);
270         // Update UI
271         profileChanged();
272         device->setCurrentMode(newMode);
273     } else if(result == del){
274         if(!canDelete)
275             return;
276         currentProfile->removeAll(currentMode);
277         currentMode->deleteLater();
```

```
        currentMode = 0;
        // Select next mode
        profileChanged();
        if(index < currentProfile->modeCount())
            device->setCurrentMode(currentProfile->modes()[index]);
        else
            device->setCurrentMode(currentProfile->modes().last());
    } else if(result == moveup){
        currentProfile->removeAll(currentMode);
        currentProfile->insert(index - 1, currentMode);
        // Update UI
        profileChanged();
        modeChanged(true);
    } else if(result == movedown){
        currentProfile->removeAll(currentMode);
        currentProfile->insert(index + 1, currentMode);
        // Update UI
        profileChanged();
        modeChanged(true);
    }
}
```

Here is the call graph for this function:

12.39.3.12 void KbWidget::on_modesList_itemChanged (QListWidgetItem * *item*) [private],[slot]

Definition at line 199 of file kbwidget.cpp.

References currentMode, UsbId::guid, GUID, KbMode::id(), and KbMode::name().

```
199                                                                 {
200     if(!item || !currentMode || item->data(GUID).toUuid() !=
      currentMode->id().guid)
201         return;
202     currentMode->name(item->text());
203     // Set the text to the actual name (trimmed, "" replaced with "Unnamed")
204     item->setText(currentMode->name());
205 }
```

Here is the call graph for this function:

12.39.3.13 void KbWidget::on_modesList_itemClicked (QListWidgetItem * *item*) [private],[slot]

Definition at line 207 of file kbwidget.cpp.

References addNewModeItem(), KbProfile::append(), Kb::currentProfile(), device, UsbId::guid, GUID, KbMode::id(), Ui_KbWidget::modesList, NEW_FLAG, Kb::newMode(), Kb::setCurrentMode(), and ui.

```
207                                                                 {
208     QUuid guid = item->data(GUID).toUuid();
209     if(guid.isNull() && item->data(NEW_FLAG).toInt() == 1){
210         // "New mode" item. Clear text and start editing
211         item->setText("");
212         ui->modesList->editItem(item);
213         item->setFlags(item->flags() | Qt::ItemIsEditable | Qt::ItemIsDragEnabled | Qt::ItemIsDropEnabled);
214         QFont font = item->font();
215         font.setItalic(false);
216         item->setFont(font);
217         item->setIcon(QIcon(":/img/icon_mode.png"));
218         // Add the new mode and assign it to this item
219         KbMode* newMode = device->newMode();
220         device->currentProfile()->append(newMode);
221         item->setData(GUID, newMode->id().guid);
222         item->setData(NEW_FLAG, 0);
223         device->setCurrentMode(newMode, false);
224         // Create another "new mode" item to replace this one
225         addNewModeItem();
226     }
227 }
```

Here is the call graph for this function:

12.39.3.14 void KbWidget::on_profileBox_activated (int *index*) [private],[slot]

Definition at line 113 of file kbwidget.cpp.

References device, Kb::profiles(), Kb::setCurrentProfile(), and updateProfileList().

```
113                                                 {
114     if(index < 0)
115         return;
116     if(index >= device->profiles().count()){
117         // "Manage profiles" option
118         KbProfileDialog dialog(this);
119         dialog.exec();
120         updateProfileList();
121         return;
122     }
123     device->setCurrentProfile(device->profiles()[index]);
124     // Device will emit profileChanged() and modeChanged() signals to update UI
125 }
```

Here is the call graph for this function:

12.39.3.15 void KbWidget::on_tabWidget_currentChanged (int *index*) [private],[slot]

Definition at line 317 of file kbwidget.cpp.

References device, Ui_KbWidget::tabWidget, ui, and updateFwButton().

```
317                                                 {
318     if(!device)
319         return;
320     if(index == ui->tabWidget->count() - 1){
321         // Device tab
```

```
        updateFwButton();
    }
}
```

Here is the call graph for this function:

12.39.3.16 void KbWidget::profileChanged ( ) [private],[slot]

Definition at line 91 of file kbwidget.cpp.

References addNewModeItem(), current, currentMode, Kb::currentProfile(), device, UsbId::guid, GUID, KbMode::id(), modeIcon(), KbProfile::modes(), Ui_KbWidget::modesList, KbMode::name(), and ui.

Referenced by KbWidget(), on_hwSaveButton_clicked(), and on_modesList_customContextMenuRequested().

```
91                              {
92     // Rebuild mode list
93     ui->modesList->clear();
94     int i = 0;
95     QListWidgetItem* current = 0;
96     foreach(KbMode* mode, device->currentProfile()->modes()){
97         QListWidgetItem* item = new QListWidgetItem(modeIcon(i), mode->name(), ui->modesList);
98         item->setData(GUID, mode->id().guid);
99         item->setFlags(item->flags() | Qt::ItemIsEditable);
100         if(mode == currentMode){
101             item->setSelected(true);
102             current = item;
103         }
104         ui->modesList->addItem(item);
105         i++;
106     }
107     if(current)
108         ui->modesList->setCurrentItem(current);
109     addNewModeItem();
110     // Wait for modeChanged() to refresh the rest of the UI
111 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.17 void KbWidget::showFirstTab ( ) [slot]

Definition at line 64 of file kbwidget.cpp.

References Ui_KbWidget::tabWidget, and ui.

```
64                              {
65     ui->tabWidget->setCurrentIndex(0);
66 }
```

12.39.3.18 void KbWidget::showFwUpdate ( ) [inline],[slot]

Definition at line 38 of file kbwidget.h.

References on_fwUpdButton_clicked().

Referenced by MainWindow::showFwUpdateNotification().

```
38 { on_fwUpdButton_clicked(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.19 void KbWidget::showLastTab ( ) [slot]

Definition at line 68 of file kbwidget.cpp.

References Ui_KbWidget::tabWidget, and ui.

Referenced by MainWindow::showFwUpdateNotification().

```
68                          {
69     ui->tabWidget->setCurrentIndex(ui->tabWidget->count() - 1);
70 }
```

Here is the caller graph for this function:

12.39.3.20 void KbWidget::updateFwButton ( )

Definition at line 326 of file kbwidget.cpp.

References device, Kb::features, Kb::firmware, Ui_KbWidget::fwUpdButton, KbFirmware::hasDownloaded(), ui, and KbFirmware::versionForBoard().

Referenced by MainWindow::checkFwUpdates(), on_fwUpdButton_clicked(), and on_tabWidget_currentChanged().

```
                                {
    if(!KbFirmware::hasDownloaded())
        ui->fwUpdButton->setText("Check for updates");
    else {
        float newVersion = KbFirmware::versionForBoard(device->features);
        float oldVersion = device->firmware.toFloat();
        if(newVersion <= 0.f || newVersion <= oldVersion)
            ui->fwUpdButton->setText("Up to date");
        else
            ui->fwUpdButton->setText(tr("Upgrade to v%1").arg(QString::number(newVersion, 'f', 2)));
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.3.21 void KbWidget::updateProfileList ( ) [private],[slot]

Definition at line 73 of file kbwidget.cpp.

References Kb::currentProfile(), device, Kb::hwProfile(), KbProfile::name(), Ui_KbWidget::profileBox, Kb::profiles(), and ui.

Referenced by KbWidget(), on_hwSaveButton_clicked(), and on_profileBox_activated().

```
                                {
    // Clear profile list and rebuild
    KbProfile* hwProfile = device->hwProfile(), *currentProfile = device->currentProfile();
    ui->profileBox->clear();
    int i = 0;
    foreach(KbProfile* profile, device->profiles()){
        ui->profileBox->addItem((profile == hwProfile) ? QIcon(":/img/icon_profile_hardware.png") : QIcon(":/img/icon_profile.png"),
                                profile->name());
        if(profile == currentProfile)
            ui->profileBox->setCurrentIndex(i);
        i++;
    }
```

```
    ui->profileBox->addItem(QIcon(":/img/icon_blank.png"), "Manage profiles...");
    QFont font = ui->profileBox->font();
    font.setItalic(true);
    ui->profileBox->setItemData(ui->profileBox->count() - 1, font, Qt::FontRole);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.39.4 Field Documentation

12.39.4.1 KbMode* KbWidget::currentMode [private]

Definition at line 44 of file kbwidget.h.

Referenced by modeChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemChanged(), and profileChanged().

12.39.4.2 Kb* KbWidget::device

Definition at line 24 of file kbwidget.h.

Referenced by MainWindow::addDevice(), MainWindow::checkFwUpdates(), devUpdate(), KbWidget(), modeChanged(), modeIcon(), modesList_reordered(), name(), on_fwUpdButton_clicked(), on_hwSaveButton_clicked(), on_modesList_currentItemChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemClicked(), on_profileBox_activated(), on_tabWidget_currentChanged(), profileChanged(), MainWindow::removeDevice(), MainWindow::showFwUpdateNotification(), updateFwButton(), and updateProfileList().

12.39.4.3 const int KbWidget::GUID = Qt::UserRole [static], [private]

Definition at line 46 of file kbwidget.h.

Referenced by modesList_reordered(), on_modesList_currentItemChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemChanged(), on_modesList_itemClicked(), and profileChanged().

12.39.4.4 bool KbWidget::hasShownNewFW

Definition at line 28 of file kbwidget.h.

Referenced by MainWindow::checkFwUpdates().

12.39.4.5 quint64 KbWidget::lastAutoSave [private]

Definition at line 42 of file kbwidget.h.

12.39.4.6 const int KbWidget::NEW_FLAG = Qt::UserRole + 1 [static], [private]

Definition at line 47 of file kbwidget.h.

Referenced by addNewModeItem(), modesList_reordered(), and on_modesList_itemClicked().

12.39.4.7 Ui::KbWidget* KbWidget::ui [private]

Definition at line 41 of file kbwidget.h.

Referenced by addNewModeItem(), devUpdate(), KbWidget(), modeChanged(), modesList_reordered(), on_fwUpdButton_clicked(), on_modesList_customContextMenuRequested(), on_modesList_itemClicked(), on_tabWidget_currentChanged(), profileChanged(), showFirstTab(), showLastTab(), updateFwButton(), updateProfileList(), and ~KbWidget().

The documentation for this class was generated from the following files:

- src/ckb/kbwidget.h
- src/ckb/kbwidget.cpp

12.40 Ui::KbWidget Class Reference

```
#include <src/ckb/ui_kbwidget.h>
```

Inheritance diagram for Ui::KbWidget:

Collaboration diagram for Ui::KbWidget:

Public Member Functions

- void setupUi (QWidget *KbWidget)
- void retranslateUi (QWidget *KbWidget)

Data Fields

- QGridLayout * gridLayout
- QComboBox * profileBox
- QTabWidget * tabWidget
- QWidget * lightTab
- QGridLayout * gridLayout_2
- KbLightWidget * lightWidget
- QLabel * label_3
- QWidget * bindTab
- QGridLayout * gridLayout_5
- KbBindWidget * bindWidget
- QWidget * kPerfTab
- QGridLayout * gridLayout_4
- KPerfWidget * kPerfWidget
- QWidget * mPerfTab
- QGridLayout * gridLayout_7
- MPerfWidget * mPerfWidget
- QWidget * devTab
- QGridLayout * gridLayout_3
- QLabel * fwUpdLabel
- QSpacerItem * verticalSpacer
- QLabel * fwLabel
- QLabel * label_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_9
- QLabel * serialLabel
- QHBoxLayout * fwUpdLayout
- QPushButton * fwUpdButton
- QSpacerItem * horizontalSpacer_3
- QLabel * pollLabel2
- QLabel * pollLabel
- RListWidget * modesList
- QPushButton * hwSaveButton

12.40.1 Detailed Description

Definition at line 291 of file ui_kbwidget.h.

12.40.2 Member Function Documentation

12.40.2.1 void Ui_KbWidget::retranslateUi (QWidget * *KbWidget*) [inline],[inherited]

Definition at line 268 of file ui_kbwidget.h.

References Ui_KbWidget::bindTab, Ui_KbWidget::devTab, Ui_KbWidget::fwLabel, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::hwSaveButton, Ui_KbWidget::kPerfTab, Ui_KbWidget::label_3, Ui_KbWidget::label_4, Ui_KbWidget::label_9, Ui_KbWidget::lightTab, Ui_KbWidget::mPerfTab, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, Ui_KbWidget::serialLabel, and Ui_KbWidget::tabWidget.

Referenced by Ui_KbWidget::setupUi().

```
    {
        KbWidget->setWindowTitle(QApplication::translate("KbWidget", "Form", Q_NULLPTR));
        label_3->setText(QApplication::translate("KbWidget", "Tip: Drag+drop items to reorder. Right-click for menu.", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(lightTab), QApplication::translate("KbWidget", "Lighting", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(bindTab), QApplication::translate("KbWidget", "Binding", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(kPerfTab), QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(mPerfTab), QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
        fwUpdLabel->setText(QApplication::translate("KbWidget", "Status:", Q_NULLPTR));
        fwLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        label_4->setText(QApplication::translate("KbWidget", "USB device ID:", Q_NULLPTR));
        label_9->setText(QApplication::translate("KbWidget", "Firmware version:", Q_NULLPTR));
        serialLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        fwUpdButton->setText(QApplication::translate("KbWidget", "Check for updates", Q_NULLPTR));
        pollLabel2->setText(QApplication::translate("KbWidget", "Poll rate:", Q_NULLPTR));
        pollLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(devTab), QApplication::translate("KbWidget", "Device", Q_NULLPTR));
        hwSaveButton->setText(QApplication::translate("KbWidget", "Save to hardware", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.40.2.2 void Ui_KbWidget::setupUi (QWidget * *KbWidget*) [inline], [inherited]

Definition at line 69 of file ui_kbwidget.h.

References Ui_KbWidget::bindTab, Ui_KbWidget::bindWidget, Ui_KbWidget::devTab, Ui_KbWidget::fwLabel, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::fwUpdLayout, Ui_KbWidget::gridLayout, Ui_KbWidget::gridLayout_2, Ui_KbWidget::gridLayout_3, Ui_KbWidget::gridLayout_4, Ui_KbWidget::gridLayout_5, Ui_KbWidget::gridLayout_7, Ui_KbWidget::horizontalSpacer_2, Ui_KbWidget::horizontalSpacer_3, Ui_KbWidget::hwSaveButton, Ui_KbWidget::kPerfTab, Ui_KbWidget::kPerfWidget, Ui_KbWidget::label_3, Ui_KbWidget::label_4, Ui_KbWidget::label_9, Ui_KbWidget::lightTab, Ui_KbWidget::lightWidget, Ui_KbWidget::modesList, Ui_KbWidget::mPerfTab, Ui_KbWidget::mPerfWidget, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, Ui_KbWidget::profileBox, Ui_KbWidget::retranslateUi(), Ui_KbWidget::serialLabel, Ui_KbWidget::tabWidget, and Ui_KbWidget::verticalSpacer.

Referenced by KbWidget::KbWidget().

```
    {
        if (KbWidget->objectName().isEmpty())
            KbWidget->setObjectName(QStringLiteral("KbWidget"));
        KbWidget->resize(773, 539);
        gridLayout = new QGridLayout(KbWidget);
        gridLayout->setSpacing(9);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        gridLayout->setContentsMargins(9, -1, 9, 9);
        profileBox = new QComboBox(KbWidget);
        profileBox->setObjectName(QStringLiteral("profileBox"));
        QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(18);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
        profileBox->setSizePolicy(sizePolicy);
        profileBox->setIconSize(QSize(24, 24));

        gridLayout->addWidget(profileBox, 0, 0, 1, 1);

```

```
        tabWidget = new QTabWidget(KbWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(82);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy1);
        lightTab = new QWidget();
        lightTab->setObjectName(QStringLiteral("lightTab"));
        gridLayout_2 = new QGridLayout(lightTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
         gridLayout_2->setHorizontalSpacing(0);
         gridLayout_2->setVerticalSpacing(6);
         gridLayout_2->setContentsMargins(6, 6, 6, 6);
         lightWidget = new KbLightWidget(lightTab);
         lightWidget->setObjectName(QStringLiteral("lightWidget"));
         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Expanding);
         sizePolicy2.setHorizontalStretch(0);
         sizePolicy2.setVerticalStretch(0);
         sizePolicy2.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
         lightWidget->setSizePolicy(sizePolicy2);

         gridLayout_2->addWidget(lightWidget, 0, 0, 1, 1);

         label_3 = new QLabel(lightTab);
         label_3->setObjectName(QStringLiteral("label_3"));
         QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Minimum);
         sizePolicy3.setHorizontalStretch(0);
         sizePolicy3.setVerticalStretch(0);
         sizePolicy3.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
         label_3->setSizePolicy(sizePolicy3);

         gridLayout_2->addWidget(label_3, 1, 0, 1, 1);

         tabWidget->addTab(lightTab, QString());
         bindTab = new QWidget();
         bindTab->setObjectName(QStringLiteral("bindTab"));
         gridLayout_5 = new QGridLayout(bindTab);
         gridLayout_5->setSpacing(0);
         gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
         gridLayout_5->setContentsMargins(6, 6, 6, 6);
         bindWidget = new KbBindWidget(bindTab);
         bindWidget->setObjectName(QStringLiteral("bindWidget"));
         sizePolicy2.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
         bindWidget->setSizePolicy(sizePolicy2);

         gridLayout_5->addWidget(bindWidget, 0, 0, 1, 1);

         tabWidget->addTab(bindTab, QString());
         kPerfTab = new QWidget();
         kPerfTab->setObjectName(QStringLiteral("kPerfTab"));
         gridLayout_4 = new QGridLayout(kPerfTab);
         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
         gridLayout_4->setContentsMargins(6, 6, 6, 6);
         kPerfWidget = new KPerfWidget(kPerfTab);
         kPerfWidget->setObjectName(QStringLiteral("kPerfWidget"));

         gridLayout_4->addWidget(kPerfWidget, 0, 0, 1, 1);

         tabWidget->addTab(kPerfTab, QString());
         mPerfTab = new QWidget();
         mPerfTab->setObjectName(QStringLiteral("mPerfTab"));
         gridLayout_7 = new QGridLayout(mPerfTab);
         gridLayout_7->setObjectName(QStringLiteral("gridLayout_7"));
         gridLayout_7->setContentsMargins(6, 6, 6, 6);
         mPerfWidget = new MPerfWidget(mPerfTab);
         mPerfWidget->setObjectName(QStringLiteral("mPerfWidget"));

         gridLayout_7->addWidget(mPerfWidget, 0, 0, 1, 1);

         tabWidget->addTab(mPerfTab, QString());
         devTab = new QWidget();
         devTab->setObjectName(QStringLiteral("devTab"));
         gridLayout_3 = new QGridLayout(devTab);
         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
         gridLayout_3->setContentsMargins(6, 6, 6, 6);
         fwUpdLabel = new QLabel(devTab);
         fwUpdLabel->setObjectName(QStringLiteral("fwUpdLabel"));
         fwUpdLabel->setMinimumSize(QSize(0, 34));

         gridLayout_3->addWidget(fwUpdLabel, 4, 0, 1, 1);

         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

         gridLayout_3->addItem(verticalSpacer, 6, 2, 1, 1);

```

```
        fwLabel = new QLabel(devTab);
        fwLabel->setObjectName(QStringLiteral("fwLabel"));
        fwLabel->setCursor(QCursor(Qt::IBeamCursor));
        fwLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|Qt::TextSelectableByMouse);

        gridLayout_3->addWidget(fwLabel, 2, 2, 1, 1);

        label_4 = new QLabel(devTab);
        label_4->setObjectName(QStringLiteral("label_4"));
        label_4->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(label_4, 0, 0, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(40, 1, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_2, 2, 1, 1, 1);

        label_9 = new QLabel(devTab);
        label_9->setObjectName(QStringLiteral("label_9"));
        label_9->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(label_9, 2, 0, 1, 1);

        serialLabel = new QLabel(devTab);
        serialLabel->setObjectName(QStringLiteral("serialLabel"));
        serialLabel->setCursor(QCursor(Qt::IBeamCursor));
        serialLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
Qt::TextSelectableByMouse);

        gridLayout_3->addWidget(serialLabel, 0, 2, 1, 1);

        fwUpdLayout = new QHBoxLayout();
        fwUpdLayout->setObjectName(QStringLiteral("fwUpdLayout"));
        fwUpdButton = new QPushButton(devTab);
        fwUpdButton->setObjectName(QStringLiteral("fwUpdButton"));

        fwUpdLayout->addWidget(fwUpdButton);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
QSizePolicy::Minimum);

        fwUpdLayout->addItem(horizontalSpacer_3);


        gridLayout_3->addLayout(fwUpdLayout, 4, 2, 1, 1);

        pollLabel2 = new QLabel(devTab);
        pollLabel2->setObjectName(QStringLiteral("pollLabel2"));
        pollLabel2->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(pollLabel2, 1, 0, 1, 1);

        pollLabel = new QLabel(devTab);
        pollLabel->setObjectName(QStringLiteral("pollLabel"));

        gridLayout_3->addWidget(pollLabel, 1, 2, 1, 1);

        tabWidget->addTab(devTab, QString());

        gridLayout->addWidget(tabWidget, 0, 1, 3, 1);

        modesList = new RListWidget(KbWidget);
        modesList->setObjectName(QStringLiteral("modesList"));
        QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy4.setHorizontalStretch(18);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
        modesList->setSizePolicy(sizePolicy4);
        modesList->setContextMenuPolicy(Qt::CustomContextMenu);
        modesList->setFrameShadow(QFrame::Plain);
        modesList->setDragDropMode(QAbstractItemView::InternalMove);
        modesList->setIconSize(QSize(24, 24));
        modesList->setMovement(QListView::Snap);

        gridLayout->addWidget(modesList, 1, 0, 1, 1);

        hwSaveButton = new QPushButton(KbWidget);
        hwSaveButton->setObjectName(QStringLiteral("hwSaveButton"));
        QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy5.setHorizontalStretch(18);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
        hwSaveButton->setSizePolicy(sizePolicy5);

        gridLayout->addWidget(hwSaveButton, 2, 0, 1, 1);

```

```

        retranslateUi(KbWidget);

        tabWidget->setCurrentIndex(0);


        QMetaObject::connectSlotsByName(KbWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.40.3 Field Documentation

12.40.3.1 QWidget* Ui_KbWidget::bindTab [inherited]

Definition at line 43 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.2 KbBindWidget* Ui_KbWidget::bindWidget [inherited]

Definition at line 45 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.3 QWidget* Ui_KbWidget::devTab [inherited]

Definition at line 52 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.4 QLabel* Ui_KbWidget::fwLabel [inherited]

Definition at line 56 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.5 QPushButton* Ui_KbWidget::fwUpdButton [inherited]

Definition at line 62 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), Ui_KbWidget::retranslateUi(), Ui_KbWidget::setupUi(), and KbWidget::updateFwButton().

12.40.3.6 QLabel* Ui_KbWidget::fwUpdLabel [inherited]

Definition at line 54 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.7 QHBoxLayout* Ui_KbWidget::fwUpdLayout [inherited]

Definition at line 61 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), and Ui_KbWidget::setupUi().

12.40.3.8 QGridLayout* Ui_KbWidget::gridLayout [inherited]

Definition at line 36 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.9 QGridLayout* Ui_KbWidget::gridLayout_2 [inherited]

Definition at line 40 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.10 QGridLayout* Ui_KbWidget::gridLayout_3 [inherited]

Definition at line 53 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.11 QGridLayout* Ui_KbWidget::gridLayout_4 [inherited]

Definition at line 47 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.12 QGridLayout* Ui_KbWidget::gridLayout_5 [inherited]

Definition at line 44 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.13 QGridLayout* Ui_KbWidget::gridLayout_7 [inherited]

Definition at line 50 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.14 QSpacerItem* Ui_KbWidget::horizontalSpacer_2 [inherited]

Definition at line 58 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.15 QSpacerItem* Ui_KbWidget::horizontalSpacer_3 [inherited]

Definition at line 63 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.16 QPushButton* Ui_KbWidget::hwSaveButton [inherited]

Definition at line 67 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.17 QWidget* Ui_KbWidget::kPerfTab [inherited]

Definition at line 46 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.18 KPerfWidget* Ui_KbWidget::kPerfWidget [inherited]

Definition at line 48 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.19 QLabel* Ui_KbWidget::label_3 [inherited]

Definition at line 42 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.20 QLabel* Ui_KbWidget::label_4 [inherited]

Definition at line 57 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.21 QLabel* Ui_KbWidget::label_9 [inherited]

Definition at line 59 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.22 QWidget* Ui_KbWidget::lightTab [inherited]

Definition at line 39 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.23 KbLightWidget* Ui_KbWidget::lightWidget [inherited]

Definition at line 41 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.24 RListWidget* Ui_KbWidget::modesList [inherited]

Definition at line 66 of file ui_kbwidget.h.

Referenced by KbWidget::addNewModeItem(), KbWidget::KbWidget(), KbWidget::modeChanged(), KbWidget::modesList_reordered(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), and Ui_KbWidget::setupUi().

12.40.3.25 QWidget* Ui_KbWidget::mPerfTab [inherited]

Definition at line 49 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.26 MPerfWidget* Ui_KbWidget::mPerfWidget [inherited]

Definition at line 51 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.27 QLabel* Ui_KbWidget::pollLabel [inherited]

Definition at line 65 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.28 QLabel* Ui_KbWidget::pollLabel2 [inherited]

Definition at line 64 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.29 QComboBox* Ui_KbWidget::profileBox [inherited]

Definition at line 37 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi(), and KbWidget::updateProfileList().

12.40.3.30 QLabel* Ui_KbWidget::serialLabel [inherited]

Definition at line 60 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.31 QTabWidget* Ui_KbWidget::tabWidget [inherited]

Definition at line 38 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_tabWidget_currentChanged(), Ui_KbWidget::retranslateUi(), Ui_KbWidget::setupUi(), KbWidget::showFirstTab(), and KbWidget::showLastTab().

12.40.3.32 QSpacerItem* Ui_KbWidget::verticalSpacer [inherited]

Definition at line 55 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbwidget.h

12.41 Key Struct Reference

`#include <src/ckb/keymap.h>`

Collaboration diagram for Key:

Public Member Functions

- const char * storageName () const
- QString friendlyName (bool os=true) const
- operator bool () const
- bool operator! () const

Data Fields

- const char * _storageName
- const char * _friendlyName
- const char * name

- short x
- short y
- short width
- short height
- bool hasLed
- bool hasScan

12.41.1 Detailed Description

Definition at line 8 of file keymap.h.

12.41.2 Member Function Documentation

12.41.2.1 QString Key::friendlyName (bool *os* = `true`) const [inline]

Definition at line 23 of file keymap.h.

References _friendlyName, and name.

Referenced by KbBind::friendlyName(), KeyWidget::mouseMoveEvent(), KeyWidget::paintEvent(), RebindWidget::setBind(), and KbBindWidget::updateSelDisplay().

```
23                                                      {
24          if(os){
25  #ifdef Q_OS_MACX
26              if(!strcmp(name, "lwin")) return "Left Cmd";
27              if(!strcmp(name, "rwin")) return "Right Cmd";
28              if(!strcmp(name, "lalt")) return "Left Option";
29              if(!strcmp(name, "ralt")) return "Right Option";
30              if(!strcmp(name, "prtscn")) return "F13";
31              if(!strcmp(name, "scroll")) return "F14";
32              if(!strcmp(name, "pause")) return "F15";
33              if(!strcmp(name, "ins")) return "Help";
34              if(!strcmp(name, "numlock")) return "Clear";
35  #elif defined(Q_OS_LINUX)
36              if(!strcmp(name, "lwin")) return "Left Super";
37              if(!strcmp(name, "rwin")) return "Right Super";
38  #endif
39          }
40          return _friendlyName ? _friendlyName : QString(
        name).toUpper();
41      }
```

Here is the caller graph for this function:

12.41.2.2 Key::operator bool ( ) const [inline]

Definition at line 44 of file keymap.h.

References name.

```
44 { return name != 0; }
```

12.41.2.3 bool Key::operator! ( ) const [inline]

Definition at line 45 of file keymap.h.

```
45 { return !(bool)*this; }
```

12.41.2.4 const char* Key::storageName ( ) const [inline]

Definition at line 11 of file keymap.h.

References _storageName, and name.

Referenced by KeyMap::toStorage().

```
11 { return _storageName ? _storageName : name; }
```

Here is the caller graph for this function:

12.41.3 Field Documentation

12.41.3.1 const char* Key::_friendlyName

Definition at line 13 of file keymap.h.

Referenced by _patch(), and friendlyName().

12.41.3.2 const char* Key::_storageName

Definition at line 10 of file keymap.h.

Referenced by _patch(), and storageName().

12.41.3.3 bool Key::hasLed

Definition at line 19 of file keymap.h.

Referenced by ColorMap::init(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and KeyWidget::selectAll().

12.41.3.4 bool Key::hasScan

Definition at line 20 of file keymap.h.

Referenced by KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and KeyWidget::selectAll().

12.41.3.5 short Key::height

Definition at line 17 of file keymap.h.

Referenced by getMap(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

12.41.3.6 const char* Key::name

Definition at line 14 of file keymap.h.

Referenced by friendlyName(), ColorMap::init(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), operator bool(), KeyWidget::paintEvent(), KeyWidget::selectAll(), and storageName().

12.41.3.7 short Key::width

Definition at line 17 of file keymap.h.

Referenced by getMap(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), patchANSI(), patchJP106(), and patchJP106fn().

12.41.3.8 short Key::x

Definition at line 16 of file keymap.h.

Referenced by AnimScript::begin(), KeyMap::byPosition(), getMap(), AnimScript::keypress(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), patchANSI(), patchJP106(), and patchJP106fn().

12.41.3.9 short Key::y

Definition at line 16 of file keymap.h.

Referenced by AnimScript::begin(), KeyMap::byPosition(), getMap(), AnimScript::keypress(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

The documentation for this struct was generated from the following file:

- src/ckb/keymap.h

12.42 KeyAction Class Reference

```
#include <src/ckb/keyaction.h>
```

Inheritance diagram for KeyAction:

Collaboration diagram for KeyAction:

Public Types

- enum Type { UNBOUND, NORMAL, SPECIAL }

Public Member Functions

- KeyAction (const QString &action, QObject *parent=0)
- QString value () const
- operator QString () const
- KeyAction (QObject *parent=0)
- QString friendlyName (const KeyMap &map) const

- QString driverName () const
- QString macroFullLine () const

  macroFullLine If a macro command and a macro definition exists for the given key, returns the complete string except the leading "$" (the $ may confuse some caller).
- bool isValidMacro () const

  isValidMacro checks whether a keyAction contains a valid macro. This is done easily: If the macro action starts with $macro: and has five elements, delimited by ":", we may assume, that is a structural correct macro action. If it has 4 entries only, it is an older definition and ok also.
- QStringList macroLine () const

  macroLine returns all interresting content for a macro definition.
- QString macroContent () const

  macroContent returns the macro key definition only (the second part of the macro action).
- QString macroTiming () const

  macroTiming returns the macro key definition with original timing infos (the fifth and up to now last part of the macro action). If the implementation does not know anything about delays and has no 5th part, return first part.
- void macroDisplay ()

  Debug output for invalid macro Definitions.
- Type type () const
- bool isUnbound () const
- bool isNormal () const
- bool isSpecial () const
- bool isMedia () const
- bool isProgram () const
- bool isAnim () const
- bool isMacro () const
- bool isDPI () const
- bool isMouse () const
- QString specialInfo (int &parameter) const
- int programInfo (QString &onPress, QString &onRelease) const
- int dpiInfo (QPoint &custom) const
- QUuid animInfo (bool &onlyOnce, bool &stopOnRelease) const
- void keyEvent (KbBind *bind, bool down)
- void keyRelease (KbBind *bind)
- void adjustDisplay ()
- ~KeyAction ()

Static Public Member Functions

- static QString noAction ()
- static QString defaultAction (const QString &key, KeyMap::Model model)
- static QString modeAction (int mode)
- static QString dpiAction (int level, int customX=0, int customY=0)
- static QString lightAction (int type=LIGHT_UP_WRAP)
- static QString lockAction (int type=LOCK_TOGGLE)
- static QString programAction (const QString &onPress, const QString &onRelease, int stop)
- static QString animAction (const QUuid &guid, bool onlyOnce, bool stopOnRelease)
- static QString macroAction (QString macroDef)

  well documented in cpp file

Static Public Attributes

- static const int MODE_PREV = -2
- static const int MODE_NEXT = -1
- static const int MODE_PREV_WRAP = -4
- static const int MODE_NEXT_WRAP = -3
- static const int DPI_CYCLE_UP = -4
- static const int DPI_CYCLE_DOWN = -3
- static const int DPI_UP = -2
- static const int DPI_DOWN = -1
- static const int DPI_SNIPER = 0
- static const int DPI_CUSTOM = 6
- static const int LIGHT_UP = 0
- static const int LIGHT_DOWN = 1
- static const int LIGHT_UP_WRAP = 2
- static const int LIGHT_DOWN_WRAP = 3
- static const int LOCK_TOGGLE = 0
- static const int LOCK_ON = 1
- static const int LOCK_OFF = 2
- static const int PROGRAM_PR_MULTI = 0x04
- static const int PROGRAM_PR_INDEF = 0x00
- static const int PROGRAM_PR_KRSTOP = 0x01
- static const int PROGRAM_PR_KPSTOP = 0x02
- static const int PROGRAM_RE_MULTI = 0x40
- static const int PROGRAM_RE_INDEF = 0x00
- static const int PROGRAM_RE_KPSTOP = 0x20

Private Member Functions

- void operator= (const KeyAction &rhs)

  ccMSC: Don't copy key actions (the old one needs to be deleted first) frickler24: statement left as described, but copying is done in KbBind copy constructor
- KeyAction (const KeyAction &rhs)

Private Attributes

- QString _value
- QProcess * preProgram
- QProcess * relProgram
- quint64 sniperValue

12.42.1 Detailed Description

Definition at line 13 of file keyaction.h.

12.42.2 Member Enumeration Documentation

12.42.2.1 enum KeyAction::Type

Enumerator

UNBOUND

NORMAL

SPECIAL

Definition at line 146 of file keyaction.h.

```
146                 {
147             UNBOUND,
148             NORMAL,
149             SPECIAL,
150         };
```

12.42.3 Constructor & Destructor Documentation

12.42.3.1 KeyAction::KeyAction (const QString & *action*, QObject * *parent* = 0)

Definition at line 22 of file keyaction.cpp.

```
23     : QObject(parent), _value(action), preProgram(0),
      relProgram(0), sniperValue(0)
24 {
25 }
```

12.42.3.2 KeyAction::KeyAction (QObject * *parent* = 0) [explicit]

Definition at line 27 of file keyaction.cpp.

```
28     : QObject(parent), _value(""), preProgram(0),
      relProgram(0), sniperValue(0)
29 {
30 }
```

12.42.3.3 KeyAction::~KeyAction ( )

Definition at line 32 of file keyaction.cpp.

References preProgram, and relProgram.

```
32                     {
33     // Clean up processes
34     if(preProgram){
35         preProgram->kill();
36         delete preProgram;
37     }
38     if(relProgram){
39         relProgram->kill();
40         delete relProgram;
41     }
42 }
```

12.42.3.4 KeyAction::KeyAction (const KeyAction & *rhs*) [inline],[private]

Definition at line 187 of file keyaction.h.

```
187 : QObject() {}
```

12.42.4 Member Function Documentation

12.42.4.1 void KeyAction::adjustDisplay ( )

Definition at line 464 of file keyaction.cpp.

Referenced by keyEvent().

```
464                                 {
465 #ifdef USE_LIBX11
466     // Try to get the current display from the X server
467     char* display_name = XDisplayName(NULL);
468     if(!display_name)
469         return;
470     Display* display = XOpenDisplay(display_name);
471     if(!display)
472         return;
473     char* display_string = DisplayString(display);
474     if(!display_string || strlen(display_string) == 0){
475         XCloseDisplay(display);
476         return;
477     }
478     size_t envstr_size = strlen(display_string) + 4;
479     char* envstr = new char[envstr_size];
480     strncpy(envstr, display_string, envstr_size);
481     envstr[envstr_size - 1] = 0;
482
483     Window root_window = XRootWindow(display, DefaultScreen(display));
484     Window root_window_ret, child_window_ret, window;
485     XWindowAttributes attr;
486     int root_x, root_y, win_x, win_y;
487     unsigned int mask_ret;
488
489     // Find the screen which currently has the mouse
490     XQueryPointer(display, root_window, &root_window_ret, &child_window_ret, &root_x, &root_y, &win_x, &
    win_y, &mask_ret);
491     if(child_window_ret == (Window)NULL)
492         window = root_window_ret;
493     else
494         window = child_window_ret;
495     XGetWindowAttributes(display, window,  &attr);
496
497     char* ptr = strchr(envstr, ':');
498     if(ptr){
499         ptr = strchr(ptr, '.');
500         if(ptr)
501             *ptr = '\0';
502         char buf[16];
503         snprintf(buf, sizeof(buf), ".%i", XScreenNumberOfScreen(attr.screen));
504         strncat(envstr, buf, envstr_size - 1 - strlen(envstr));
505
506         // Update environment variable
507         setenv("DISPLAY", envstr, 1);
508     }
509
510     delete[] envstr;
511     XCloseDisplay(display);
512 #endif
513 }
```

Here is the caller graph for this function:

12.42.4.2 QString KeyAction::animAction (const QUuid & *guid*, bool *onlyOnce*, bool *stopOnRelease*) [static]

Definition at line 184 of file keyaction.cpp.

References ANIM_KRSTOP, and ANIM_ONCE.

Referenced by RebindWidget::applyChanges().

```
184                                                                                 {
185     int flags = (onlyOnce ? ANIM_ONCE : 0) | (stopOnRelease ?
    ANIM_KRSTOP : 0);
186     return "$anim:" + guid.toString() + QString("+%1").arg(flags);
187 }
```

Here is the caller graph for this function:

12.42.4.3 QUuid KeyAction::animInfo (bool & *onlyOnce,* bool & *stopOnRelease*) const

Definition at line 225 of file keyaction.cpp.

References _value, ANIM_KRSTOP, ANIM_ONCE, and isAnim().

Referenced by keyEvent(), and RebindWidget::setSelection().

```
225                                                                     {
226     if(!isAnim())
227         return QUuid();
228     QString param = _value.mid(6);
229     QStringList split = param.split("+");
230     if(split.length() < 2)
231         return QUuid();
232     QUuid id = split[0];
233     int flags = split[1].toInt();
234     onlyOnce = !!(flags & ANIM_ONCE);
235     stopOnRelease = !!(flags & ANIM_KRSTOP);
236     return id;
237 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.4 QString KeyAction::defaultAction (const QString & *key,* KeyMap::Model *model*) [static]

Definition at line 44 of file keyaction.cpp.

References KeyMap::GLAIVE, and KeyMap::HARPOON.

Referenced by KbBind::bindAction(), KbBind::defaultAction(), and KbBind::save().

```
44                                                                  {
45     // G1-G18 are unbound by default
46     if(key.length() >= 2 && key[0] == 'g'
47         && ((key.length() == 2 && key[1] >= '0' && key[1] <= '9')
48         || (key.length() == 3 && key[1] == '1' && key[2] >= '0' && key[2] <= '8')))
49         return "";
50     // So are thumbgrid buttons
51     if(key.startsWith("thumb"))
52         return "";
53     // TODO: default action for MR
54     if(key == "mr")
55         return "";
56     // M1-M3 switch modes
57     if(key == "m1")
58         return "$mode:0";
59     if(key == "m2")
60         return "$mode:1";
61     if(key == "m3")
62         return "$mode:2";
63     // Brightness and Win Lock are their own functions
64     if(key == "light")
65         return "$light:2";
66     if(key == "lock")
67         return "$lock:0";
68     // DPI buttons
69     if(key == "dpiup"){
70         if(model == KeyMap::HARPOON ||
71        model == KeyMap::GLAIVE){
72         return "$dpi:-4";
73         }
74     return "$dpi:-2";
75     }
76     if(key == "dpidn")
77         return "$dpi:-1";
78     if(key == "sniper")
79         return "$dpi:0";
80     // Everything else is a standard keypress
81     return key;
82 }
```

Here is the caller graph for this function:

12.42.4.5 QString KeyAction::dpiAction (int *level*, int *customX* = 0, int *customY* = 0) [static]

Definition at line 162 of file keyaction.cpp.

References DPI_CUSTOM.

Referenced by RebindWidget::applyChanges().

```
162                                                                 {
163     QString action = tr("$dpi:%1").arg(level);
164     if(level == DPI_CUSTOM)
165         action += tr("+%1+%2").arg(customX).arg(customY);
166     return action;
167 }
```

Here is the caller graph for this function:

12.42.4.6 int KeyAction::dpiInfo (QPoint & *custom*) const

Definition at line 211 of file keyaction.cpp.

References _value, DPI_CUSTOM, and isDPI().

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

```
211                                                 {
212     if(!isDPI())
213         return 0;
214     QString param = _value.mid(5);
215     QStringList lxy = param.split("+");
216     int level = lxy[0].toInt();
217     if(level == DPI_CUSTOM){
218         if(lxy.length() != 3)
219             return 0;
220         custom = QPoint(lxy[1].toInt(), lxy[2].toInt());
221     }
222     return level;
223 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.7 QString KeyAction::driverName ( ) const

Definition at line 239 of file keyaction.cpp.

References _value, and isSpecial().

Referenced by KbBind::update().

```
{
    if(isSpecial())
        return "";
    return _value;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.8 QString KeyAction::friendlyName (const KeyMap & *map*) const

Definition at line 84 of file keyaction.cpp.

References _value, DPI_CUSTOM, DPI_CYCLE_DOWN, DPI_CYCLE_UP, DPI_DOWN, DPI_SNIPER, DPI_UP, dpiInfo(), KeyMap::friendlyName(), KeyMap::layout(), LIGHT_DOWN, LIGHT_DOWN_WRAP, LIGHT_UP, LIGHT_UP_WRAP, LOCK_OFF, LOCK_ON, LOCK_TOGGLE, MODE_NEXT, MODE_NEXT_WRAP, MODE_PREV, and MODE_PREV_WRAP.

```
{
    if(_value.isEmpty())
        return "Unbound";
    QStringList parts = _value.split(":");
    QString prefix = parts[0];
    if(parts.length() < 2){
        KeyMap::Layout layout = map.layout();
        QString name = KeyMap::friendlyName(_value, layout);
        if(name.isEmpty())
            return "(Unknown)";
        return name;
    }
    int suffix = parts[1].toInt();
    if(prefix == "$mode"){
        switch(suffix){
        case MODE_PREV:
         case MODE_PREV_WRAP:
             return "Switch to previous mode";
         case MODE_NEXT:
         case MODE_NEXT_WRAP:
             return "Switch to next mode";
         default:
             return tr("Switch to mode %1").arg(suffix + 1);
         }
     } else if(prefix == "$dpi"){
         // Split off custom parameters (if any)
         int level = parts[1].split("+")[0].toInt();
```

```
        switch(level){
        case DPI_CYCLE_UP:
            return "DPI cycle up";
        case DPI_CYCLE_DOWN:
            return "DPI cycle down";
        case DPI_UP:
            return "DPI up";
        case DPI_DOWN:
            return "DPI down";
        case DPI_SNIPER:
            return "Sniper";
        case DPI_CUSTOM:{
            QPoint xy;
            dpiInfo(xy);
            return tr("DPI: %1, %2").arg(xy.x()).arg(xy.y());
        }
        default:
            return tr("DPI stage %1").arg(level);
        }
    } else if(prefix == "$light"){
        switch(suffix){
        case LIGHT_UP:
        case LIGHT_UP_WRAP:
            return "Brightness up";
        case LIGHT_DOWN:
        case LIGHT_DOWN_WRAP:
            return "Brightness down";
        }
    } else if(prefix == "$lock"){
        switch(suffix){
        case LOCK_TOGGLE:
            return "Toggle Windows lock";
        case LOCK_ON:
            return "Windows lock on";
        case LOCK_OFF:
            return "Windows lock off";
        }
    } else if(prefix == "$anim"){
        return "Start animation";
    } else if(prefix == "$program"){
        return "Launch program";
    } else if(prefix == "$macro"){
        return "Send G-key macro";
    }
    return "(Unknown)";
}
```

Here is the call graph for this function:

12.42.4.9 bool KeyAction::isAnim ( ) const [inline]

Definition at line 159 of file keyaction.h.

References _value.

Referenced by animInfo(), and RebindWidget::setSelection().

```
159 { return _value.startsWith("$anim:"); }
```

Here is the caller graph for this function:

12.42.4.10 bool KeyAction::isDPI ( ) const [inline]

Definition at line 162 of file keyaction.h.

References _value.

Referenced by dpiInfo(), isMouse(), and RebindWidget::setSelection().

```
162 { return _value.startsWith("$dpi:"); }
```

Here is the caller graph for this function:

12.42.4.11 bool KeyAction::isMacro ( ) const [inline]

Definition at line 160 of file keyaction.h.

References _value.

Referenced by isValidMacro(), macroDisplay(), and macroFullLine().

```
160 { return _value.startsWith("$macro:"); }
```

Here is the caller graph for this function:

12.42.4.12 bool KeyAction::isMedia ( ) const [inline]

Definition at line 156 of file keyaction.h.

References _value.

```
156 { return _value == "mute" || _value == "volup" || _value == "voldn" ||
      _value == "stop" || _value == "prev" || _value == "play" ||
      _value == "next"; }
```

12.42.4.13 bool KeyAction::isMouse ( ) const [inline]

Definition at line 163 of file keyaction.h.

References _value, isDPI(), and isNormal().

Referenced by RebindWidget::setSelection().

```
163 { return (isNormal() && (_value.startsWith("mouse") || _value.startsWith("wheel"))) ||
      isDPI(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.14 bool KeyAction::isNormal ( ) const [inline]

Definition at line 153 of file keyaction.h.

References NORMAL, and type().

Referenced by isMouse(), and RebindWidget::setSelection().

```
153 { return type() == NORMAL; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.15 bool KeyAction::isProgram ( ) const [inline]

Definition at line 158 of file keyaction.h.

References _value.

Referenced by programInfo(), and RebindWidget::setSelection().

```
158 { return _value.startsWith("$program:"); }
```

Here is the caller graph for this function:

12.42.4.16 bool KeyAction::isSpecial ( ) const [inline]

Definition at line 154 of file keyaction.h.

References SPECIAL, and type().

Referenced by driverName(), keyEvent(), and RebindWidget::setSelection().

```
154 { return type() == SPECIAL; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.17 bool KeyAction::isUnbound ( ) const [inline]

Definition at line 152 of file keyaction.h.

References type(), and UNBOUND.

```
152 { return type() == UNBOUND; }
```

Here is the call graph for this function:

12.42.4.18 bool KeyAction::isValidMacro ( ) const [inline]

Returns

bool as true iff the macro definition contains all four elements.

Definition at line 55 of file keyaction.h.

References _value, and isMacro().

Referenced by macroContent(), macroDisplay(), macroLine(), macroTiming(), RebindWidget::setSelection(), and KbBind::update().

```
                                        {
        if (isMacro()) {
            QStringList ret;
            ret =_value.split(":");
            return ((ret.count() >= 4) && (ret.count() <= 5));
        } else {
            return false;
        }
    }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.19 void KeyAction::keyEvent (KbBind * *bind*, bool *down*)

Definition at line 245 of file keyaction.cpp.

References _value, adjustDisplay(), anim, animInfo(), KbPerf::baseDpiIdx(), KbProfile::currentMode(), Kb::currentProfile(), KbBind::devParent(), KbLight::dimming(), KbPerf::DPI_COUNT, DPI_CUSTOM, DPI_CYCLE_DOWN, DPI_CYCLE_UP, DPI_DOWN, DPI_SNIPER, DPI_UP, KbPerf::dpiCycleDown(), KbPerf::dpiCycleUp(), KbPerf::dpiDown(), dpiInfo(), KbPerf::dpiUp(), KbLight::findAnim(), KbProfile::indexOf(), KbAnim::isActive(), isSpecial(), KbBind::light(), LIGHT_DOWN, LIGHT_DOWN_WRAP, LIGHT_UP, LIGHT_UP_WRAP, LOCK_OFF, LOCK_ON, LOCK_TOGGLE, KbLight::MAX_DIM, MODE_NEXT, MODE_NEXT_WRAP, MODE_PREV, MODE_PREV_WRAP, KbProfile::modeCount(), KbProfile::modes(), KbBind::perf(), KbPerf::popDpi(), preProgram, PROGRAM_PR_KPSTOP, PROGRAM_PR_KRSTOP, PROGRAM_PR_MULTI, PROGRAM_RE_KPSTOP, PROGRAM_RE_MULTI, programInfo(), KbPerf::pushDpi(), KbPerf::pushSniper(), relProgram, Kb::setCurrentMode(), sniperValue, KbAnim::stop(), KbAnim::trigger(), and KbBind::winLock().

Referenced by KbBind::keyEvent().

```
                                        {
    // No need to respond to standard actions
    if(!isSpecial())
        return;
    QStringList parts = _value.split(":");
    if(parts.length() < 2)
        return;
    QString prefix = parts[0];
    int suffix = parts[1].toInt();
    if(prefix == "$mode"){
        if(!down)
            return;
        // Change mode
        Kb* device = bind->devParent();
        KbProfile* currentProfile = device->currentProfile();
```

```
        int mode = currentProfile->indexOf(currentProfile->currentMode());
        int modeCount = currentProfile->modeCount();
        switch(suffix){
        case MODE_PREV_WRAP:
            mode--;
            if(mode < 0)
                mode = modeCount - 1;
            break;
        case MODE_NEXT_WRAP:
            mode++;
            if(mode >= modeCount)
                mode = 0;
            break;
        case MODE_PREV:
            mode--;
            break;
        case MODE_NEXT:
            mode++;
            break;
        default:
            // Absolute
            mode = suffix;
            break;
        }
        if(mode < 0 || mode >= modeCount)
            return;
        device->setCurrentMode(currentProfile->modes()[mode]);
    } else if(prefix == "$dpi"){
        KbPerf* perf = bind->perf();
        int level = parts[1].split("+")[0].toInt();
        switch(level){
        case DPI_CYCLE_UP:
            if(!down)
                return;
            perf->dpiCycleUp();
            break;
        case DPI_CYCLE_DOWN:
            if(!down)
                return;
            perf->dpiCycleDown();
            break;
        case DPI_UP:
            if(!down)
                return;
            perf->dpiUp();
            break;
        case DPI_DOWN:
            if(!down)
                return;
            perf->dpiDown();
            break;
        case DPI_SNIPER:
            if(down)
                sniperValue = perf->pushSniper();
            else {
                perf->popDpi(sniperValue);
                sniperValue = 0;
            }
            break;
        case DPI_CUSTOM:{
            QPoint xy;
            dpiInfo(xy);
            if(xy.x() <= 0 || xy.y() <= 0)
                break;
            if(down)
                sniperValue = perf->pushDpi(xy);
            else {
                perf->popDpi(sniperValue);
                sniperValue = 0;
            }
            break;
        }
        default:
            if(level < 1 || level >= KbPerf::DPI_COUNT
                    || !down)
                return;
            perf->baseDpiIdx(level);
            break;
        }
    } else if(prefix == "$light"){
        if(!down)
            return;
        // Change brightness
        KbLight* light = bind->light();
        int dim = light->dimming();
        switch(suffix){
        case LIGHT_UP:
```

```
            if(dim > 0)
                dim--;
            break;
        case LIGHT_DOWN:
            if(dim < KbLight::MAX_DIM)
                dim++;
            break;
        case LIGHT_UP_WRAP:
            dim--;
            if(dim < 0)
                dim = KbLight::MAX_DIM;
            break;
        case LIGHT_DOWN_WRAP:
            dim++;
            if(dim > KbLight::MAX_DIM)
                dim = 0;
            break;
        }
        light->dimming(dim);
    } else if(prefix == "$lock"){
        if(!down)
            return;
        // Change win lock
        switch(suffix){
        case LOCK_TOGGLE:
            bind->winLock(!bind->winLock());
            break;
        case LOCK_ON:
            bind->winLock(true);
            break;
        case LOCK_OFF:
            bind->winLock(false);
            break;
        }
    } else if(prefix == "$anim"){
        // Start animation
        bool onlyOnce = false, stopOnRelease = false;
        QUuid id = animInfo(onlyOnce, stopOnRelease);
        KbAnim* anim = bind->light()->findAnim(id);
        if(!anim)
            return;
        if(down){
            if(!onlyOnce || !anim->isActive())
                // If "only once" is enabled, don't start the animation when it's already running
                anim->trigger(QDateTime::currentMSecsSinceEpoch(), true);
        } else if(stopOnRelease){
            // Key released - stop animation
            anim->stop();
        }
    } else if(prefix == "$program"){
        // Launch program
        QString onPress, onRelease;
        int stop = programInfo(onPress, onRelease);
        // Stop running programs based on setting
        QProcess* process = 0;
        if(down){
            if(stop & PROGRAM_PR_KPSTOP){
                process = preProgram;
                if(process)
                    process->kill();
                process = 0;
            }
            if(stop & PROGRAM_RE_KPSTOP)
                process = relProgram;
        } else {
            if(stop & PROGRAM_PR_KRSTOP)
                process = preProgram;
        }
        if(process)
            process->kill();
        // Launch new process if requested
        QString& program = down ? onPress : onRelease;
        if(program.isEmpty())
            return;
        // Check if the program is running already. If so, don't start it again.
        process = down ? preProgram : relProgram;
        if(process){
            if(process->state() == QProcess::NotRunning)
                delete process;
            else
                return;
        }

        // Adjust the selected display.
        adjustDisplay();

        // Start the program. Wrap it around sh to parse arguments.
```

```
        if((down && (stop & PROGRAM_PR_MULTI))
                || (!down && (stop & PROGRAM_RE_MULTI))){
            // Multiple instances allowed? Start detached process
            QProcess::startDetached("sh", QStringList() << "-c" << program);
        } else {
            process = new QProcess(this);
            process->start("sh", QStringList() << "-c" << program);
            if(down)
                preProgram = process;
            else
                relProgram = process;
        }
    } else if (prefix == "$macro") {
        // Do nothing, because all work is done by the keyboard itself.
        // For now, there is no reason to react on G-key press or release.
        // If u find some reason, then here is the place for it.
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.20 void KeyAction::keyRelease (KbBind * *bind*)

12.42.4.21 QString KeyAction::lightAction (int *type* = LIGHT_UP_WRAP) [static]

Definition at line 169 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
169                                     {
170     return QString("$light:%1").arg(type);
171 }
```

Here is the caller graph for this function:

12.42.4.22 QString KeyAction::lockAction (int *type* = LOCK_TOGGLE) [static]

Definition at line 173 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
173                                     {
174     return QString("$lock:%1").arg(type);
175 }
```

Here is the caller graph for this function:

12.42.4.23 QString KeyAction::macroAction (QString *macroDef*) [static]

KeyAction::macroAction is called when applying changes on a macro definition. macroAction ist called while being in the macro pane and clicking Apply with something in the Macro Text Box. It tags that input with "$macro:" for further recognition.

Parameters

macroDef	holds the String containing parts 2-5 of a complete macro definition.

Returns

QString holding the complete G-Key macro definition (parts 1-5)

Definition at line 523 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
523                                                 {
524     return QString ("$macro:%1").arg(macroDef);
525 }
```

Here is the caller graph for this function:

12.42.4.24 QString KeyAction::macroContent ( ) const [inline]

Returns

QString macroContent

Definition at line 86 of file keyaction.h.

References _value, and isValidMacro().

Referenced by RebindWidget::setSelection(), and KbBind::update().

```
86                                          {
87         // return isValidMacro() ? _value.split(":")[1].replace(QRegExp("=\\d+"), "") : ""; ///< Is used if
       we have ckb without delay handling
88         return isValidMacro() ? _value.split(":")[1] : "";
89     }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.25 void KeyAction::macroDisplay ( )

KeyAction::macroDisplay is just for debugging. It shows the content of the key action and some other info.

General Info on KeyAction::_value for macros: That string consists of 4 elements, all delimited by ":".

1. Macro command indicator "$macro:"
2. Macro Key Definition (coming from pteMacroBox): This sequence will program the keyboard and is hardly readable
3. Readable Macro String: This is displayed in pteMacroText
4. Readable Macro Comment:This is displayed in pteMacroComment
5. completely unreadable original macro information with timing values

Definition at line 456 of file keyaction.cpp.

References _value, isMacro(), and isValidMacro().

Referenced by RebindWidget::setSelection().

```
456                                 {
457     qDebug() << "isMacro returns" << (isMacro() ? "true" : "false");
458     qDebug() << "isValidMacro returns" << (isValidMacro() ? "true" : "false");
459     QStringList ret =_value.split(":");
460     qDebug() << "Macro definition conains" << ret.count() << "elements";
461     qDebug() << "Macro definition is" << _value;
462 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.26 QString KeyAction::macroFullLine ( ) const [inline]

Returns

QString All 5 parts are returned in one QString. If no definition exists, return ""

Definition at line 43 of file keyaction.h.

References _value, and isMacro().

```
                                        {
        return isMacro() ? _value.right(_value.length()-1) : "";
    }
```

Here is the call graph for this function:

12.42.4.27 QStringList KeyAction::macroLine ( ) const [inline]

Returns

QStringList returns the Macro Key Definition, Readble Macro String, Readable Macro Comment and the original timing information (if it exists as a 5th part) as QStringList.

Definition at line 73 of file keyaction.h.

References _value, and isValidMacro().

Referenced by RebindWidget::setSelection().

```
                                        {
        if (isValidMacro()) {
            QStringList ret =_value.split(":");
            ret.removeFirst();
            return ret;
        } else return QStringList();
    }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.28 QString KeyAction::macroTiming ( ) const [inline]

Returns

QString macroTiming

Definition at line 98 of file keyaction.h.

References _value, and isValidMacro().

Referenced by RebindWidget::setSelection().

```
98                                      {
99          if (isValidMacro()) {
100             QStringList rval = _value.split(":");
101             return (rval.length() == 4)? rval[1] : rval[4];
102         }
103         return QString("");
104     }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.29 QString KeyAction::modeAction (int *mode*) [static]

Definition at line 158 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
158                                     {
159     return QString("$mode:%1").arg(mode);
160 }
```

Here is the caller graph for this function:

12.42.4.30 static QString KeyAction::noAction ( ) [inline], [static]

Definition at line 25 of file keyaction.h.

```
25 { return ""; }
```

12.42.4.31 KeyAction::operator QString ( ) const [inline]

Definition at line 20 of file keyaction.h.

References _value.

```
20 { return _value; }
```

12.42.4.32 void KeyAction::operator= (const KeyAction & *rhs*) [inline], [private]

Definition at line 186 of file keyaction.h.

```
186 {}
```

12.42.4.33 QString KeyAction::programAction (const QString & *onPress*, const QString & *onRelease*, int *stop*) [static]

Definition at line 177 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
177                                                                                                                    {
178     // URL-encode the commands and place them in the string (":" and "+" are both replaced, so they won't
       interfere)
179     return "$program:" + QString::fromUtf8(QUrl::toPercentEncoding(onPress.trimmed())) + "+" +
      QString::fromUtf8(QUrl::toPercentEncoding(onRelease.trimmed())) + QString("+%1").arg(stop);
180 }
```

Here is the caller graph for this function:

12.42.4.34 int KeyAction::programInfo (QString & *onPress*, QString & *onRelease*) const

Definition at line 199 of file keyaction.cpp.

References _value, and isProgram().

Referenced by keyEvent(), and RebindWidget::setSelection().

```
199                                                                                                    {
200     if(!isProgram())
201         return 0;
202     QString param = _value.mid(9);
203     QStringList programs = param.split("+");
```

```
    if(programs.length() != 3)
        return 0;
    onPress = QUrl::fromPercentEncoding(programs[0].toUtf8());
    onRelease = QUrl::fromPercentEncoding(programs[1].toUtf8());
    return programs[2].toInt();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.42.4.35 QString KeyAction::specialInfo (int & *parameter*) const

Definition at line 189 of file keyaction.cpp.

References _value.

Referenced by RebindWidget::setSelection().

```
189                                                 {
190     QStringList list = _value.split(":");
191     if(list.length() < 2){
192         parameter = INT_MIN;
193         return "";
194     }
195     parameter = list[1].toInt();
196     return list[0].replace("$", "");
197 }
```

Here is the caller graph for this function:

12.42.4.36 KeyAction::Type KeyAction::type ( ) const

Definition at line 14 of file keyaction.cpp.

References _value, NORMAL, SPECIAL, and UNBOUND.

Referenced by isNormal(), isSpecial(), isUnbound(), KbBindWidget::on_copyButton_clicked(), and KbBindWidget::on_resetButton_clicked().

```
14                                          {
15     if(_value.isEmpty())
16         return UNBOUND;
17     if(_value.at(0) == '$')
18         return SPECIAL;
19     return NORMAL;
20 }
```

Here is the caller graph for this function:

12.42.4.37 QString KeyAction::value ( ) const [inline]

Definition at line 19 of file keyaction.h.

References _value.

Referenced by KbBind::action(), KbBind::KbBind(), KbBind::save(), and KbBind::update().

```
19 { return _value; }
```

Here is the caller graph for this function:

12.42.5 Field Documentation

12.42.5.1 QString KeyAction::_value [private]

Definition at line 189 of file keyaction.h.

Referenced by animInfo(), dpiInfo(), driverName(), friendlyName(), isAnim(), isDPI(), isMacro(), isMedia(), isMouse(), isProgram(), isValidMacro(), keyEvent(), macroContent(), macroDisplay(), macroFullLine(), macroLine(), macroTiming(), operator QString(), programInfo(), specialInfo(), type(), and value().

12.42.5.2 const int KeyAction::DPI_CUSTOM = 6 [static]

Definition at line 128 of file keyaction.h.

Referenced by dpiAction(), dpiInfo(), friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.3 const int KeyAction::DPI_CYCLE_DOWN = -3 [static]

Definition at line 126 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.4 const int KeyAction::DPI_CYCLE_UP = -4 [static]

Definition at line 126 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.5 const int KeyAction::DPI_DOWN = -1 [static]

Definition at line 127 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.6 const int KeyAction::DPI_SNIPER = 0 [static]

Definition at line 128 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.7 const int KeyAction::DPI_UP = -2 [static]

Definition at line 127 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.8 const int KeyAction::LIGHT_DOWN = 1 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.9 const int KeyAction::LIGHT_DOWN_WRAP = 3 [static]

Definition at line 132 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.10 const int KeyAction::LIGHT_UP = 0 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.11 const int KeyAction::LIGHT_UP_WRAP = 2 [static]

Definition at line 132 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.12 const int KeyAction::LOCK_OFF = 2 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.13 const int KeyAction::LOCK_ON = 1 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.14 const int KeyAction::LOCK_TOGGLE = 0 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.15 const int KeyAction::MODE_NEXT = -1 [static]

Definition at line 122 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.16 const int KeyAction::MODE_NEXT_WRAP = -3 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.17 const int KeyAction::MODE_PREV = -2 [static]

Definition at line 122 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.18 const int KeyAction::MODE_PREV_WRAP = -4 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.19 QProcess* KeyAction::preProgram [private]

Definition at line 192 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.20 const int KeyAction::PROGRAM_PR_INDEF = 0x00 [static]

Definition at line 138 of file keyaction.h.

12.42.5.21 const int KeyAction::PROGRAM_PR_KPSTOP = 0x02 [static]

Definition at line 138 of file keyaction.h.

Referenced by keyEvent().

12.42.5.22 const int KeyAction::PROGRAM_PR_KRSTOP = 0x01 [static]

Definition at line 138 of file keyaction.h.

Referenced by keyEvent().

12.42.5.23 const int KeyAction::PROGRAM_PR_MULTI = 0x04 [static]

Definition at line 138 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.24 const int KeyAction::PROGRAM_RE_INDEF = 0x00 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), and RebindWidget::setSelection().

12.42.5.25 const int KeyAction::PROGRAM_RE_KPSTOP = 0x20 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.26 const int KeyAction::PROGRAM_RE_MULTI = 0x40 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.27 QProcess* KeyAction::relProgram [private]

Definition at line 193 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.28 quint64 KeyAction::sniperValue [private]

Definition at line 196 of file keyaction.h.

Referenced by keyEvent().

The documentation for this class was generated from the following files:

- src/ckb/keyaction.h
- src/ckb/keyaction.cpp

12.43 KeyMap Class Reference

```
#include <src/ckb/keymap.h>
```

Collaboration diagram for KeyMap:

Public Types

- enum Model {
  NO_MODEL = -1, K63, K65, K70,
  K95, STRAFE, M65, SABRE,
  SCIMITAR, HARPOON, GLAIVE, _MODEL_MAX }
- enum Layout {
  NO_LAYOUT = -1, DK, EU, EU_DVORAK,
  GB, GB_DVORAK, US, US_DVORAK,
  FR, DE, IT, JP,
  NO, PL, MX, ES,

SE, _LAYOUT_MAX }

Public Member Functions

- bool isISO () const
- bool isJP () const
- bool isKeyboard () const
- bool isMouse () const
- KeyMap ()
- KeyMap (Model _keyModel, Layout _keyLayout)
- QString strLayout () const
- QString strModel () const
- Model model () const
- Layout layout () const
- QString name () const
- uint count () const
- uint width () const
- uint height () const
- Key key (const QString &name) const
- Key operator[] (const QString &name) const
- bool contains (const QString &name) const
- const QHash< QString, Key > & map () const
- operator const QHash< QString, Key > & () const
- QStringList keys () const
- QList< Key > positions () const
- QString toStorage (const QString &name)
- QString fromStorage (const QString &storage)
- QStringList byPosition () const

Static Public Member Functions

- static QStringList layoutNames ()
- static bool isISO (Layout layout)
- static bool isJP (Layout layout)
- static Layout locale ()
- static bool isKeyboard (Model model)
- static bool isMouse (Model model)
- static KeyMap fromName (const QString &name)
- static Layout getLayout (const QString &name)
- static QString getLayout (Layout layout)
- static Model getModel (const QString &name)
- static QString getModel (Model model)
- static QString friendlyName (const QString &key, Layout layout=US)

Static Private Member Functions

- static int modelWidth (Model model)
- static int modelHeight (Model model)

Private Attributes

- QHash< QString, Key > _keys
- short keyWidth
- short keyHeight
- Model keyModel:8
- Layout keyLayout:8

12.43.1 Detailed Description

Definition at line 49 of file keymap.h.

12.43.2 Member Enumeration Documentation

12.43.2.1 enum KeyMap::Layout

Enumerator

NO_LAYOUT
DK
EU
EU_DVORAK
GB
GB_DVORAK
US
US_DVORAK
FR
DE
IT
JP
NO
PL
MX
ES
SE
_LAYOUT_MAX

Definition at line 68 of file keymap.h.

```
68                  {
69          NO_LAYOUT = -1,
70          DK,                 // Danish
71          EU,                 // English (EU)
72          EU_DVORAK,
73          GB,                 // English (UK)
74          GB_DVORAK,
75          US,                 // English (US)
76          US_DVORAK,
77          FR,                 // French
78          DE,                 // German
79          IT,                 // Italian
80          JP,                 // Japanese
81          NO,                 // Norwegian
82          PL,                 // Polish (identical to US)
83          MX,                 // Spanish (Mexico/Latin America)
84          ES,                 // Spanish (Spain)
85          SE,                 // Swedish
86          _LAYOUT_MAX
87      };
```

12.43.2.2 enum KeyMap::Model

Enumerator

NO_MODEL

K63

K65

K70

K95

STRAFE

M65

SABRE

SCIMITAR

HARPOON

GLAIVE

_MODEL_MAX

Definition at line 51 of file keymap.h.

```
51                 {
52         NO_MODEL = -1,
53         // Keyboard models
54         K63,
55         K65,
56         K70,
57         K95,
58         STRAFE,
59         // Mouse models
60         M65,
61         SABRE,
62         SCIMITAR,
63         HARPOON,
64         GLAIVE,
65         _MODEL_MAX
66     };
```

12.43.3 Constructor & Destructor Documentation

12.43.3.1 KeyMap::KeyMap ( )

Definition at line 750 of file keymap.cpp.

Referenced by friendlyName(), and fromName().

```
750                 :
751      keyWidth(0), keyHeight(0),
752      keyModel(NO_MODEL), keyLayout(NO_LAYOUT)
753 {}
```

Here is the caller graph for this function:

12.43.3.2 KeyMap::KeyMap (Model *_keyModel*, Layout *_keyLayout*)

Definition at line 744 of file keymap.cpp.

```
744                                                 :
745     _keys(getMap(_keyModel, _keyLayout)),
746     keyWidth(modelWidth(_keyModel)), keyHeight(
      modelHeight(_keyModel)),
747     keyModel(_keyModel), keyLayout(_keyLayout)
748 {}
```

12.43.4 Member Function Documentation

12.43.4.1 QStringList KeyMap::byPosition ( ) const

Definition at line 755 of file keymap.cpp.

References Key::x, x, Key::y, and y.

Referenced by RebindWidget::setBind().

```
755                                         {
756     // Use QMaps to order the keys
757     QMap<int, QMap<int, QString> > ordered;
758     QHashIterator<QString, Key> i(*this);
759     while(i.hasNext()){
760         i.next();
761         const Key& key = i.value();
762         ordered[key.y][key.x] = i.key();
763     }
764     // Merge them into a single list
765     QStringList result;
766     QMapIterator<int, QMap<int, QString> > y(ordered);
767     while(y.hasNext()){
768         y.next();
769         QMapIterator<int, QString> x(y.value());
770         while(x.hasNext()){
771             x.next();
772             result << x.value();
773         }
774     }
775     return result;
776 }
```

Here is the caller graph for this function:

12.43.4.2 bool KeyMap::contains (const QString & *name*) const [inline]

Definition at line 136 of file keymap.h.

References _keys.

Referenced by friendlyName(), and KbAnimWidget::on_keyButton_clicked().

```
136 { return _keys.contains(name); }
```

Here is the caller graph for this function:

12.43.4.3 uint KeyMap::count ( ) const [inline]

Definition at line 127 of file keymap.h.

References _keys.

Referenced by KeyWidget::map(), KbBindWidget::on_copyButton_clicked(), and KbBindWidget::on_resetButton_-clicked().

```
127 { return _keys.count(); }
```

Here is the caller graph for this function:

12.43.4.4 QString KeyMap::friendlyName (const QString & *key*, Layout *layout* = US) [static]

Definition at line 778 of file keymap.cpp.

References contains(), HARPOON, K95, KeyMap(), M65, map(), SCIMITAR, and STRAFE.

Referenced by KeyAction::friendlyName(), and RebindWidget::RebindWidget().

```
778                                                         {
779     // Try K95 map first
780     // FIXME: This is an odd function and probably should be refactored
781     // it would probably be best to remove the friendly names from the maps and have a completely separate
        name->friendlyName store
782     KeyMap map(K95, layout);
```

```
    if(map.contains(key))
        return map[key].friendlyName();

    // The only key missing from it should be Fn, which is found on STRAFE
    map = KeyMap(STRAFE, layout);
    if(map.contains(key))
        return map[key].friendlyName();

    // Additionally, there are a handful of keys not present on any physical keyboard, but we need names for them
    if(key == "f13" || key == "f14" || key == "f15" || key == "f16" || key == "f17" || key == "f18" || key == "f19" || key == "f20")
        return key.toUpper();
    else if(key == "lightup")
        return "Screen Brightness Up";
    else if(key == "lightdn")
        return "Screen Brightness Down";
    else if(key == "eject" || key == "power")
        return key[0].toUpper() + key.mid(1);   // capitalize first letter

    // All other names are found on mice
    map = KeyMap(SCIMITAR, layout);
    if(map.contains(key))
        return map[key].friendlyName();
    map = KeyMap(M65, layout);
    if(map.contains(key))
        return map[key].friendlyName();
    map = KeyMap(HARPOON, layout);
    if(map.contains(key))
        return map[key].friendlyName();

    // Not found at all
    return "";
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.5 KeyMap KeyMap::fromName (const QString & *name*) [static]

Definition at line 695 of file keymap.cpp.

References getLayout(), getModel(), and KeyMap().

Referenced by KbBind::load(), and KbLight::load().

```
695                                         {
696     QStringList list = name.trimmed().split(" ");
697     if(list.length() != 2)
698         return KeyMap();
699     return KeyMap(getModel(list[0]), getLayout(list[1]));
700 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.6 QString KeyMap::fromStorage (const QString & *storage*) [inline]

Definition at line 144 of file keymap.h.

Referenced by KbAnim::KbAnim(), KbBind::load(), and KbLight::load().

```
144 { QHashIterator<QString, Key> i(*this); while(i.hasNext()) { i.next(); const char* s = i.value().
      storageName(); if(s == storage) return i.value().name; } return storage; }
```

Here is the caller graph for this function:

12.43.4.7 KeyMap::Layout KeyMap::getLayout (const QString & *name*) [static]

Definition at line 550 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, JP, MX, NO, NO_LAYOUT, PL, SE, US, and US_DVORAK.

Referenced by fromName(), SettingsWidget::on_layoutBox_activated(), SettingsWidget::SettingsWidget(), and strLayout().

```
550                                                 {
551     QString lower = name.toLower();
552     if(lower == "dk")
553         return DK;
554     if(lower == "eu")
555         return EU;
556     if(lower == "eu_dvorak")
557         return EU_DVORAK;
558     if(lower == "gb_dvorak")
559         return GB_DVORAK;
560     if(lower == "us")
561         return US;
562     if(lower == "us_dvorak")
563         return US_DVORAK;
564     if(lower == "fr")
565         return FR;
566     if(lower == "de")
567         return DE;
568     if(lower == "it")
569         return IT;
570     if(lower == "no")
571         return NO;
572     if(lower == "jp")
573         return JP;
574     if(lower == "pl")
575         return PL;
576     if(lower == "mx")
577         return MX;
578     if(lower == "es")
579         return ES;
580     if(lower == "se")
581         return SE;
582     if(lower == "gb")
583         return GB;
584     return NO_LAYOUT;
585 }
```

Here is the caller graph for this function:

12.43.4.8 QString KeyMap::getLayout (KeyMap::Layout *layout*) [static]

Definition at line 587 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, JP, MX, NO, PL, SE, US, and US_DVORAK.

```
587                                                 {
588     switch(layout){
589     case DK:
590         return "dk";
591     case EU:
592         return "eu";
593     case EU_DVORAK:
594         return "eu_dvorak";
595     case GB:
596         return "gb";
597     case GB_DVORAK:
598         return "gb_dvorak";
599     case US:
600         return "us";
601     case US_DVORAK:
602         return "us_dvorak";
603     case FR:
604         return "fr";
605     case DE:
606         return "de";
607     case IT:
608         return "it";
609     case JP:
610         return "jp";
611     case NO:
612         return "no";
613     case PL:
614         return "pl";
615     case MX:
616         return "mx";
617     case ES:
618         return "es";
619     case SE:
620         return "se";
621     default:
622         return "";
623     }
624 }
```

12.43.4.9 KeyMap::Model KeyMap::getModel (const QString & *name*) [static]

Definition at line 643 of file keymap.cpp.

References GLAIVE, HARPOON, K63, K65, K70, K95, M65, NO_MODEL, SABRE, SCIMITAR, and STRAFE.

Referenced by fromName(), Kb::Kb(), and strModel().

```
643                                                 {
644     QString lower = name.toLower();
645     if(lower == "k63")
646         return K63;
647     if(lower == "k65")
648         return K65;
649     if(lower == "k70")
650         return K70;
651     if(lower == "k95")
652         return K95;
```

```
    if(lower == "strafe")
        return STRAFE;
    if(lower == "m65")
        return M65;
    if(lower == "sabre")
        return SABRE;
    if(lower == "scimitar")
        return SCIMITAR;
    if(lower == "harpoon")
        return HARPOON;
    if(lower == "glaive")
        return GLAIVE;
    return NO_MODEL;
}
```

Here is the caller graph for this function:

12.43.4.10 QString KeyMap::getModel (KeyMap::Model *model*) [static]

Definition at line 668 of file keymap.cpp.

References GLAIVE, HARPOON, K63, K65, K70, K95, M65, SABRE, SCIMITAR, and STRAFE.

```
668                                                 {
669     switch(model){
670     case K63:
671         return "k63";
672     case K65:
673         return "k65";
674     case K70:
675         return "k70";
676     case K95:
677         return "k95";
678     case STRAFE:
679         return "strafe";
680     case M65:
681         return "m65";
682     case SABRE:
683         return "sabre";
684     case SCIMITAR:
685         return "scimitar";
686     case HARPOON:
687         return "harpoon";
688     case GLAIVE:
689         return "glaive";
690     default:
691         return "";
692     }
693 }
```

12.43.4.11 uint KeyMap::height ( ) const [inline]

Definition at line 131 of file keymap.h.

References keyHeight.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
131 { return keyHeight; }
```

Here is the caller graph for this function:

12.43.4.12 static bool KeyMap::isISO (Layout *layout*) [inline], [static]

Definition at line 91 of file keymap.h.

References PL, US, and US_DVORAK.

Referenced by KbBind::isISO(), and RebindWidget::setBind().

```
91 { return layout != US && layout != US_DVORAK && layout !=
      PL; }
```

Here is the caller graph for this function:

12.43.4.13 bool KeyMap::isISO ( ) const [inline]

Definition at line 92 of file keymap.h.

References isISO(), and keyLayout.

Referenced by getMap(), isISO(), Kb::Kb(), and Kb::updateLayout().

```
92 { return isISO(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.14 static bool KeyMap::isJP (Layout *layout*) [inline],[static]

Definition at line 95 of file keymap.h.

References JP.

```
95 { return layout == JP; }
```

12.43.4.15 bool KeyMap::isJP ( ) const [inline]

Definition at line 96 of file keymap.h.

References isJP(), and keyLayout.

Referenced by getMap(), and isJP().

```
96 { return isJP(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.16 static bool KeyMap::isKeyboard (Model *model*) [inline], [static]

Definition at line 102 of file keymap.h.

References isMouse(), and NO_MODEL.

Referenced by KbBind::isKeyboard().

```
102 { return !isMouse(model) && model != NO_MODEL; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.17 bool KeyMap::isKeyboard ( ) const [inline]

Definition at line 103 of file keymap.h.

References isKeyboard(), and keyModel.

Referenced by Kb::isKeyboard(), and isKeyboard().

```
103 { return isKeyboard(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.18 static bool KeyMap::isMouse (Model *model*) [inline], [static]

Definition at line 104 of file keymap.h.

References GLAIVE, HARPOON, M65, SABRE, and SCIMITAR.

Referenced by KbBind::isMouse(), KeyWidget::map(), KbLightWidget::newSelection(), and KeyWidget::paintEvent().

```
104 { return model == M65 || model == SABRE || model ==
      SCIMITAR || model == HARPOON || model == GLAIVE; }
```

Here is the caller graph for this function:

12.43.4.19 bool KeyMap::isMouse ( ) const [inline]

Definition at line 105 of file keymap.h.

References isMouse(), and keyModel.

Referenced by isKeyboard(), Kb::isMouse(), isMouse(), and KeyWidget::paintEvent().

```
105 { return isMouse(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.20 Key KeyMap::key (const QString & *name*) const [inline]

Definition at line 134 of file keymap.h.

References _keys.

Referenced by AnimScript::begin(), AnimScript::keypress(), KbBind::noAction(), operator[]() , KbBind::setAction(), and toStorage().

```
134 { Key empty = {0,0,0,0,0,0,0,0,0}; return _keys.value(name, empty); }
```

Here is the caller graph for this function:

12.43.4.21 QStringList KeyMap::keys ( ) const [inline]

Definition at line 140 of file keymap.h.

References _keys.

Referenced by KeyWidget::mouseReleaseEvent(), KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_resetButton_clicked(), KeyWidget::setAnimation(), KeyWidget::setSelection(), and KbBindWidget::updateBind().

```
140 { return _keys.keys(); }
```

Here is the caller graph for this function:

12.43.4.22 Layout KeyMap::layout ( ) const [inline]

Definition at line 123 of file keymap.h.

References keyLayout.

Referenced by KeyAction::friendlyName(), KeyWidget::paintEvent(), and RebindWidget::setBind().

```
123 { return keyLayout; }
```

Here is the caller graph for this function:

12.43.4.23 QStringList KeyMap::layoutNames ( ) [static]

Definition at line 626 of file keymap.cpp.

Referenced by LayoutDialog::LayoutDialog(), and SettingsWidget::SettingsWidget().

```
                                {
    return QStringList()
            << "Danish"
            << "English (ISO/European)" << "English (ISO/European, Dvorak)"
            << "English (United Kingdom)" << "English (United Kingdom, Dvorak)"
            << "English (United States)" << "English (United States, Dvorak)"
            << "French"
            << "German"
            << "Italian"
            << "Japanese"
            << "Norwegian"
            << "Polish"
            << "Spanish (Latin America)"
            << "Spanish (Spain)"
            << "Swedish";
}
```

Here is the caller graph for this function:

12.43.4.24 KeyMap::Layout KeyMap::locale ( ) [static]

Definition at line 516 of file keymap.cpp.

References DE, DK, ES, FR, GB, IT, JP, MX, NO, PL, SE, and US.

Referenced by SettingsWidget::SettingsWidget().

```
                            {
    setlocale(LC_ALL, "");
    QString loc = setlocale(LC_CTYPE, 0);
    loc = loc.toLower().replace('_', '-');
    if(loc.startsWith("dk-"))
        return KeyMap::DK;
    else if(loc.startsWith("fr-"))
```

```
        return KeyMap::FR;
    else if(loc.startsWith("de-"))
        return KeyMap::DE;
    else if(loc.startsWith("it-"))
        return KeyMap::IT;
    else if(loc.startsWith("ja-"))
        return KeyMap::JP;
    else if(loc.startsWith("pl-"))
        return KeyMap::PL;
    else if(loc.startsWith("no-"))
        return KeyMap::NO;
    else if(loc.startsWith("es-es"))
        // Spain uses the ES layout
        return KeyMap::ES;
    else if(loc.startsWith("es-"))
        // Other Spanish locales use MX
        return KeyMap::MX;
    else if(loc.startsWith("se-"))
        return KeyMap::SE;
    else if(loc.startsWith("en-us") || loc.startsWith("en-au") || loc.startsWith("en-ca") || loc.startsWith
    ("en-hk") || loc.startsWith("en-in") || loc.startsWith("en-nz") || loc.startsWith("en-ph") || loc.startsWith
    ("en-sg") || loc.startsWith("en-za"))
        // Most English locales use US
        return KeyMap::US;
    else
        // Default to GB
        return KeyMap::GB;
}
```

Here is the caller graph for this function:

12.43.4.25 const QHash<QString, Key>& KeyMap::map ( ) const [inline]

Definition at line 138 of file keymap.h.

References _keys.

Referenced by friendlyName().

```
138 { return _keys; }
```

Here is the caller graph for this function:

12.43.4.26 Model KeyMap::model ( ) const [inline]

Definition at line 122 of file keymap.h.

References keyModel.

Referenced by KeyWidget::mouseMoveEvent(), KeyWidget::paintEvent(), and KPerfWidget::setPerf().

```
122 { return keyModel; }
```

Here is the caller graph for this function:

12.43.4.27 int KeyMap::modelHeight (Model *model*) [static],[private]

Definition at line 725 of file keymap.cpp.

References GLAIVE, HARPOON, K63, K65, K70, K95, K95_HEIGHT, M65, M65_HEIGHT, SABRE, SCIMITAR, and STRAFE.

```
725                                     {
726     switch(model){
727     case K63:
728     case K65:
729     case K70:
730     case K95:
731     case STRAFE:
732         return K95_HEIGHT;
733     case M65:
734     case SABRE:
735     case SCIMITAR:
736     case HARPOON:
737     case GLAIVE:
738         return M65_HEIGHT;
739     default:
740         return 0;
741     }
742 }
```

12.43.4.28 int KeyMap::modelWidth (Model *model*) [static],[private]

Definition at line 702 of file keymap.cpp.

References GLAIVE, HARPOON, K63, K63_WIDTH, K65, K65_WIDTH, K70, K70_WIDTH, K95, K95_WIDTH, K-STRAFE_WIDTH, M65, M65_WIDTH, SABRE, SCIMITAR, and STRAFE.

```
702                                     {
703     switch(model){
704     case K63:
705         return K63_WIDTH;
706     case K65:
707         return K65_WIDTH;
708     case K70:
709         return K70_WIDTH;
710     case K95:
711         return K95_WIDTH;
712     case STRAFE:
```

```
        return KSTRAFE_WIDTH;
    case M65:
    case SABRE:
    case SCIMITAR:
    case HARPOON:
    case GLAIVE:
        return M65_WIDTH;
    default:
        return 0;
    }
}
```

12.43.4.29 QString KeyMap::name ( ) const [inline]

Definition at line 124 of file keymap.h.

References strLayout(), and strModel().

Referenced by KbBind::save(), KbLight::save(), and toStorage().

```
124 { return (strModel() + " " + strLayout()).toUpper(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.30 KeyMap::operator const QHash< QString, Key > & ( ) const [inline]

Definition at line 139 of file keymap.h.

References _keys.

```
139 { return _keys; }
```

12.43.4.31 Key KeyMap::operator[] (const QString & *name*) const [inline]

Definition at line 135 of file keymap.h.

References key().

```
135 { return key(name); }
```

Here is the call graph for this function:

12.43.4.32 QList<Key> KeyMap::positions ( ) const [inline]

Definition at line 141 of file keymap.h.

References _keys.

Referenced by ColorMap::init(), and KeyWidget::selectAll().

```
141 { return _keys.values(); }
```

Here is the caller graph for this function:

12.43.4.33 QString KeyMap::strLayout ( ) const [inline]

Definition at line 115 of file keymap.h.

References getLayout(), and keyLayout.

Referenced by name().

```
115 { return getLayout(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.34 QString KeyMap::strModel ( ) const [inline]

Definition at line 119 of file keymap.h.

References getModel(), and keyModel.

Referenced by name().

```
119 { return getModel(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.35 QString KeyMap::toStorage (const QString & *name*) [inline]

Definition at line 143 of file keymap.h.

References key(), name(), and Key::storageName().

```
143 { const char* storage = key(name).storageName(); if(!storage) return
      name; return storage; }
```

Here is the call graph for this function:

12.43.4.36 uint KeyMap::width ( ) const [inline]

Definition at line 129 of file keymap.h.

References keyWidth.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
129 { return keyWidth; }
```

Here is the caller graph for this function:

12.43.5 Field Documentation

12.43.5.1 QHash<QString, Key> KeyMap::_keys [private]

Definition at line 156 of file keymap.h.

Referenced by contains(), count(), key(), keys(), map(), operator const QHash< QString, Key > &(), and positions().

12.43.5.2 short KeyMap::keyHeight [private]

Definition at line 157 of file keymap.h.

Referenced by height().

12.43.5.3 Layout KeyMap::keyLayout [private]

Definition at line 159 of file keymap.h.

Referenced by isISO(), isJP(), layout(), and strLayout().

12.43.5.4 Model KeyMap::keyModel [private]

Definition at line 158 of file keymap.h.

Referenced by isKeyboard(), isMouse(), model(), and strModel().

12.43.5.5 short KeyMap::keyWidth [private]

Definition at line 157 of file keymap.h.

Referenced by width().

The documentation for this class was generated from the following files:

- src/ckb/keymap.h
- src/ckb/keymap.cpp

12.44 KeyWidget Class Reference

```
#include <src/ckb/keywidget.h>
```

Inheritance diagram for KeyWidget:

Collaboration diagram for KeyWidget:

Public Types

- typedef QHash< QString, QString > BindMap

Public Slots

- void displayColorMap (const ColorMap &newDisplayMap, const QSet< QString > &indicators=QSet< QString >())

Signals

- void selectionChanged (QStringList selected)
- void sidelightToggled ()

Public Member Functions

- KeyWidget (QWidget *parent=0, bool rgbMode=true)
- bool rgbMode ()
- void rgbMode (bool newRgbMode)
- bool monochrome ()
- void monochrome (bool newMono)
- const KeyMap & map () const
- void map (const KeyMap &newMap)
- const QColorMap & colorMap () const
- void colorMap (const QColorMap &newColorMap)
- const BindMap & bindMap () const
- void bindMap (const BindMap &newBindMap)
- void setSelection (const QStringList &keys)
- void selectAll ()
- void clearSelection ()

- void setAnimation (const QStringList &keys)
- void setAnimationToSelection ()
- void clearAnimation ()

Private Types

- enum {
  NONE, SET, ADD, SUBTRACT,
  TOGGLE }

Private Member Functions

- void paintEvent (QPaintEvent ∗)
- void mousePressEvent (QMouseEvent ∗event)
- void mouseMoveEvent (QMouseEvent ∗event)
- void mouseReleaseEvent (QMouseEvent ∗event)
- void drawInfo (float &scale, float &offsetX, float &offsetY, int ratio=1)

Private Attributes

- KeyMap keyMap
- QColorMap _colorMap
- ColorMap _displayColorMap
- BindMap _bindMap
- QSet< QString > _indicators
- QBitArray selection
- QBitArray newSelection
- QBitArray animation
- int mouseDownX
- int mouseDownY
- int mouseCurrentX
- int mouseCurrentY
- enum KeyWidget:: { ... } mouseDownMode
- bool _rgbMode
- bool _monochrome

12.44.1 Detailed Description

Definition at line 11 of file keywidget.h.

12.44.2 Member Typedef Documentation

12.44.2.1 typedef QHash<QString, QString> KeyWidget::BindMap

Definition at line 30 of file keywidget.h.

12.44.3 Member Enumeration Documentation

12.44.3.1 anonymous enum [private]

Enumerator

NONE

SET

ADD

SUBTRACT

TOGGLE

Definition at line 66 of file keywidget.h.

```
66          {
67         NONE,
68         SET,
69         ADD,
70         SUBTRACT,
71         TOGGLE,
72     } mouseDownMode;
```

12.44.4 Constructor & Destructor Documentation

12.44.4.1 KeyWidget::KeyWidget (QWidget * *parent* = 0, bool *rgbMode* = true) [explicit]

Definition at line 17 of file keywidget.cpp.

```
17                                                  :
18     QWidget(parent), mouseDownX(-1), mouseDownY(-1),
      mouseCurrentX(-1), mouseCurrentY(-1), mouseDownMode(
      NONE), _rgbMode(rgbMode), _monochrome(false)
19 {
20     setMouseTracking(true);
21     setAutoFillBackground(false);
22 }
```

12.44.5 Member Function Documentation

12.44.5.1 const BindMap& KeyWidget::bindMap ( ) const [inline]

Definition at line 31 of file keywidget.h.

References _bindMap.

Referenced by KbBindWidget::updateBind().

```
31 { return _bindMap; }
```

Here is the caller graph for this function:

12.44.5.2 void KeyWidget::bindMap (const BindMap & *newBindMap*)

Definition at line 65 of file keywidget.cpp.

References _bindMap.

```
65                                                  {
66     _bindMap = newBindMap;
67     update();
68 }
```

12.44.5.3 void KeyWidget::clearAnimation ( )

Definition at line 644 of file keywidget.cpp.

References animation.

Referenced by KbLightWidget::setLight().

```
644                                 {
645     animation.fill(false);
646     update();
647 }
```

Here is the caller graph for this function:

12.44.5.4 void KeyWidget::clearSelection ( )

Definition at line 617 of file keywidget.cpp.

References mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim(), KbBindWidget::setBind(), and KbLightWidget::setLight().

```
617                                 {
618     selection.fill(false);
619     newSelection.fill(false);
620     mouseDownMode = NONE;
621     update();
622     emit selectionChanged(QStringList());
623 }
```

Here is the caller graph for this function:

12.44.5.5 const QColorMap& KeyWidget::colorMap ( ) const [inline]

Definition at line 27 of file keywidget.h.

References _colorMap.

Referenced by KbLightWidget::changeColor(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

```
27 { return _colorMap; }
```

Here is the caller graph for this function:

12.44.5.6 void KeyWidget::colorMap (const QColorMap & *newColorMap*)

Definition at line 52 of file keywidget.cpp.

References _colorMap.

```
52                                                  {
53     _colorMap = newColorMap;
54     update();
55 }
```

12.44.5.7 void KeyWidget::displayColorMap (const ColorMap & *newDisplayMap*, const QSet< QString > & *indicators* = QSet<QString>()) [slot]

Definition at line 57 of file keywidget.cpp.

References _displayColorMap, and _indicators.

Referenced by KbLightWidget::on_showAnimBox_clicked().

```
57                                                                                                  {
58     if(!isVisible())
59         return;
60     _displayColorMap = newDisplayMap;
61     _indicators = indicators;
62     update();
63 }
```

Here is the caller graph for this function:

12.44.5.8 void KeyWidget::drawInfo (float & *scale*, float & *offsetX*, float & *offsetY*, int *ratio* = 1) [private]

Definition at line 43 of file keywidget.cpp.

References KeyMap::height(), KEY_SIZE, keyMap, width, and KeyMap::width().

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

```
43                                                                                  {
44     int w = width() * ratio, h = height() * ratio;
45     float xScale = (float)w / (keyMap.width() + KEY_SIZE);
46     float yScale = (float)h / (keyMap.height() + KEY_SIZE);
47     scale = fmin(xScale, yScale);
48     offsetX = (w / scale - keyMap.width()) / 2.f;
49     offsetY = (h / scale - keyMap.height()) / 2.f;
50 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.44.5.9 const KeyMap& KeyWidget::map ( ) const [inline]

Definition at line 24 of file keywidget.h.

References keyMap.

Referenced by KbBindWidget::newLayout(), and KbLightWidget::updateLight().

```
24 { return keyMap; }
```

Here is the caller graph for this function:

12.44.5.10 void KeyWidget::map (const KeyMap & *newMap*)

Definition at line 24 of file keywidget.cpp.

References animation, KeyMap::count(), KeyMap::height(), KeyMap::isMouse(), KEY_SIZE, keyMap, newSelection, selection, width, and KeyMap::width().

```
24                                          {
25     keyMap = newMap;
26     selection = QBitArray(keyMap.count());
27     newSelection = QBitArray(keyMap.count());
28     animation = QBitArray(keyMap.count());
29     int width, height;
30     if(keyMap.isMouse()){
31         width = (keyMap.width() + KEY_SIZE) * 2.6;
32         height = (keyMap.height() + KEY_SIZE) * 2.6;
33     } else {
34         width = (keyMap.width() + KEY_SIZE) * 2.3;
35         height = (keyMap.height() + KEY_SIZE) * 2.3;
36     }
37     if(width < 500)
38         width = 500;
39     setFixedSize(width, height);
40     update();
41 }
```

Here is the call graph for this function:

12.44.5.11 bool KeyWidget::monochrome ( ) [inline]

Definition at line 20 of file keywidget.h.

References _monochrome.

Referenced by KbLightWidget::setMonochrome().

```
20 { return _monochrome; }
```

Here is the caller graph for this function:

12.44.5.12 void KeyWidget::monochrome (bool *newMono*) [inline]

Definition at line 21 of file keywidget.h.

References _monochrome.

```
21 { _monochrome = newMono; update(); }
```

12.44.5.13 void KeyWidget::mouseMoveEvent (QMouseEvent * *event*) [private]

Definition at line 487 of file keywidget.cpp.

References _indicators, _rgbMode, drawInfo(), Key::friendlyName(), Key::hasLed, Key::hasScan, Key::height, keyMap, KeyMap::model(), mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, NONE, KeyMap::STRAFE, Key::width, Key::x, and Key::y.

```
487                                                 {
488     event->accept();
489     QString tooltip;
490
491     // Find selection rectangle
492     mouseCurrentX = event->x();
493     mouseCurrentY = event->y();
494     float scale, offX, offY;
495     drawInfo(scale, offX, offY);
496     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
497     float mx1, mx2, my1, my2;
498     if(mouseCurrentX >= mouseDownX){
499         mx1 = mouseDownX / scale - offX;
500         mx2 = mouseCurrentX / scale - offX;
501     } else {
502         mx1 = mouseCurrentX / scale - offX;
503         mx2 = mouseDownX / scale - offX;
504     }
505     if(mouseCurrentY >= mouseDownY){
506         my1 = mouseDownY / scale - offY;
507         my2 = mouseCurrentY / scale - offY;
508     } else {
509         my1 = mouseCurrentY / scale - offY;
510         my2 = mouseDownY / scale - offY;
511     }
512     // Clear new selection
513     if(mouseDownMode != NONE)
514         newSelection.fill(false);
515     // See if the event hit any keys
516     QHashIterator<QString, Key> k(keyMap);
517     uint i = -1;
518     while(k.hasNext()){
519         k.next();
520         i++;
521         const Key& key = k.value();
522         if((_rgbMode && !key.hasLed)
523                 || (!_rgbMode && !key.hasScan))
524             continue;
525         // Update tooltip with the mouse hover (if any), even if it's not selectable
526         if(fabs(key.x - mx) <= key.width / 2.f - 1.f && fabs(key.y - my) <= key.
```

```
height / 2.f - 1.f
                && tooltip.isEmpty())
            tooltip = key.friendlyName(false);
        // on STRAFE Sidelights and indicators can't be assigned color the way other keys are colored
        if(keyMap.model() == KeyMap::STRAFE && (!strcmp(key.
name, "lsidel") || !strcmp(key.name, "rsidel") || _indicators.contains(key.
name))) // FIX: _indicators check fails whenever _indicators is empty because "show animated" is
 unchecked
            continue;
        float kx1 = key.x - key.width / 2.f + 1.f;
        float ky1 = key.y - key.height / 2.f + 1.f;
        float kx2 = kx1 + key.width - 2.f;
        float ky2 = ky1 + key.height - 2.f;
        // If they overlap, add the key to the selection
        if(!(mx1 >= kx2 || kx1 >= mx2)
                && !(my1 >= ky2 || ky1 >= my2)
                && mouseDownMode != NONE)
            newSelection.setBit(i);
    }

    if(mouseDownMode != NONE)
        update();
    setToolTip(tooltip);
}
```

Here is the call graph for this function:

12.44.5.14 void KeyWidget::mousePressEvent (QMouseEvent * *event*) [private]

Definition at line 455 of file keywidget.cpp.

References _rgbMode, ADD, drawInfo(), Key::hasLed, Key::hasScan, Key::height, keyMap, mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, SET, sidelightToggled(), SUBTRACT, TOGGLE, Key::width, Key::x, and Key::y.

```
455                                                 {
456     event->accept();
457     mouseDownMode = (event->modifiers() & Qt::AltModifier) ?
SUBTRACT : (event->modifiers() & Qt::ShiftModifier) ? ADD : (event->modifiers() &
Qt::ControlModifier) ? TOGGLE : SET;
458     mouseDownX = mouseCurrentX = event->x();
459     mouseDownY = mouseCurrentY = event->y();
460     // See if the event hit a key
461     float scale, offX, offY;
462     drawInfo(scale, offX, offY);
463     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
464     QHashIterator<QString, Key> k(keyMap);
465     uint i = -1;
466     while(k.hasNext()){
467         k.next();
468         i++;
469         const Key& key = k.value();
470         if((_rgbMode && !key.hasLed)
471                 || (!_rgbMode && !key.hasScan))
472             continue;
473         if(fabs(key.x - mx) <= key.width / 2.f - 1.f && fabs(key.y - my) <= key.
height / 2.f - 1.f){
474             // Sidelights can't have a color, but they can be toggled
475             if(!strcmp(key.name, "lsidel") || !strcmp(key.name, "rsidel")){
```

```
                emit sidelightToggled(); // get the kblightwidget to record it
                update();
                break;
            }
            newSelection.setBit(i);
            update();
            break;
        }
    }
}
```

Here is the call graph for this function:

12.44.5.15 void KeyWidget::mouseReleaseEvent (QMouseEvent * *event*) [private]

Definition at line 548 of file keywidget.cpp.

References ADD, keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, selectionChanged(), SET, SUBTRACT, and TOGGLE.

```
548                                                 {
549     event->accept();
550     if(mouseDownMode == NONE)
551         return;
552     // Apply the new selection
553     switch(mouseDownMode){
554     case SET:
555         selection = newSelection;
556         break;
557     case ADD:
558         selection |= newSelection;
559         break;
560     case SUBTRACT:
561         selection &= ~newSelection;
562         break;
563     case TOGGLE:
564         selection ^= newSelection;
565         break;
566     default:;
567     }
568     // Clear mousedown state.
569     newSelection.fill(false);
570     mouseDownMode = NONE;
571     // Emit signal with the names of the keys
572     QStringList selectedNames;
573     uint i = 0;
574     foreach(const QString& key, keyMap.keys()){
575         if(selection.testBit(i++))
576             selectedNames << key;
577     }
578     emit selectionChanged(selectedNames);
579     update();
580 }
```

Here is the call graph for this function:

12.44.5.16 void KeyWidget::paintEvent (QPaintEvent *) [private]

Definition at line 70 of file keywidget.cpp.

References _bindMap, _colorMap, _displayColorMap, _indicators, _monochrome, _rgbMode, ADD, animation, ColorMap::colorForName(), KbBind::defaultAction(), drawInfo(), KeyMap::EU, KeyMap::EU_DVORAK, Key::friendlyName(), KeyMap::GLAIVE, glaiveOverlay, KbBind::globalRemap(), KeyMap::HARPOON, harpOverlay, Key::hasLed, Key::hasScan, Key::height, KeyMap::isMouse(), KeyMap::K65, keyMap, KeyMap::layout(), KeyMap::M65, m65Overlay, KeyMap::model(), monoRgb(), mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, NONE, sabOverlay, KeyMap::SABRE, KeyMap::SCIMITAR, scimOverlay, selection, SET, KeyMap::STRAFE, SUBTRACT, TOGGLE, Key::width, width, Key::x, x, Key::y, and y.

```
70                                      {
71     const QColor bgColor(68, 64, 64);
72     const QColor keyColor(112, 110, 110);
73     const QColor sniperColor(130, 90, 90);
74     const QColor thumbColor(34, 32, 32);
75     const QColor transparentColor(0, 0, 0, 0);
76     const QColor highlightColor(136, 176, 240);
77     const QColor highlightAnimColor(136, 200, 240);
78     const QColor animColor(112, 200, 110);
79
80     // Determine which keys to highlight
81     QBitArray highlight;
82     switch(mouseDownMode){
83     case SET:
84         highlight = newSelection;
85         break;
86     case ADD:
87         highlight = selection | newSelection;
88         break;
89     case SUBTRACT:
90         highlight = selection & ~newSelection;
91         break;
92     case TOGGLE:
93         highlight = selection ^ newSelection;
94         break;
95     default:
96         highlight = selection;
97     }
98
99     QPainter painter(this);
100 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
101     int ratio = painter.device()->devicePixelRatio();
102 #else
103     int ratio = 1;
104 #endif
105     int wWidth = width(), wHeight = height();
106     KeyMap::Model model = keyMap.model();
107     KeyMap::Layout layout = keyMap.layout();
108     float scale, offX, offY;
109     drawInfo(scale, offX, offY, ratio);
110     // Draw background
111     painter.setPen(Qt::NoPen);
112     painter.setRenderHint(QPainter::Antialiasing, true);
113
114     if(keyMap.isMouse()){
115         // Draw mouse overlays
116         const QImage* overlay = 0;
117         float xpos = 0.f, ypos = 0.f;
118         if(model == KeyMap::M65){
```

```
            if(!m65Overlay)
                m65Overlay = new QImage(":/img/overlay_m65.png");
            overlay = m65Overlay;
            xpos = 2.f;
            ypos = -2.f;
        } else if(model == KeyMap::SABRE){
            if(!sabOverlay)
                sabOverlay = new QImage(":/img/overlay_sabre.png");
            overlay = sabOverlay;
            xpos = 1.f;
            ypos = -2.f;
        } else if(model == KeyMap::SCIMITAR){
            if(!scimOverlay)
                scimOverlay = new QImage(":/img/overlay_scimitar.png");
            overlay = scimOverlay;
            xpos = 3.5f;
            ypos = -2.f;
        } else if(model == KeyMap::HARPOON){
            if(!harpOverlay)
                harpOverlay = new QImage(":/img/overlay_harpoon.png");
            overlay = harpOverlay;
            xpos = 3.5f;
            ypos = -2.f;
        } else if(model == KeyMap::GLAIVE){
            if(!glaiveOverlay)
                glaiveOverlay = new QImage(":/img/overlay_glaive.png");
            overlay = glaiveOverlay;
            xpos = 3.5f;
            ypos = -2.f;
        }
        if(overlay){
            painter.setBrush(palette().brush(QPalette::Window));
            painter.drawRect(0, 0, width(), height());
            float oXScale = scale / 9.f, oYScale = scale / 9.f;             // The overlay has a resolution of 9px per keymap unit
            float x = (xpos + offX) * scale, y = (ypos + offY) * scale;
            int w = overlay->width() * oXScale, h = overlay->height() * oYScale;
            // We need to transform the image with QImage::scaled() because painter.drawImage() will butcher it, even with smoothing enabled
            // However, the width/height need to be rounded to integers
            int iW = round(w), iH = round(h);
            painter.drawImage(QRectF((x - (iW - w) / 2.f) / ratio, (y - (iH - h) / 2.f) / ratio, iW / ratio, iH / ratio), overlay->scaled(iW, iH, Qt::IgnoreAspectRatio, Qt::SmoothTransformation));
        }
    } else {
        // Otherwise, draw a solid background
        painter.setBrush(QBrush(bgColor));
        painter.drawRect(0, 0, width(), height());
    }

    // Draw mouse highlight (if any)
    if(mouseDownMode != NONE && (mouseDownX != mouseCurrentX || mouseDownY != mouseCurrentY)){
        int x1 = (mouseDownX > mouseCurrentX) ? mouseCurrentX : mouseDownX;
        int x2 = (mouseDownX > mouseCurrentX) ? mouseDownX : mouseCurrentX;
        int y1 = (mouseDownY > mouseCurrentY) ? mouseCurrentY : mouseDownY;
        int y2 = (mouseDownY > mouseCurrentY) ? mouseDownY : mouseCurrentY;
        painter.setPen(QPen(highlightColor, 0.5));
        QColor bColor = highlightColor;
        bColor.setAlpha(128);
        painter.setBrush(QBrush(bColor));
        painter.drawRect(x1, y1, x2 - x1, y2 - y1);
    }

    // Draw key backgrounds on a separate pixmap so that a drop shadow can be applied to them.
    QPixmap keyBG(wWidth * ratio, wHeight * ratio);
    keyBG.fill(QColor(0, 0, 0, 0));
    QPainter bgPainter(&keyBG);
    bgPainter.setRenderHints(QPainter::Antialiasing | QPainter::TextAntialiasing);
    bgPainter.setPen(Qt::NoPen);
    QHashIterator<QString, Key> k(keyMap);
    uint i = -1;
    while(k.hasNext()){
        k.next();
        i++;
        const Key& key = k.value();
        float x = key.x + offX - key.width / 2.f + 1.f;
        float y = key.y + offY - key.height / 2.f + 1.f;
        float w = key.width - 2.f;
        float h = key.height - 2.f;
        // In RGB mode, ignore keys without LEDs
        if((_rgbMode && !key.hasLed)
                || (!_rgbMode && !key.hasScan))
```

```
            continue;
        // Set color based on key highlight
        bgPainter.setOpacity(1.);
        if(highlight.testBit(i)){
            if(animation.testBit(i))
                bgPainter.setBrush(QBrush(highlightAnimColor));
            else
                bgPainter.setBrush(QBrush(highlightColor));
        } else if(animation.testBit(i)){
            bgPainter.setBrush(QBrush(animColor));
        } else {
            if(!strcmp(key.name, "sniper"))
                // Sniper key uses a reddish base color instead of the usual grey
                bgPainter.setBrush(QBrush(sniperColor));
            else if(model == KeyMap::SCIMITAR && !strncmp(key.name, "thumb", 5) && strcmp(key.name, "thumb"))
                // Thumbgrid keys use a black color
                bgPainter.setBrush(QBrush(thumbColor));
            else if(!strcmp(key.name, "lsidel") || !strcmp(key.name, "rsidel") || !strcmp(key.name, "logo"))
                // Strafe side lights have different background
                bgPainter.setBrush(QBrush(transparentColor));
            else {
                bgPainter.setBrush(QBrush(keyColor));
                if(KeyMap::isMouse(model))
                    bgPainter.setOpacity(0.7);
            }
        }
        if(model != KeyMap::STRAFE && (!strcmp(key.name, "mr") || !strcmp(key.name, "m1") || !strcmp(key.name, "m2") || !strcmp(key.name, "m3")
                || !strcmp(key.name, "light") || !strcmp(key.name, "lock") || (model == KeyMap::K65 && !strcmp(key.name, "mute")))){
            // Switch keys are circular except for Strafe. All Strafe keys are square
            x += w / 8.f;
            y += h / 8.f;
            w *= 0.75f;
            h *= 0.75f;
            bgPainter.drawEllipse(QRectF(x * scale, y * scale, w * scale, h * scale));
        } else {
            if(!strcmp(key.name, "enter")){
                if(key.height == 24){
                    // ISO enter key isn't rectangular
                    y = key.y + 1.f;
                    h = 10.f;
                    bgPainter.drawRect(QRectF((x + w - 13.f) * scale, y * scale, 13.f * scale, 22.f * scale));
                } else {
                    // US enter key isn't perfectly centered, needs an extra pixel on the left to appear correctly
                    x -= 1.f;
                    w += 1.f;
                }
            } else if(!strcmp(key.name, "rshift") || !strcmp(key.name, "stop")){
                // A few other keys also need extra pixels
                x -= 1.f;
                w += 1.f;
            } else if(!strcmp(key.name, "caps") || !strcmp(key.name, "lshift") || !strcmp(key.name, "next")){
                w += 1.f;
            }
            bgPainter.drawRect(QRectF(x * scale, y * scale, w * scale, h * scale));
        }
    }

    // Render the key decorations (RGB -> light circles, binding -> key names) on yet another layer
    QPixmap decoration(wWidth * ratio, wHeight * ratio);
    decoration.fill(QColor(0, 0, 0, 0));
    QPainter decPainter(&decoration);
    decPainter.setRenderHints(QPainter::Antialiasing | QPainter::TextAntialiasing);
    if(_rgbMode){
        // Draw key colors (RGB mode)
        QHashIterator<QString, Key> k(keyMap);
        uint i = -1;
        while(k.hasNext()){
            k.next();
            i++;
            const Key& key = k.value();
            if(!key.hasLed)
                continue;
            float x = key.x + offX - 1.8f;
            float y = key.y + offY - 1.8f;
            float w = 3.6f;
            float h = 3.6f;
            // Display a white circle around regular keys, red circle around indicators
            if(_indicators.contains(key.name))
                decPainter.setPen(QPen(QColor(255, 248, 136), 1.5));
            else
```

```
                decPainter.setPen(QPen(QColor(255, 255, 255), 1.5));
            QRgb color;
            const QRgb* inDisplay = _displayColorMap.colorForName(key.name);
            if(inDisplay)
                // Color in display map? Grab it from there
                // (monochrome conversion not necessary as this would have been done by the animation)
                color = *inDisplay;
            else {
                // Otherwise, read from base map
                color = _colorMap.value(k.key());
                if(_monochrome)
                    color = monoRgb(qRed(color), qGreen(color), qBlue(color));
            }
            decPainter.setBrush(QBrush(color));
            if (model == KeyMap::STRAFE) { // STRAFE custom design and special keys
                float kx = key.x + offX - key.width / 2.f + 1.f;
                float ky = key.y + offY - key.height / 2.f + 1.f;
                float kw = key.width - 2.f;
                float kh = key.height - 2.f;
                decPainter.setPen(QPen(QColor(255, 255, 255), 1.2)); // less invasive outline to show the key color better
                if(!strcmp(key.name, "logo")) { // stylized logo
                    float lx = key.x + offX - key.width / 2.f + 2.f;
                    float ly = key.y + offY - key.height / 2.f + 2.f;
                    float lw = key.width - 4.f;
                    float lh = key.height - 4.f;
                    QPainterPath logo;
                    logo.moveTo(lx*scale,(ly+lh)*scale);
                    logo.quadTo((lx+2.f)*scale,(ly+lh/2.f)*scale,lx*scale,ly*scale);
                    logo.quadTo((lx+lw)*scale,ly*scale,(lx+lw)*scale,(ly+lh)*scale);
                    logo.quadTo((lx+lw/2.f)*scale,(ly+lh-4.f)*scale,lx*scale,(ly+lh)*scale);
                    decPainter.drawPath(logo);
                    //decPainter.setPen(QPen(Qt::green, 1.2)); //QColor(125,125,125)
                    //decPainter.drawRect(QRectF(lx * scale, ly * scale, lw * scale, lh * scale)); // don't really know why the 12 and 24 make it work here, but they do
                } else if(!strcmp(key.name, "lsidel") || !strcmp(key.name, "rsidel")) { // Strafe side lights (toggle lights with no animation)
                    QRadialGradient gradient(QPointF(wWidth/2.f * ratio, wHeight/2.f * ratio), wWidth/2.f * ratio);//,QPointF(10, 5));
                    gradient.setColorAt(0, color);
                    gradient.setColorAt(0.9, color); // bring up intensity
                    gradient.setColorAt(1, bgColor);
                    decPainter.setBrush(QBrush(gradient));
                    decPainter.setPen(QPen(keyColor, 1.2)); //QColor(125,125,125)
                    decPainter.drawRect(QRectF(kx * scale, ky * scale - 12 , kw * scale, kh * scale+24));
// don't really know why the 12 and 24 make it work here, but they do
                } else if(_indicators.contains(key.name)) { // FIX: This check fails whenever _indicators is empty because "show animated" is unchecked
                    decPainter.setPen(QPen(QColor(0,0,0,0), 1));    // no outline for the indicators, you can't change their color the standard way
                    decPainter.drawRect(QRectF((kx+2.f) * scale, (ky+2.f) * scale, (kw-4.f) * scale, (kh-4.f) * scale)); // square indicators
                } else //everything else is a circle, just a tad bigger to show the key color better
                    decPainter.drawEllipse(QRectF((x-1.f) * scale, (y-1.f) * scale, (w+2.f) * scale, (h+2.f) * scale));
            } else
                decPainter.drawEllipse(QRectF(x * scale, y * scale, w * scale, h * scale));
        }
    } else {
        // Draw key names
        decPainter.setBrush(Qt::NoBrush);
        QFont font = painter.font();
        font.setBold(true);
        font.setPixelSize(5.25f * scale);
        QFont font0 = font;
        QHashIterator<QString, Key> k(keyMap);
        uint i = -1;
        while(k.hasNext()){
            k.next();
            i++;
            const Key& key = k.value();
            if(!key.hasScan)
                continue;
            float x = key.x + offX - key.width / 2.f + 1.f;
            float y = key.y + offY - key.height / 2.f;
            float w = key.width - 2.f;
            float h = key.height;
            // Print the key's friendly name (with some exceptions)
            QString keyName = KbBind::globalRemap(key.name);
            QString name = key.friendlyName(false);
            name = name.split(" ").last();
            struct {
                const char* keyName, *displayName;
            } names[] = {
                {"light", ""}, {"lock", ""}, {"mute", ""}, {"volup", keyMap.model() == KeyMap::K65 ? ")" : ""}, {"voldn", keyMap.
```

```
    model() == KeyMap::K65 ? ")" : ""},
                {"prtscn",  "PrtScn\nSysRq"}, {"scroll", "Scroll\nLock"}, {"pause", "Pause\nBreak"}, {"stop", ""}, {"prev", "|"}, {"play", "||"}, {"next", "|"},
                {"pgup", "Page\nUp"}, {"pgdn", "Page\nDown"}, {"numlock", "Num\nLock"},
                {"caps", "Caps"}, {"lshift", "Shift"}, {"rshift", "Shift"},
#ifdef Q_OS_MACX
                {"lctrl", ""}, {"rctrl", ""}, {"lwin", ""}, {"rwin", ""}, {"lalt", ""}, {"ralt", ""},
#else
                {"lctrl", "Ctrl"}, {"rctrl", "Ctrl"}, {"lwin", ""}, {"rwin", ""}, {"lalt", "Alt"}, {"ralt", "Alt"},
#endif
                {"rmenu", ""}, {"up", ""}, {"left", ""}, {"down", ""}, {"right", ""}, {"fn","Fn"},
                {"mouse1", ""}, {"mouse2", ""}, {"mouse3", ""}, {"dpiup", ""}, {"dpidn", ""}, {"wheelup", ""}, {"wheeldn", ""}, {"dpi", ""}, {"mouse5", ""}, {"mouse4", ""}, {"sniper", ""}
            };
            for(uint k = 0; k < sizeof(names) / sizeof(names[0]); k++){
                if(keyName == names[k].keyName){
                    name = names[k].displayName;
                    break;
                }
            }
            if(keyName == "thumb1" && model == KeyMap::SABRE)
                name = "";
            if(keyName == "mr" || keyName == "m1" || keyName == "m2" || keyName == "m3" || keyName == "up" || keyName == "down" || keyName == "left" || keyName == "right")
                // Use a smaller size for MR, M1 - M3, and arrow keys
                font.setPixelSize(font.pixelSize() * 0.75);
            else if(keyName == "end")
                // Use a smaller size for "End" to match everything else in that area
                font.setPixelSize(font.pixelSize() * 0.65);
            else if(keyName == "light"
#ifndef Q_OS_MACX
                    || keyName == "lwin" || keyName == "rwin"
#endif
                    )
                // Use a larger font size for Super (Linux only) and Brightness to compensate for the unicode symbols looking smaller
                font.setPixelSize(font.pixelSize() * 1.3);
            if((layout == KeyMap::EU || layout == KeyMap::EU_DVORAK) && (keyName == "hash" || keyName == "bslash_iso"))
                // Don't differentiate backslashes on the EU layout
                name = "\\";
            // Determine the appropriate size to draw the text at
            decPainter.setFont(font);
            QRectF rect(x * scale, y * scale - 1, w * scale, h * scale);
            int flags = Qt::AlignHCenter | Qt::AlignVCenter | Qt::TextWordWrap;
            QRectF bounds = decPainter.boundingRect(rect, flags, name);
            while((bounds.height() >= rect.height() - 8. || bounds.width() >= rect.width() - 2.) && font.pixelSize() >= 5){
                // Scale font size down until it fits inside the key
                font.setPixelSize(font.pixelSize() - 2);
                decPainter.setFont(font);
                bounds = decPainter.boundingRect(rect, flags, name);
            }
            // Pick color based on key function
            QString bind = _bindMap.value(key.name);
            QString def = KbBind::defaultAction(key.name, model);
            if(bind.isEmpty())
                // Unbound - red
                decPainter.setPen(QColor(255, 136, 136));
            else if(KeyAction(bind).isProgram())
                // Custom program - orange
                decPainter.setPen(QColor(255, 224, 192));
            else if(KeyAction(bind).isSpecial() && (bind == def || !KeyAction(def).isSpecial()))
                // Special function - blue (only if not mapped to a different function - if a special function is remapped, color it yellow)
                decPainter.setPen(QColor(128, 224, 255));
            else if(KeyAction(bind).isMedia() && (bind == def || !KeyAction(def).isMedia()))
                // Media key - green
                decPainter.setPen(QColor(160, 255, 168));
            else if(bind == def)
                // Standard key - white
                decPainter.setPen(QColor(255, 255, 255));
            else
                // Remapped key - yellow
                decPainter.setPen(QColor(255, 248, 128));
            decPainter.drawText(rect, flags, name);
            font = font0;
        }
    }
    // Create drop shadow effects
    QGraphicsDropShadowEffect* bgEffect = new QGraphicsDropShadowEffect;  // Have to use "new", creating these on the stack causes a crash...
    bgEffect->setBlurRadius(2.);
    bgEffect->setColor(QColor(0, 0, 0, 32));
```

```
    bgEffect->setOffset(0, 1);
    QGraphicsDropShadowEffect* decEffect = new QGraphicsDropShadowEffect;
    decEffect->setBlurRadius(4.);
    decEffect->setColor(QColor(0, 0, 0, 104));
    decEffect->setOffset(0, 1);
    // Apply them to the pixmaps
    QGraphicsPixmapItem* bgItem = new QGraphicsPixmapItem(keyBG);
    bgItem->setGraphicsEffect(bgEffect);
    QGraphicsPixmapItem* decItem = new QGraphicsPixmapItem(decoration);
    decItem->setGraphicsEffect(decEffect);
    // Render everything
    QGraphicsScene* scene = new QGraphicsScene;
    scene->addItem(bgItem);
    scene->addItem(decItem);
    // It has to be rendered onto yet another pixmap or else DPI scaling will look terrible...
    QPixmap final(wWidth * ratio, wHeight * ratio);
    final.fill(QColor(0, 0, 0, 0));
    QPainter finalPainter(&final);
    scene->render(&finalPainter, QRectF(0, 0, wWidth * ratio, wHeight * ratio), QRectF(0, 0, wWidth * ratio
  , wHeight * ratio));
    delete scene;   // <- Automatically cleans up the rest of the objects
#if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
    final.setDevicePixelRatio(ratio);
#endif
    painter.drawPixmap(QPointF(0., 0.), final);
}
```

Here is the call graph for this function:

12.44.5.17 bool KeyWidget::rgbMode ( ) [inline]

Definition at line 17 of file keywidget.h.

References _rgbMode.

Referenced by KbBindWidget::KbBindWidget().

```
17 { return _rgbMode; }
```

Here is the caller graph for this function:

12.44.5.18 void KeyWidget::rgbMode (bool *newRgbMode*) [inline]

Definition at line 18 of file keywidget.h.

References _rgbMode.

```
18 { _rgbMode = newRgbMode; update(); }
```

12.44.5.19 void KeyWidget::selectAll ( )

Definition at line 596 of file keywidget.cpp.

References _rgbMode, Key::hasLed, Key::hasScan, keyMap, mouseDownMode, Key::name, newSelection, NONE, KeyMap::positions(), selection, and selectionChanged().

Referenced by KbLightWidget::on_animButton_clicked(), and KbLightWidget::on_bgButton_clicked().

```
596                         {
597     selection.fill(false);
598     // Fill the selection with all keys that have an LED/scancode (depending on widget mode)
599     int i = 0;
600     QStringList selectedNames;
601     foreach(const Key& key, keyMap.positions()){
602         // Sidelights can't be selected
603         if(strcmp(key.name, "lsidel") && strcmp(key.name, "rsidel")
604            && ((_rgbMode && key.hasLed) || !(_rgbMode && key.
      hasScan))){
605             selection.setBit(i);
606             selectedNames << key.name;
607         }
608         i++;
609     }
610     // Clear mousedown state
611     newSelection.fill(false);
612     mouseDownMode = NONE;
613     update();
614     emit selectionChanged(selectedNames);
615 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.44.5.20 void KeyWidget::selectionChanged (QStringList *selected*) [signal]

Definition at line 164 of file moc_keywidget.cpp.

Referenced by clearSelection(), mouseReleaseEvent(), selectAll(), and setSelection().

```
{
    void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
    QMetaObject::activate(this, &staticMetaObject, 0, _a);
}
```

Here is the caller graph for this function:

12.44.5.21 void KeyWidget::setAnimation (const QStringList & *keys*)

Definition at line 625 of file keywidget.cpp.

References animation, keyMap, and KeyMap::keys().

Referenced by KbLightWidget::changeAnimKeys(), and KbLightWidget::setLight().

```
625                                                 {
626     animation.fill(false);
627     QStringList allNames = keyMap.keys();
628     foreach(const QString& key, keys){
629         // Sidelights can't be selected
630         if(!strcmp(key.toLatin1(), "lsidel") || !strcmp(key.toLatin1(), "rsidel"))
631             continue;
632         int index = allNames.indexOf(key);
633         if(index >= 0)
634             animation.setBit(index);
635     }
636     update();
637 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.44.5.22 void KeyWidget::setAnimationToSelection ( )

Definition at line 639 of file keywidget.cpp.

References animation, and selection.

Referenced by KbLightWidget::changeAnim().

```
639                                         {
640     animation = selection;
641     update();
642 }
```

Here is the caller graph for this function:

12.44.5.23 void KeyWidget::setSelection (const QStringList & *keys*)

Definition at line 582 of file keywidget.cpp.

References keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim().

```
582                                                 {
583     selection.fill(false);
584     QStringList allNames = keyMap.keys();
585     foreach(const QString& key, keys){
586         int index = allNames.indexOf(key);
587         if(index >= 0)
```

```
            selection.setBit(index);
        }
    newSelection.fill(false);
    mouseDownMode = NONE;
    update();
    emit selectionChanged(keys);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.44.5.24 void KeyWidget::sidelightToggled ( ) [signal]

Definition at line 171 of file moc_keywidget.cpp.

Referenced by mousePressEvent().

```
{
    QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
}
```

Here is the caller graph for this function:

12.44.6 Field Documentation

12.44.6.1 BindMap KeyWidget::_bindMap [private]

Definition at line 58 of file keywidget.h.

Referenced by bindMap(), and paintEvent().

12.44.6.2 QColorMap KeyWidget::_colorMap [private]

Definition at line 56 of file keywidget.h.

Referenced by colorMap(), and paintEvent().

12.44.6.3 ColorMap KeyWidget::_displayColorMap [private]

Definition at line 57 of file keywidget.h.

Referenced by displayColorMap(), and paintEvent().

12.44.6.4 QSet<QString> KeyWidget::_indicators [private]

Definition at line 59 of file keywidget.h.

Referenced by displayColorMap(), mouseMoveEvent(), and paintEvent().

12.44.6.5 bool KeyWidget::_monochrome [private]

Definition at line 73 of file keywidget.h.

Referenced by monochrome(), and paintEvent().

12.44.6.6 bool KeyWidget::_rgbMode [private]

Definition at line 73 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), paintEvent(), rgbMode(), and selectAll().

12.44.6.7 QBitArray KeyWidget::animation [private]

Definition at line 63 of file keywidget.h.

Referenced by clearAnimation(), map(), paintEvent(), setAnimation(), and setAnimationToSelection().

12.44.6.8 KeyMap KeyWidget::keyMap [private]

Definition at line 55 of file keywidget.h.

Referenced by drawInfo(), map(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), setAnimation(), and setSelection().

12.44.6.9 int KeyWidget::mouseCurrentX [private]

Definition at line 65 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.10 int KeyWidget::mouseCurrentY [private]

Definition at line 65 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.11 enum { ... } KeyWidget::mouseDownMode [private]

Referenced by clearSelection(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), and setSelection().

12.44.6.12 int KeyWidget::mouseDownX [private]

Definition at line 64 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.13 int KeyWidget::mouseDownY [private]

Definition at line 64 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.14 QBitArray KeyWidget::newSelection [private]

Definition at line 62 of file keywidget.h.

Referenced by clearSelection(), map(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), and setSelection().

12.44.6.15 QBitArray KeyWidget::selection [private]

Definition at line 61 of file keywidget.h.

Referenced by clearSelection(), map(), mouseReleaseEvent(), paintEvent(), selectAll(), setAnimationToSelection(), and setSelection().

The documentation for this class was generated from the following files:

- src/ckb/keywidget.h
- src/ckb/keywidget.cpp
- src/ckb/release/moc_keywidget.cpp

12.45 Ui::KPerfWidget Class Reference

```
#include <src/ckb/ui_kperfwidget.h>
```

Inheritance diagram for Ui::KPerfWidget:

Collaboration diagram for Ui::KPerfWidget:

Public Member Functions

- void setupUi (QWidget ∗KPerfWidget)
- void retranslateUi (QWidget ∗KPerfWidget)

Data Fields

- QGridLayout ∗ gridLayout
- QWidget ∗ k95Spacer
- QLabel ∗ label_10
- ColorButton ∗ lockColorOff
- QFrame ∗ line
- QSpacerItem ∗ horizontalSpacer_5
- QLabel ∗ k95Label2
- QLabel ∗ label_12
- ColorButton ∗ modeColorOff
- ColorButton ∗ lightColor3
- QSpacerItem ∗ horizontalSpacer
- QCheckBox ∗ lockBox
- ColorButton ∗ modeColorOn
- QCheckBox ∗ macroBox
- ColorButton ∗ numColorOn
- QComboBox ∗ numBox
- QLabel ∗ label_5
- QSpacerItem ∗ verticalSpacer_2
- ColorButton ∗ lightColor2
- QSpacerItem ∗ horizontalSpacer_7
- QLabel ∗ label_8

- QCheckBox * lightBox
- ColorButton * lightColor1
- QSpacerItem * verticalSpacer_4
- QLabel * label_6
- QLabel * label
- QSpacerItem * horizontalSpacer_6
- ColorButton * lockColorOn
- QLabel * label_4
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QCheckBox * modeBox
- ColorButton * capsColorOff
- ColorButton * numColorOff
- ColorButton * capsColorOn
- QFrame * line_3
- QLabel * label_22
- QComboBox * scrollBox
- QLabel * label_7
- ColorButton * scrollColorOn
- QComboBox * capsBox
- ColorButton * scrollColorOff
- QCheckBox * muteBox
- ColorButton * muteColorOn
- ColorButton * macroColorOff
- QLabel * label_3
- ColorButton * muteColorOff
- QLabel * k95Label3
- ColorButton * macroColorOn
- ColorButton * muteColorNA
- QLabel * label_19
- QFrame * k95Line
- QLabel * label_21
- QLabel * label_24
- QLabel * label_20
- QLabel * label_16
- QLabel * label_14
- QLabel * label_18
- QSpacerItem * horizontalSpacer_2
- QLabel * label_15
- QLabel * k95Label4
- QLabel * label_17
- QLabel * label_11
- QLabel * label_23
- QLabel * k95Label1
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_8
- QHBoxLayout * horizontalLayout
- QLabel * label_2
- QSpacerItem * horizontalSpacer_4
- QSpinBox * intensityBox
- QSpacerItem * horizontalSpacer_3
- QLabel * k95Label5
- QFrame * line_2
- QLabel * k95Label6

12.45.1 Detailed Description

Definition at line 677 of file ui_kperfwidget.h.

12.45.2 Member Function Documentation

12.45.2.1 void Ui_KPerfWidget::retranslateUi (QWidget * *KPerfWidget*) [inline],[inherited]

Definition at line 589 of file ui_kperfwidget.h.

References Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, Ui_KPerfWidget::copyButton, Ui_KPerfWidget::intensityBox, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::label, Ui_KPerfWidget::label_10, Ui_KPerfWidget::label_11, Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_15, Ui_KPerfWidget::label_16, Ui_KPerfWidget::label_17, Ui_KPerfWidget::label_18, Ui_KPerfWidget::label_19, Ui_KPerfWidget::label_2, Ui_KPerfWidget::label_20, Ui_KPerfWidget::label_21, Ui_KPerfWidget::label_22, Ui_KPerfWidget::label_23, Ui_KPerfWidget::label_24, Ui_KPerfWidget::label_3, Ui_KPerfWidget::label_4, Ui_KPerfWidget::label_5, Ui_KPerfWidget::label_6, Ui_KPerfWidget::label_7, Ui_KPerfWidget::label_8, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, and Ui_KPerfWidget::scrollColorOn.

Referenced by Ui_KPerfWidget::setupUi().

```
590     {
591         KPerfWidget->setWindowTitle(QApplication::translate("KPerfWidget", "Form", Q_NULLPTR));
592         label_10->setText(QApplication::translate("KPerfWidget", "100%", Q_NULLPTR));
593         lockColorOff->setText(QString());
594         k95Label2->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
595         label_12->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
596         modeColorOff->setText(QString());
597         lightColor3->setText(QString());
598         lockBox->setText(QApplication::translate("KPerfWidget", "Indicate Windows Lock:", Q_NULLPTR)
    );
599         modeColorOn->setText(QString());
600         macroBox->setText(QApplication::translate("KPerfWidget", "Indicate macro recording:",
    Q_NULLPTR));
601         numColorOn->setText(QString());
602         numBox->clear();
603         numBox->insertItems(0, QStringList()
604          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
605          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
606          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
607          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
608          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
609         );
610         label_5->setText(QApplication::translate("KPerfWidget", "Num lock:", Q_NULLPTR));
611         lightColor2->setText(QString());
612         label_8->setText(QApplication::translate("KPerfWidget", "Note: many desktop environments do
     not use scroll lock. The indicator may not turn on even when enabled.", Q_NULLPTR));
613         lightBox->setText(QApplication::translate("KPerfWidget", "Indicate brightness:", Q_NULLPTR)
    );
614         lightColor1->setText(QString());
615         label_6->setText(QApplication::translate("KPerfWidget", "Caps lock:", Q_NULLPTR));
616         label->setText(QApplication::translate("KPerfWidget", "Miscellaneous", Q_NULLPTR));
617         lockColorOn->setText(QString());
618         label_4->setText(QApplication::translate("KPerfWidget", "Lock lights", Q_NULLPTR));
619         modeBox->setText(QApplication::translate("KPerfWidget", "Indicate current mode:", Q_NULLPTR)
    );
620         capsColorOff->setText(QString());
621         numColorOff->setText(QString());
622         capsColorOn->setText(QString());
623         label_22->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
624         scrollBox->clear();
625         scrollBox->insertItems(0, QStringList()
626          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
627          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
628          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
629          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
```

```
         << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
        );
        label_7->setText(QApplication::translate("KPerfWidget", "Scroll lock:", Q_NULLPTR));
        scrollColorOn->setText(QString());
        capsBox->clear();
        capsBox->insertItems(0, QStringList()
         << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
         << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
         << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
         << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
         << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
        );
        scrollColorOff->setText(QString());
        muteBox->setText(QApplication::translate("KPerfWidget", "Indicate mute:", Q_NULLPTR));
        muteColorOn->setText(QString());
        macroColorOff->setText(QString());
        label_3->setText(QApplication::translate("KPerfWidget", "Top row", Q_NULLPTR));
        muteColorOff->setText(QString());
        k95Label3->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        macroColorOn->setText(QString());
#ifndef QT_NO_TOOLTIP
        muteColorNA->setToolTip(QApplication::translate("KPerfWidget", "If the sound device does not support muting, or if mute status is unknown, this color will be displayed.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        muteColorNA->setText(QString());
        label_19->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_21->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_24->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        label_20->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_16->setText(QApplication::translate("KPerfWidget", "67%", Q_NULLPTR));
        label_14->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        label_18->setText(QApplication::translate("KPerfWidget", "33%", Q_NULLPTR));
        label_15->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label4->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_17->setText(QApplication::translate("KPerfWidget", "Unknown", Q_NULLPTR));
        label_11->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_23->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label1->setText(QApplication::translate("KPerfWidget", "K95 buttons", Q_NULLPTR));
        copyButton->setText(QApplication::translate("KPerfWidget", "Copy to mode...", Q_NULLPTR)
    ;
        label_2->setText(QApplication::translate("KPerfWidget", "Indicator intensity:", Q_NULLPTR));
        intensityBox->setSuffix(QApplication::translate("KPerfWidget", "%", Q_NULLPTR));
        k95Label5->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label6->setText(QApplication::translate("KPerfWidget", "Note: macro recording not yet implemented. Indicator will always display \"off\".", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.45.2.2 void Ui_KPerfWidget::setupUi (QWidget * *KPerfWidget*) [inline],[inherited]

Definition at line 111 of file ui_kperfwidget.h.

References Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, Ui_KPerfWidget::copyButton, Ui_KPerfWidget::gridLayout, Ui_KPerfWidget::horizontalLayout, Ui_KPerfWidget::horizontalLayout_2, Ui_KPerfWidget::horizontalSpacer, Ui_KPerfWidget::horizontalSpacer_2, Ui_KPerfWidget::horizontalSpacer_3, Ui_KPerfWidget::horizontalSpacer_4, Ui_KPerfWidget::horizontalSpacer_5, Ui_KPerfWidget::horizontalSpacer_6, Ui_KPerfWidget::horizontalSpacer_7, Ui_KPerfWidget::horizontalSpacer_8, Ui_KPerfWidget::intensityBox, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::k95Line, Ui_KPerfWidget::k95Spacer, Ui_KPerfWidget::label, Ui_KPerfWidget::label_10, Ui_KPerfWidget::label_11, Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_15, Ui_KPerfWidget::label_16, Ui_KPerfWidget::label_17, Ui_KPerfWidget::label_18, Ui_KPerfWidget::label_19, Ui_KPerfWidget::label_2, Ui_KPerfWidget::label_20, Ui_KPerfWidget::label_21, Ui_KPerfWidget::label_22, Ui_KPerfWidget::label_23, Ui_KPerfWidget::label_24, Ui_KPerfWidget::label_3, Ui_KPerfWidget::label_4, Ui_KPerfWidget::label_5, Ui_KPerfWidget::label_6, Ui_KPerfWidget-

::label_7, Ui_KPerfWidget::label_8, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::line, Ui_KPerfWidget::line_2, Ui_KPerfWidget::line_3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::retranslateUi(), Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, Ui_KPerfWidget::scrollColorOn, Ui_KPerfWidget::verticalSpacer, Ui_KPerfWidget::verticalSpacer_2, Ui_KPerfWidget::verticalSpacer_3, and Ui_KPerfWidget::verticalSpacer_4.

Referenced by KPerfWidget::KPerfWidget().

```
    {
        if (KPerfWidget->objectName().isEmpty())
            KPerfWidget->setObjectName(QStringLiteral("KPerfWidget"));
        KPerfWidget->resize(840, 679);
        gridLayout = new QGridLayout(KPerfWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        k95Spacer = new QWidget(KPerfWidget);
        k95Spacer->setObjectName(QStringLiteral("k95Spacer"));
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(k95Spacer->sizePolicy().hasHeightForWidth());
        k95Spacer->setSizePolicy(sizePolicy);
        k95Spacer->setMinimumSize(QSize(15, 10));
        k95Spacer->setMaximumSize(QSize(15, 10));

        gridLayout->addWidget(k95Spacer, 12, 4, 1, 1);

        label_10 = new QLabel(KPerfWidget);
        label_10->setObjectName(QStringLiteral("label_10"));

        gridLayout->addWidget(label_10, 15, 5, 1, 1);

        lockColorOff = new ColorButton(KPerfWidget);
        lockColorOff->setObjectName(QStringLiteral("lockColorOff"));
        sizePolicy.setHeightForWidth(lockColorOff->sizePolicy().hasHeightForWidth());
        lockColorOff->setSizePolicy(sizePolicy);
        lockColorOff->setMinimumSize(QSize(0, 40));
        lockColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lockColorOff, 16, 7, 1, 1);

        line = new QFrame(KPerfWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 2, 0, 1, 13);

        horizontalSpacer_5 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_5, 17, 6, 1, 1);

        k95Label2 = new QLabel(KPerfWidget);
        k95Label2->setObjectName(QStringLiteral("k95Label2"));

        gridLayout->addWidget(k95Label2, 9, 5, 1, 1);

        label_12 = new QLabel(KPerfWidget);
        label_12->setObjectName(QStringLiteral("label_12"));

        gridLayout->addWidget(label_12, 17, 5, 1, 1);

        modeColorOff = new ColorButton(KPerfWidget);
        modeColorOff->setObjectName(QStringLiteral("modeColorOff"));
        sizePolicy.setHeightForWidth(modeColorOff->sizePolicy().hasHeightForWidth());
        modeColorOff->setSizePolicy(sizePolicy);
        modeColorOff->setMinimumSize(QSize(0, 40));
        modeColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(modeColorOff, 9, 7, 1, 1);

        lightColor3 = new ColorButton(KPerfWidget);
        lightColor3->setObjectName(QStringLiteral("lightColor3"));
        sizePolicy.setHeightForWidth(lightColor3->sizePolicy().hasHeightForWidth());
        lightColor3->setSizePolicy(sizePolicy);
        lightColor3->setMinimumSize(QSize(0, 40));
        lightColor3->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor3, 15, 4, 1, 1);
```

```

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 15, 12, 1, 1);

        lockBox = new QCheckBox(KPerfWidget);
        lockBox->setObjectName(QStringLiteral("lockBox"));

        gridLayout->addWidget(lockBox, 16, 1, 1, 2);

        modeColorOn = new ColorButton(KPerfWidget);
        modeColorOn->setObjectName(QStringLiteral("modeColorOn"));
        sizePolicy.setHeightForWidth(modeColorOn->sizePolicy().hasHeightForWidth());
        modeColorOn->setSizePolicy(sizePolicy);
        modeColorOn->setMinimumSize(QSize(0, 40));
        modeColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(modeColorOn, 9, 4, 1, 1);

        macroBox = new QCheckBox(KPerfWidget);
        macroBox->setObjectName(QStringLiteral("macroBox"));

        gridLayout->addWidget(macroBox, 10, 1, 1, 2);

        numColorOn = new ColorButton(KPerfWidget);
        numColorOn->setObjectName(QStringLiteral("numColorOn"));
        sizePolicy.setHeightForWidth(numColorOn->sizePolicy().hasHeightForWidth());
        numColorOn->setSizePolicy(sizePolicy);
        numColorOn->setMinimumSize(QSize(0, 40));
        numColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(numColorOn, 21, 4, 1, 1);

        numBox = new QComboBox(KPerfWidget);
        numBox->setObjectName(QStringLiteral("numBox"));

        gridLayout->addWidget(numBox, 21, 2, 1, 1);

        label_5 = new QLabel(KPerfWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout->addWidget(label_5, 21, 1, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);

        lightColor2 = new ColorButton(KPerfWidget);
        lightColor2->setObjectName(QStringLiteral("lightColor2"));
        sizePolicy.setHeightForWidth(lightColor2->sizePolicy().hasHeightForWidth());
        lightColor2->setSizePolicy(sizePolicy);
        lightColor2->setMinimumSize(QSize(0, 40));
        lightColor2->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor2, 15, 7, 1, 1);

        horizontalSpacer_7 = new QSpacerItem(10, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_7, 17, 3, 1, 1);

        label_8 = new QLabel(KPerfWidget);
        label_8->setObjectName(QStringLiteral("label_8"));
        QFont font;
        font.setPointSize(8);
        font.setItalic(true);
        label_8->setFont(font);

        gridLayout->addWidget(label_8, 25, 1, 1, 12);

        lightBox = new QCheckBox(KPerfWidget);
        lightBox->setObjectName(QStringLiteral("lightBox"));

        gridLayout->addWidget(lightBox, 15, 1, 1, 2);

        lightColor1 = new ColorButton(KPerfWidget);
        lightColor1->setObjectName(QStringLiteral("lightColor1"));
        sizePolicy.setHeightForWidth(lightColor1->sizePolicy().hasHeightForWidth());
        lightColor1->setSizePolicy(sizePolicy);
        lightColor1->setMinimumSize(QSize(0, 40));
        lightColor1->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor1, 15, 10, 1, 1);

        verticalSpacer_4 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
```

```

        gridLayout->addItem(verticalSpacer_4, 24, 4, 1, 1);

        label_6 = new QLabel(KPerfWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 22, 1, 1, 1);

        label = new QLabel(KPerfWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font1;
        font1.setBold(true);
        font1.setWeight(75);
        label->setFont(font1);

        gridLayout->addWidget(label, 1, 0, 1, 13);

        horizontalSpacer_6 = new QSpacerItem(10, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_6, 17, 9, 1, 1);

        lockColorOn = new ColorButton(KPerfWidget);
        lockColorOn->setObjectName(QStringLiteral("lockColorOn"));
        sizePolicy.setHeightForWidth(lockColorOn->sizePolicy().hasHeightForWidth());
        lockColorOn->setSizePolicy(sizePolicy);
        lockColorOn->setMinimumSize(QSize(0, 40));
        lockColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lockColorOn, 16, 4, 1, 1);

        label_4 = new QLabel(KPerfWidget);
        label_4->setObjectName(QStringLiteral("label_4"));
        label_4->setFont(font1);

        gridLayout->addWidget(label_4, 19, 0, 1, 13);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer, 26, 2, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_3, 18, 4, 1, 1);

        modeBox = new QCheckBox(KPerfWidget);
        modeBox->setObjectName(QStringLiteral("modeBox"));

        gridLayout->addWidget(modeBox, 9, 1, 1, 2);

        capsColorOff = new ColorButton(KPerfWidget);
        capsColorOff->setObjectName(QStringLiteral("capsColorOff"));
        sizePolicy.setHeightForWidth(capsColorOff->sizePolicy().hasHeightForWidth());
        capsColorOff->setSizePolicy(sizePolicy);
        capsColorOff->setMinimumSize(QSize(0, 40));
        capsColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(capsColorOff, 22, 7, 1, 1);

        numColorOff = new ColorButton(KPerfWidget);
        numColorOff->setObjectName(QStringLiteral("numColorOff"));
        QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(40);
        sizePolicy1.setHeightForWidth(numColorOff->sizePolicy().hasHeightForWidth());
        numColorOff->setSizePolicy(sizePolicy1);
        numColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(numColorOff, 21, 7, 1, 1);

        capsColorOn = new ColorButton(KPerfWidget);
        capsColorOn->setObjectName(QStringLiteral("capsColorOn"));
        sizePolicy.setHeightForWidth(capsColorOn->sizePolicy().hasHeightForWidth());
        capsColorOn->setSizePolicy(sizePolicy);
        capsColorOn->setMinimumSize(QSize(0, 40));
        capsColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(capsColorOn, 22, 4, 1, 1);

        line_3 = new QFrame(KPerfWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 20, 0, 1, 13);
```

```

        label_22 = new QLabel(KPerfWidget);
        label_22->setObjectName(QStringLiteral("label_22"));

        gridLayout->addWidget(label_22, 21, 8, 1, 1);

        scrollBox = new QComboBox(KPerfWidget);
        scrollBox->setObjectName(QStringLiteral("scrollBox"));

        gridLayout->addWidget(scrollBox, 23, 2, 1, 1);

        label_7 = new QLabel(KPerfWidget);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout->addWidget(label_7, 23, 1, 1, 1);

        scrollColorOn = new ColorButton(KPerfWidget);
        scrollColorOn->setObjectName(QStringLiteral("scrollColorOn"));
        sizePolicy.setHeightForWidth(scrollColorOn->sizePolicy().hasHeightForWidth());
        scrollColorOn->setSizePolicy(sizePolicy);
        scrollColorOn->setMinimumSize(QSize(0, 40));
        scrollColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(scrollColorOn, 23, 4, 1, 1);

        capsBox = new QComboBox(KPerfWidget);
        capsBox->setObjectName(QStringLiteral("capsBox"));

        gridLayout->addWidget(capsBox, 22, 2, 1, 1);

        scrollColorOff = new ColorButton(KPerfWidget);
        scrollColorOff->setObjectName(QStringLiteral("scrollColorOff"));
        sizePolicy.setHeightForWidth(scrollColorOff->sizePolicy().hasHeightForWidth());
        scrollColorOff->setSizePolicy(sizePolicy);
        scrollColorOff->setMinimumSize(QSize(0, 40));
        scrollColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(scrollColorOff, 23, 7, 1, 1);

        muteBox = new QCheckBox(KPerfWidget);
        muteBox->setObjectName(QStringLiteral("muteBox"));

        gridLayout->addWidget(muteBox, 17, 1, 1, 2);

        muteColorOn = new ColorButton(KPerfWidget);
        muteColorOn->setObjectName(QStringLiteral("muteColorOn"));
        sizePolicy.setHeightForWidth(muteColorOn->sizePolicy().hasHeightForWidth());
        muteColorOn->setSizePolicy(sizePolicy);
        muteColorOn->setMinimumSize(QSize(0, 40));
        muteColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorOn, 17, 4, 1, 1);

        macroColorOff = new ColorButton(KPerfWidget);
        macroColorOff->setObjectName(QStringLiteral("macroColorOff"));
        QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(40);
        sizePolicy2.setHeightForWidth(macroColorOff->sizePolicy().hasHeightForWidth());
        macroColorOff->setSizePolicy(sizePolicy2);
        macroColorOff->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(macroColorOff, 10, 7, 1, 1);

        label_3 = new QLabel(KPerfWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        label_3->setFont(font1);

        gridLayout->addWidget(label_3, 13, 0, 1, 3);

        muteColorOff = new ColorButton(KPerfWidget);
        muteColorOff->setObjectName(QStringLiteral("muteColorOff"));
        sizePolicy.setHeightForWidth(muteColorOff->sizePolicy().hasHeightForWidth());
        muteColorOff->setSizePolicy(sizePolicy);
        muteColorOff->setMinimumSize(QSize(0, 40));
        muteColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorOff, 17, 7, 1, 1);

        k95Label3 = new QLabel(KPerfWidget);
        k95Label3->setObjectName(QStringLiteral("k95Label3"));

        gridLayout->addWidget(k95Label3, 9, 8, 1, 1);

        macroColorOn = new ColorButton(KPerfWidget);
        macroColorOn->setObjectName(QStringLiteral("macroColorOn"));
        sizePolicy2.setHeightForWidth(macroColorOn->sizePolicy().hasHeightForWidth());
```

```
        macroColorOn->setSizePolicy(sizePolicy2);
        macroColorOn->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(macroColorOn, 10, 4, 1, 1);

        muteColorNA = new ColorButton(KPerfWidget);
        muteColorNA->setObjectName(QStringLiteral("muteColorNA"));
        muteColorNA->setMinimumSize(QSize(0, 40));
        muteColorNA->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorNA, 17, 10, 1, 1);

        label_19 = new QLabel(KPerfWidget);
        label_19->setObjectName(QStringLiteral("label_19"));

        gridLayout->addWidget(label_19, 21, 5, 1, 1);

        k95Line = new QFrame(KPerfWidget);
        k95Line->setObjectName(QStringLiteral("k95Line"));
        k95Line->setFrameShape(QFrame::HLine);
        k95Line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(k95Line, 8, 0, 1, 13);

        label_21 = new QLabel(KPerfWidget);
        label_21->setObjectName(QStringLiteral("label_21"));

        gridLayout->addWidget(label_21, 23, 5, 1, 1);

        label_24 = new QLabel(KPerfWidget);
        label_24->setObjectName(QStringLiteral("label_24"));

        gridLayout->addWidget(label_24, 23, 8, 1, 1);

        label_20 = new QLabel(KPerfWidget);
        label_20->setObjectName(QStringLiteral("label_20"));

        gridLayout->addWidget(label_20, 22, 5, 1, 1);

        label_16 = new QLabel(KPerfWidget);
        label_16->setObjectName(QStringLiteral("label_16"));

        gridLayout->addWidget(label_16, 15, 8, 1, 1);

        label_14 = new QLabel(KPerfWidget);
        label_14->setObjectName(QStringLiteral("label_14"));

        gridLayout->addWidget(label_14, 17, 8, 1, 1);

        label_18 = new QLabel(KPerfWidget);
        label_18->setObjectName(QStringLiteral("label_18"));

        gridLayout->addWidget(label_18, 15, 11, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_2, 15, 0, 1, 1);

        label_15 = new QLabel(KPerfWidget);
        label_15->setObjectName(QStringLiteral("label_15"));

        gridLayout->addWidget(label_15, 16, 8, 1, 1);

        k95Label4 = new QLabel(KPerfWidget);
        k95Label4->setObjectName(QStringLiteral("k95Label4"));

        gridLayout->addWidget(k95Label4, 10, 5, 1, 1);

        label_17 = new QLabel(KPerfWidget);
        label_17->setObjectName(QStringLiteral("label_17"));

        gridLayout->addWidget(label_17, 17, 11, 1, 1);

        label_11 = new QLabel(KPerfWidget);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout->addWidget(label_11, 16, 5, 1, 1);

        label_23 = new QLabel(KPerfWidget);
        label_23->setObjectName(QStringLiteral("label_23"));

        gridLayout->addWidget(label_23, 22, 8, 1, 1);

        k95Label1 = new QLabel(KPerfWidget);
        k95Label1->setObjectName(QStringLiteral("k95Label1"));
        k95Label1->setFont(font1);
```

```

        gridLayout->addWidget(k95Label1, 7, 0, 1, 5);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        copyButton = new QPushButton(KPerfWidget);
        copyButton->setObjectName(QStringLiteral("copyButton"));

        horizontalLayout_2->addWidget(copyButton);

        horizontalSpacer_8 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_8);


        gridLayout->addLayout(horizontalLayout_2, 3, 10, 1, 3);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        label_2 = new QLabel(KPerfWidget);
        label_2->setObjectName(QStringLiteral("label_2"));

        horizontalLayout->addWidget(label_2);

        horizontalSpacer_4 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_4);

        intensityBox = new QSpinBox(KPerfWidget);
        intensityBox->setObjectName(QStringLiteral("intensityBox"));
        intensityBox->setMaximum(100);
        intensityBox->setValue(100);

        horizontalLayout->addWidget(intensityBox);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_3);


        gridLayout->addLayout(horizontalLayout, 3, 1, 1, 9);

        k95Label5 = new QLabel(KPerfWidget);
        k95Label5->setObjectName(QStringLiteral("k95Label5"));

        gridLayout->addWidget(k95Label5, 10, 8, 1, 1);

        line_2 = new QFrame(KPerfWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 14, 0, 1, 13);

        k95Label6 = new QLabel(KPerfWidget);
        k95Label6->setObjectName(QStringLiteral("k95Label6"));
        k95Label6->setFont(font);

        gridLayout->addWidget(k95Label6, 11, 1, 1, 10);


        retranslateUi(KPerfWidget);

        QMetaObject::connectSlotsByName(KPerfWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.45.3 Field Documentation

12.45.3.1 QComboBox* Ui_KPerfWidget::capsBox [inherited]

Definition at line 74 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.2 ColorButton* Ui_KPerfWidget::capsColorOff [inherited]

Definition at line 66 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.3 ColorButton* Ui_KPerfWidget::capsColorOn [inherited]

Definition at line 68 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.4 QPushButton* Ui_KPerfWidget::copyButton [inherited]

Definition at line 100 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.5 QGridLayout* Ui_KPerfWidget::gridLayout [inherited]

Definition at line 34 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.6 QHBoxLayout* Ui_KPerfWidget::horizontalLayout [inherited]

Definition at line 102 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.7 QHBoxLayout* Ui_KPerfWidget::horizontalLayout_2 [inherited]

Definition at line 99 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.8 QSpacerItem* Ui_KPerfWidget::horizontalSpacer [inherited]

Definition at line 44 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.9 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_2 [inherited]

Definition at line 92 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.10 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_3 [inherited]

Definition at line 106 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.11 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_4 [inherited]

Definition at line 104 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.12 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_5 [inherited]

Definition at line 39 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.13 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_6 [inherited]

Definition at line 60 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.14 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_7 [inherited]

Definition at line 53 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.15 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_8 [inherited]

Definition at line 101 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.16 QSpinBox* Ui_KPerfWidget::intensityBox [inherited]

Definition at line 105 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.17 QLabel* Ui_KPerfWidget::k95Label1 [inherited]

Definition at line 98 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.18 QLabel* Ui_KPerfWidget::k95Label2 [inherited]

Definition at line 40 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.19 QLabel* Ui_KPerfWidget::k95Label3 [inherited]

Definition at line 81 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.20 QLabel* Ui_KPerfWidget::k95Label4 [inherited]

Definition at line 94 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.21 QLabel* Ui_KPerfWidget::k95Label5 [inherited]

Definition at line 107 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.22 QLabel* Ui_KPerfWidget::k95Label6 [inherited]

Definition at line 109 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.23 QFrame* Ui_KPerfWidget::k95Line [inherited]

Definition at line 85 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and Ui_KPerfWidget::setupUi().

12.45.3.24 QWidget* Ui_KPerfWidget::k95Spacer [inherited]

Definition at line 35 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and Ui_KPerfWidget::setupUi().

12.45.3.25 QLabel* Ui_KPerfWidget::label [inherited]

Definition at line 59 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.26 QLabel* Ui_KPerfWidget::label_10 [inherited]

Definition at line 36 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.27 QLabel* Ui_KPerfWidget::label_11 [inherited]

Definition at line 96 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.28 QLabel* Ui_KPerfWidget::label_12 [inherited]

Definition at line 41 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.29 QLabel* Ui_KPerfWidget::label_14 [inherited]

Definition at line 90 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.30 QLabel* Ui_KPerfWidget::label_15 [inherited]

Definition at line 93 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.31 QLabel* Ui_KPerfWidget::label_16 [inherited]

Definition at line 89 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.32 QLabel* Ui_KPerfWidget::label_17 [inherited]

Definition at line 95 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.33 QLabel* Ui_KPerfWidget::label_18 [inherited]

Definition at line 91 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.34 QLabel* Ui_KPerfWidget::label_19 [inherited]

Definition at line 84 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.35 QLabel* Ui_KPerfWidget::label_2 [inherited]

Definition at line 103 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.36 QLabel* Ui_KPerfWidget::label_20 [inherited]

Definition at line 88 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.37 QLabel* Ui_KPerfWidget::label_21 [inherited]

Definition at line 86 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.38 QLabel* Ui_KPerfWidget::label_22 [inherited]

Definition at line 70 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.39 QLabel* Ui_KPerfWidget::label_23 [inherited]

Definition at line 97 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.40 QLabel* Ui_KPerfWidget::label_24 [inherited]

Definition at line 87 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.41 QLabel* Ui_KPerfWidget::label_3 [inherited]

Definition at line 79 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.42 QLabel* Ui_KPerfWidget::label_4 [inherited]

Definition at line 62 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.43 QLabel* Ui_KPerfWidget::label_5 [inherited]

Definition at line 50 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.44 QLabel* Ui_KPerfWidget::label_6 [inherited]

Definition at line 58 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.45 QLabel* Ui_KPerfWidget::label_7 [inherited]

Definition at line 72 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.46 QLabel* Ui_KPerfWidget::label_8 [inherited]

Definition at line 54 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.47 QCheckBox* Ui_KPerfWidget::lightBox [inherited]

Definition at line 55 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.48 ColorButton* Ui_KPerfWidget::lightColor1 [inherited]

Definition at line 56 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.49 ColorButton* Ui_KPerfWidget::lightColor2 [inherited]

Definition at line 52 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.50 ColorButton* Ui_KPerfWidget::lightColor3 [inherited]

Definition at line 43 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.51 QFrame* Ui_KPerfWidget::line [inherited]

Definition at line 38 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.52 QFrame* Ui_KPerfWidget::line_2 [inherited]

Definition at line 108 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.53 QFrame* Ui_KPerfWidget::line_3 [inherited]

Definition at line 69 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.54 QCheckBox* Ui_KPerfWidget::lockBox [inherited]

Definition at line 45 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.55 ColorButton* Ui_KPerfWidget::lockColorOff [inherited]

Definition at line 37 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.56 ColorButton* Ui_KPerfWidget::lockColorOn [inherited]

Definition at line 61 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.57 QCheckBox* Ui_KPerfWidget::macroBox [inherited]

Definition at line 47 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.58 ColorButton* Ui_KPerfWidget::macroColorOff [inherited]

Definition at line 78 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.59 ColorButton* Ui_KPerfWidget::macroColorOn [inherited]

Definition at line 82 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.60 QCheckBox* Ui_KPerfWidget::modeBox [inherited]

Definition at line 65 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.61 ColorButton* Ui_KPerfWidget::modeColorOff [inherited]

Definition at line 42 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.62 ColorButton* Ui_KPerfWidget::modeColorOn [inherited]

Definition at line 46 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.63 QCheckBox* Ui_KPerfWidget::muteBox [inherited]

Definition at line 76 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.64 ColorButton* Ui_KPerfWidget::muteColorNA [inherited]

Definition at line 83 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.65 ColorButton* Ui_KPerfWidget::muteColorOff [inherited]

Definition at line 80 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.66 ColorButton* Ui_KPerfWidget::muteColorOn [inherited]

Definition at line 77 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.67 QComboBox* Ui_KPerfWidget::numBox [inherited]

Definition at line 49 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.68 ColorButton* Ui_KPerfWidget::numColorOff [inherited]

Definition at line 67 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.69 ColorButton* Ui_KPerfWidget::numColorOn [inherited]

Definition at line 48 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.70 QComboBox* Ui_KPerfWidget::scrollBox [inherited]

Definition at line 71 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.71 ColorButton* Ui_KPerfWidget::scrollColorOff [inherited]

Definition at line 75 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.72 ColorButton* Ui_KPerfWidget::scrollColorOn [inherited]

Definition at line 73 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.73 QSpacerItem* Ui_KPerfWidget::verticalSpacer [inherited]

Definition at line 63 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.74 QSpacerItem* Ui_KPerfWidget::verticalSpacer_2 [inherited]

Definition at line 51 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.75 QSpacerItem* Ui_KPerfWidget::verticalSpacer_3 [inherited]

Definition at line 64 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.76 QSpacerItem* Ui_KPerfWidget::verticalSpacer_4 [inherited]

Definition at line 57 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kperfwidget.h

12.46 KPerfWidget Class Reference

```
#include <src/ckb/kperfwidget.h>
```

Inheritance diagram for KPerfWidget:

Collaboration diagram for KPerfWidget:

Data Structures

- struct IndicatorUi

Public Types

- typedef KbPerf::indicator indicator
- typedef KbPerf::i_hw i_hw

Public Member Functions

- KPerfWidget (QWidget ∗parent=0)

  KPerfWidget::KPerfWidget sets up the UI for Keyboard Performace panel.
- ∼KPerfWidget ()

  KPerfWidget::∼KPerfWidget nothing unusual - just delete the ui object.
- void setPerf (KbPerf ∗newPerf, KbProfile ∗newProfile)

Static Public Attributes

- static const int I_COUNT = KbPerf::I_COUNT
- static const int HW_I_COUNT = KbPerf::HW_I_COUNT

Private Types

- enum HwMode {
  NORMAL, ALWAYS_ON, ALWAYS_OFF, RGB,
  BOTH }

Private Slots

- void uiUpdated (int index)
- void on_intensityBox_valueChanged (int arg1)
- void on_copyButton_clicked ()

Private Member Functions

- HwMode raw2Mode (bool sw_enable, i_hw hw_enable)

  KPerfWidget::raw2Mode return hardware mode depending on setiings in sw_enable and hw_enable.
- void mode2Raw (HwMode mode, bool &sw_enable, i_hw &hw_enable)

  KPerfWidget::mode2Raw Set values of sw_enable and hw_enable to hte value corresponding to input var mode.

Private Attributes

- Ui::KPerfWidget ∗ ui
- KbPerf ∗ perf
- KbProfile ∗ profile
- IndicatorUi indicators [I_COUNT]
- QList< QWidget ∗ > k95Widgets
- QSignalMapper updateMapper

12.46.1 Detailed Description

Definition at line 16 of file kperfwidget.h.

12.46.2 Data Structure Documentation

12.46.2.1 struct KPerfWidget::IndicatorUi

Definition at line 54 of file kperfwidget.h.

Collaboration diagram for KPerfWidget::IndicatorUi:

Data Fields

ColorButton *	color1	
ColorButton *	color2	
ColorButton *	color3	
QCheckBox *	enable	
QComboBox *	hwEnable	

12.46.3 Member Typedef Documentation

12.46.3.1 typedef KbPerf::i_hw KPerfWidget::i_hw

Definition at line 29 of file kperfwidget.h.

12.46.3.2 typedef KbPerf::indicator KPerfWidget::indicator

Definition at line 28 of file kperfwidget.h.

12.46.4 Member Enumeration Documentation

12.46.4.1 enum KPerfWidget::HwMode [private]

Enumerator

NORMAL

ALWAYS_ON

ALWAYS_OFF

RGB

BOTH

Definition at line 38 of file kperfwidget.h.

```
38                  {
39          NORMAL,
40          ALWAYS_ON,
41          ALWAYS_OFF,
42          RGB,
43          BOTH
44      };
```

12.46.5 Constructor & Destructor Documentation

12.46.5.1 KPerfWidget::KPerfWidget (QWidget * *parent* = 0) [explicit]

Parameters

parent	

Definition at line 10 of file kperfwidget.cpp.

References ColorButton::allowAlpha(), ColorButton::bigIcons(), Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, KPerfWidget::IndicatorUi::hwEnable, I_COUNT, indicators, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::k95Line, Ui_KPerfWidget::k95Spacer, k95Widgets, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, Ui_KPerfWidget::scrollColorOn, ColorButton::setLabel(), Ui_KPerfWidget::setupUi(), ui, uiUpdated(), and updateMapper.

```
10                                          :
11      QWidget(parent),
12      ui(new Ui::KPerfWidget)
13  {
14      ui->setupUi(this);
15      // Set up indicators
```

```
 indicators[0].enable = 0; indicators[0].hwEnable = ui->numBox; indicators[0].color1 = ui->numColorOn; indicators[0].color2 = ui->numColorOff; indicators[0].color3 = 0;
 indicators[1].enable = 0; indicators[1].hwEnable = ui->capsBox; indicators[1].color1 = ui->capsColorOn; indicators[1].color2 = ui->capsColorOff; indicators[1].color3 = 0;
 indicators[2].enable = 0; indicators[2].hwEnable = ui->scrollBox; indicators[2].color1 = ui->scrollColorOn; indicators[2].color2 = ui->scrollColorOff; indicators[2].color3 = 0;
 indicators[3].enable = ui->modeBox; indicators[3].hwEnable = 0; indicators[3].color1 = ui->modeColorOn; indicators[3].color2 = ui->modeColorOff; indicators[3].color3 = 0;
 indicators[4].enable = ui->macroBox; indicators[4].hwEnable = 0; indicators[4].color1 = ui->macroColorOn; indicators[4].color2 = ui->macroColorOff; indicators[4].color3 = 0;
 indicators[5].enable = ui->lightBox; indicators[5].hwEnable = 0; indicators[5].color1 = ui->lightColor1; indicators[5].color2 = ui->lightColor2; indicators[5].color3 = ui->lightColor3;
 indicators[6].enable = ui->lockBox; indicators[6].hwEnable = 0; indicators[6].color1 = ui->lockColorOn; indicators[6].color2 = ui->lockColorOff; indicators[6].color3 = 0;
 indicators[7].enable = ui->muteBox; indicators[7].hwEnable = 0; indicators[7].color1 = ui->muteColorOn; indicators[7].color2 = ui->muteColorOff; indicators[7].color3 = ui->muteColorNA;
 for(int i = 0; i < I_COUNT; i++){
     indicators[i].color1->setLabel(false);
     indicators[i].color1->bigIcons(true);
     indicators[i].color1->allowAlpha(true);
     indicators[i].color2->setLabel(false);
     indicators[i].color2->bigIcons(true);
     indicators[i].color2->allowAlpha(true);
     if(indicators[i].color3){
         indicators[i].color3->setLabel(false);
         indicators[i].color3->bigIcons(true);
         indicators[i].color3->allowAlpha(true);
     }
     // Map signals
     if(indicators[i].enable){
         connect(indicators[i].enable, SIGNAL(clicked(bool)), &updateMapper, SLOT(map()));
         updateMapper.setMapping(indicators[i].enable, i);
     }
     if(indicators[i].hwEnable){
         connect(indicators[i].hwEnable, SIGNAL(activated(int)), &updateMapper, SLOT(map()));
         updateMapper.setMapping(indicators[i].hwEnable, i);
     }
     connect(indicators[i].color1, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
     updateMapper.setMapping(indicators[i].color1, i);
     connect(indicators[i].color2, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
     updateMapper.setMapping(indicators[i].color2, i);
     if(indicators[i].color3){
         connect(indicators[i].color3, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
         updateMapper.setMapping(indicators[i].color3, i);
     }
 }
 connect(&updateMapper, SIGNAL(mapped(int)), this, SLOT(uiUpdated(int)));
 k95Widgets << ui->modeBox << ui->modeColorOn << ui->modeColorOff << ui->macroBox << ui->macroColorOn << ui->macroColorOff << ui->k95Label1 << ui->k95Label2 << ui->k95Label3 << ui->k95Label4 << ui->k95Label5 << ui->k95Label6 << ui->k95Line << ui->k95Spacer;
}
```

Here is the call graph for this function:

12.46.5.2 KPerfWidget::~KPerfWidget ( )

Definition at line 61 of file kperfwidget.cpp.

References ui.

```
61                          {
62     delete ui;
63 }
```

12.46.6 Member Function Documentation

12.46.6.1 void KPerfWidget::mode2Raw (HwMode *mode*, bool & *sw_enable*, i_hw & *hw_enable*) [private]

Parameters

[IN]	mode
[OUT]	sw_enable
[OUT]	hw_enable
[IN]	mode
[OUT]	sw_enable
[OUT]	hw_enable mode determines how colors at a key and separate indicators should be handled: Mode | sw | hw _ | _ | _ NORMAL | No color change at the key | use the separate indicator depending on key state ALWAYS_ON | No color change at the key | switch on separate indicator ALWAYS_OFF | No color change at the key | switch off separate indicator RGB | use color change at the key depending on color sliders | switch off separate indicator BOTH | use color change at the key depending on color sliders | use the separate indicator depending on key state

Definition at line 100 of file kperfwidget.cpp.

References ALWAYS_OFF, ALWAYS_ON, BOTH, NORMAL, KbPerf::NORMAL, KbPerf::OFF, KbPerf::ON, and RGB.

Referenced by uiUpdated().

```
100                                                                 {
101     switch(mode){
102     case NORMAL:
```

```
        sw_enable = false;
        hw_enable = KbPerf::NORMAL;
        break;
    case ALWAYS_ON:
        sw_enable = false;
        hw_enable = KbPerf::ON;
        break;
    case ALWAYS_OFF:
        sw_enable = false;
        hw_enable = KbPerf::OFF;
        break;
    case RGB:
        sw_enable = true;
        hw_enable = KbPerf::OFF;
        break;
    case BOTH:
        sw_enable = true;
        hw_enable = KbPerf::NORMAL;
        break;
    }
}
```

Here is the caller graph for this function:

12.46.6.2 void KPerfWidget::on_copyButton_clicked ( ) [private],[slot]

Definition at line 221 of file kperfwidget.cpp.

References KbProfile::currentMode(), KbProfile::modes(), perf, KbMode::perf(), profile, and ModeSelectDialog::selection().

```
221                                         {
222     ModeSelectDialog dialog(this, profile->currentMode(),
      profile->modes(), "Copy performance settings to:");
223     if(dialog.exec() != QDialog::Accepted)
224         return;
225     QList<KbMode*> selectedModes = dialog.selection();
226     foreach(KbMode* mode, selectedModes){
227         *mode->perf() = *perf;
228     }
229 }
```

Here is the call graph for this function:

12.46.6.3 void KPerfWidget::on_intensityBox_valueChanged (int *arg1*) [private],[slot]

Definition at line 215 of file kperfwidget.cpp.

References KbPerf::iOpacity(), and perf.

```
215                                                     {
216     if(!perf)
217         return;
218     perf->iOpacity(arg1 / 100.f);
219 }
```

Here is the call graph for this function:

12.46.6.4 KPerfWidget::HwMode KPerfWidget::raw2Mode (bool *sw_enable,* i_hw *hw_enable*) [private]

Parameters

sw_enable	
hw_enable	

Returns

the mode of operation for key-coloring and separate indicators.

See Also

KPerfWidget::mode2Raw for details.

Definition at line 72 of file kperfwidget.cpp.

References ALWAYS_OFF, ALWAYS_ON, BOTH, NORMAL, KbPerf::NORMAL, KbPerf::OFF, KbPerf::ON, and RGB.

Referenced by setPerf().

```
72                                                                  {
73     if(sw_enable){
74         if(hw_enable == KbPerf::NORMAL)
75             return BOTH;
76         return RGB;
77     } else {
78         if(hw_enable == KbPerf::ON)
79             return ALWAYS_ON;
80         else if(hw_enable == KbPerf::OFF)
81             return ALWAYS_OFF;
82         return NORMAL;
83     }
84 }
```

Here is the caller graph for this function:

12.46.6.5 void KPerfWidget::setPerf (KbPerf * *newPerf*, KbProfile * *newProfile*)

Definition at line 125 of file kperfwidget.cpp.

References BOTH, ColorButton::color(), KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, KbPerf::getIndicator(), HW_I_COUNT, KPerfWidget::IndicatorUi::hwEnable, I_COUNT, indicators, Ui_KPerfWidget::intensityBox, KbPerf::iOpacity(), KeyMap::K95, k95Widgets, KbProfile::keyMap(), Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_17, KeyMap::model(), Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, perf, profile, raw2Mode(), RGB, KeyMap::STRAFE, and ui.

Referenced by KbWidget::modeChanged().

```
125                                                                 {
126     perf = newPerf;
127     profile = newProfile;
128     // Set intensity
129     ui->intensityBox->setValue(round(perf->iOpacity() * 100.f));
130     // Set hardware indicator values
131     for(int i = 0; i < HW_I_COUNT; i++){
132         QColor c1, c2, c3;
133         bool software;
134         i_hw hardware;
135         perf->getIndicator((indicator)i, c1, c2, c3, software, hardware);
136         HwMode mode = raw2Mode(software, hardware);
137         indicators[i].hwEnable->setCurrentIndex((int)mode);
138         indicators[i].color1->color(c1);
139         indicators[i].color2->color(c2);
140         if(mode == RGB || mode == BOTH){
141             indicators[i].color1->setEnabled(true);
142             indicators[i].color2->setEnabled(true);
143         } else {
144             indicators[i].color1->setEnabled(false);
145             indicators[i].color2->setEnabled(false);
146         }
147     }
148     // Set software indicators
149     for(int i = HW_I_COUNT; i < I_COUNT; i++){
150         QColor c1, c2, c3;
151         bool software;
152         i_hw hardware;
153         perf->getIndicator((indicator)i, c1, c2, c3, software, hardware);
154         indicators[i].enable->setChecked(software);
155         indicators[i].color1->color(c1);
156         indicators[i].color2->color(c2);
157         if(indicators[i].color3) indicators[i].color3->
    color(c3);
158         if(software){
159             indicators[i].color1->setEnabled(true);
160             indicators[i].color2->setEnabled(true);
161             if(indicators[i].color3) indicators[i].color3->setEnabled(true);
162         } else {
163             indicators[i].color1->setEnabled(false);
164             indicators[i].color2->setEnabled(false);
165             if(indicators[i].color3) indicators[i].color3->setEnabled(false);
166         }
167     }
168     // Hide K95 indicators on non-K95s
169     if(profile->keyMap().model() == KeyMap::K95){
170         foreach(QWidget* w, k95Widgets)
171             w->show();
172     } else {
173         foreach(QWidget* w, k95Widgets)
174             w->hide();
175         if(profile->keyMap().model() == KeyMap::STRAFE) { // hide
```

```
        indicators unsupported by STRAFE
            ui->muteBox->hide();
            ui->muteColorOn->hide();
            ui->muteColorOff->hide();
            ui->muteColorNA->hide();
            ui->label_12->hide();
            ui->label_14->hide();
            ui->label_17->hide();
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.46.6.6 void KPerfWidget::uiUpdated (int *index*) [private],[slot]

Definition at line 187 of file kperfwidget.cpp.

References ColorButton::color(), KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, indicators, mode2Raw(), KbPerf::NONE, perf, and KbPerf::setIndicator().

Referenced by KPerfWidget().

```
                                    {
    if(!perf)
        return;
    // Read HW/SW enable state
    bool software;
    i_hw hardware;
    if(indicators[index].enable){
        software = indicators[index].enable->isChecked();
        hardware = KbPerf::NONE;
    } else {
        mode2Raw((HwMode)indicators[index].hwEnable->currentIndex(), software, hardware);
    }
    // Enable/disable color buttons based on whether or not the indicator is turned on
    if(software){
        indicators[index].color1->setEnabled(true);
        indicators[index].color2->setEnabled(true);
        if(indicators[index].color3) indicators[index].color3->setEnabled(true);
    } else {
        indicators[index].color1->setEnabled(false);
        indicators[index].color2->setEnabled(false);
        if(indicators[index].color3) indicators[index].color3->setEnabled(false);
    }
    QColor c1 = indicators[index].color1->color();
    QColor c2 = indicators[index].color2->color();
    QColor c3 = indicators[index].color3 ? indicators[index].color3->color() : QColor();
    perf->setIndicator((indicator)index, c1, c2, c3, software, hardware);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.46.7 Field Documentation

12.46.7.1 const int KPerfWidget::HW_I_COUNT = KbPerf::HW_I_COUNT [static]

Definition at line 27 of file kperfwidget.h.

Referenced by setPerf().

12.46.7.2 const int KPerfWidget::I_COUNT = KbPerf::I_COUNT [static]

Definition at line 26 of file kperfwidget.h.

Referenced by KPerfWidget(), and setPerf().

12.46.7.3 IndicatorUi KPerfWidget::indicators[I_COUNT] [private]

Definition at line 59 of file kperfwidget.h.

Referenced by KPerfWidget(), setPerf(), and uiUpdated().

12.46.7.4 QList<QWidget*> KPerfWidget::k95Widgets [private]

Definition at line 60 of file kperfwidget.h.

Referenced by KPerfWidget(), and setPerf().

12.46.7.5 KbPerf* KPerfWidget::perf [private]

Definition at line 34 of file kperfwidget.h.

Referenced by on_copyButton_clicked(), on_intensityBox_valueChanged(), setPerf(), and uiUpdated().

12.46.7.6 KbProfile* KPerfWidget::profile [private]

Definition at line 35 of file kperfwidget.h.

Referenced by on_copyButton_clicked(), and setPerf().

12.46.7.7 Ui::KPerfWidget* KPerfWidget::ui [private]

Definition at line 32 of file kperfwidget.h.

Referenced by KPerfWidget(), setPerf(), and ~KPerfWidget().

12.46.7.8 QSignalMapper KPerfWidget::updateMapper [private]

Definition at line 62 of file kperfwidget.h.

Referenced by KPerfWidget().

The documentation for this class was generated from the following files:

- src/ckb/kperfwidget.h
- src/ckb/kperfwidget.cpp

12.47 Ui::LayoutDialog Class Reference

```
#include <src/ckb/ui_layoutdialog.h>
```

Inheritance diagram for Ui::LayoutDialog:

Collaboration diagram for Ui::LayoutDialog:

Public Member Functions

- void setupUi (QDialog *LayoutDialog)
- void retranslateUi (QDialog *LayoutDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QDialogButtonBox * buttonBox
- QLabel * label
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_2
- QSpacerItem * horizontalSpacer
- QComboBox * comboBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_4

12.47.1 Detailed Description

Definition at line 119 of file ui_layoutdialog.h.

12.47.2 Member Function Documentation

12.47.2.1 void Ui_LayoutDialog::retranslateUi (QDialog * *LayoutDialog*) [inline], [inherited]

Definition at line 109 of file ui_layoutdialog.h.

References Ui_LayoutDialog::label, and Ui_LayoutDialog::label_2.

Referenced by Ui_LayoutDialog::setupUi().

```
    {
        LayoutDialog->setWindowTitle(QApplication::translate("LayoutDialog", "Keyboard Layout", Q_NULLPTR));
        label->setText(QApplication::translate("LayoutDialog", "Please select your keyboard layout:", Q_NULLPTR));
        label_2->setText(QApplication::translate("LayoutDialog", "Note: this only controls the layout within the ckb application. If your keys are typing the wrong characters, check your system preferences.", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.47.2.2 void Ui_LayoutDialog::setupUi (QDialog * *LayoutDialog*) [inline],[inherited]

Definition at line 41 of file ui_layoutdialog.h.

References Ui_LayoutDialog::buttonBox, Ui_LayoutDialog::comboBox, Ui_LayoutDialog::gridLayout, Ui_LayoutDialog::horizontalSpacer, Ui_LayoutDialog::horizontalSpacer_2, Ui_LayoutDialog::label, Ui_LayoutDialog::label_2, Ui_LayoutDialog::retranslateUi(), Ui_LayoutDialog::verticalSpacer, Ui_LayoutDialog::verticalSpacer_2, Ui_LayoutDialog::verticalSpacer_3, and Ui_LayoutDialog::verticalSpacer_4.

Referenced by LayoutDialog::LayoutDialog().

```
42     {
43         if (LayoutDialog->objectName().isEmpty())
44             LayoutDialog->setObjectName(QStringLiteral("LayoutDialog"));
45         LayoutDialog->resize(400, 240);
46         gridLayout = new QGridLayout(LayoutDialog);
47         gridLayout->setObjectName(QStringLiteral("gridLayout"));
48         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
49
50         gridLayout->addItem(verticalSpacer, 6, 0, 1, 3);
51
52         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
53
54         gridLayout->addItem(verticalSpacer_3, 0, 1, 1, 1);
55
56         buttonBox = new QDialogButtonBox(LayoutDialog);
57         buttonBox->setObjectName(QStringLiteral("buttonBox"));
58         buttonBox->setOrientation(Qt::Horizontal);
59         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
60
61         gridLayout->addWidget(buttonBox, 7, 0, 1, 3);
62
63         label = new QLabel(LayoutDialog);
64         label->setObjectName(QStringLiteral("label"));
65         label->setAlignment(Qt::AlignCenter);
66
67         gridLayout->addWidget(label, 1, 0, 1, 3);
68
69         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
70
71         gridLayout->addItem(horizontalSpacer_2, 3, 2, 1, 1);
72
73         verticalSpacer_2 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
74
75         gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);
76
77         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79         gridLayout->addItem(horizontalSpacer, 3, 0, 1, 1);
80
81         comboBox = new QComboBox(LayoutDialog);
82         comboBox->setObjectName(QStringLiteral("comboBox"));
83
84         gridLayout->addWidget(comboBox, 3, 1, 1, 1);
85
86         label_2 = new QLabel(LayoutDialog);
87         label_2->setObjectName(QStringLiteral("label_2"));
88         QFont font;
89         font.setPointSize(8);
90         font.setItalic(true);
91         label_2->setFont(font);
92         label_2->setAlignment(Qt::AlignCenter);
93         label_2->setWordWrap(true);
94
95         gridLayout->addWidget(label_2, 5, 0, 1, 3);
96
97         verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
98
99         gridLayout->addItem(verticalSpacer_4, 2, 1, 1, 1);
100
101
102         retranslateUi(LayoutDialog);
103         QObject::connect(buttonBox, SIGNAL(accepted()), LayoutDialog, SLOT(accept()));
104         QObject::connect(buttonBox, SIGNAL(rejected()), LayoutDialog, SLOT(reject()));
105
106         QMetaObject::connectSlotsByName(LayoutDialog);
107     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.47.3 Field Documentation

12.47.3.1 QDialogButtonBox* Ui_LayoutDialog::buttonBox [inherited]

Definition at line 32 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.2 QComboBox* Ui_LayoutDialog::comboBox [inherited]

Definition at line 37 of file ui_layoutdialog.h.

Referenced by LayoutDialog::LayoutDialog(), LayoutDialog::selected(), and Ui_LayoutDialog::setupUi().

12.47.3.3 QGridLayout* Ui_LayoutDialog::gridLayout [inherited]

Definition at line 29 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.4 QSpacerItem* Ui_LayoutDialog::horizontalSpacer [inherited]

Definition at line 36 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.5 QSpacerItem* Ui_LayoutDialog::horizontalSpacer_2 [inherited]

Definition at line 34 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.6 QLabel* Ui_LayoutDialog::label [inherited]

Definition at line 33 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::retranslateUi(), and Ui_LayoutDialog::setupUi().

12.47.3.7 QLabel* Ui_LayoutDialog::label_2 [inherited]

Definition at line 38 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::retranslateUi(), and Ui_LayoutDialog::setupUi().

12.47.3.8 QSpacerItem* Ui_LayoutDialog::verticalSpacer [inherited]

Definition at line 30 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.9 QSpacerItem* Ui_LayoutDialog::verticalSpacer_2 [inherited]

Definition at line 35 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.10 QSpacerItem* Ui_LayoutDialog::verticalSpacer_3 [inherited]

Definition at line 31 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.11 QSpacerItem* Ui_LayoutDialog::verticalSpacer_4 [inherited]

Definition at line 39 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_layoutdialog.h

12.48 LayoutDialog Class Reference

```
#include <src/ckb/layoutdialog.h>
```

Inheritance diagram for LayoutDialog:

Collaboration diagram for LayoutDialog:

Public Member Functions

- LayoutDialog (QWidget *parent=0)
- ~LayoutDialog ()
- KeyMap::Layout selected () const

Private Attributes

- Ui::LayoutDialog * ui

12.48.1 Detailed Description

Definition at line 13 of file layoutdialog.h.

12.48.2 Constructor & Destructor Documentation

12.48.2.1 LayoutDialog::LayoutDialog (QWidget * *parent* = 0) [explicit]

Definition at line 5 of file layoutdialog.cpp.

References Ui_LayoutDialog::comboBox, Kb::layout(), KeyMap::layoutNames(), Ui_LayoutDialog::setupUi(), and ui.

```
5                                       :
6     QDialog(parent),
7     ui(new Ui::LayoutDialog) {
8     ui->setupUi(this);
9     // Populate layout list
10     ui->comboBox->addItems(KeyMap::layoutNames());
11     ui->comboBox->setCurrentIndex((int)Kb::layout());
12 }
```

Here is the call graph for this function:

12.48.2.2 LayoutDialog::~LayoutDialog ( )

Definition at line 14 of file layoutdialog.cpp.

References ui.

```
14                              {
15     delete ui;
16 }
```

12.48.3 Member Function Documentation

12.48.3.1 KeyMap::Layout LayoutDialog::selected ( ) const

Definition at line 18 of file layoutdialog.cpp.

References Ui_LayoutDialog::comboBox, and ui.

Referenced by SettingsWidget::showLayoutDialog().

```
18                                          {
19     return (KeyMap::Layout)ui->comboBox->currentIndex();
20 }
```

Here is the caller graph for this function:

12.48.4 Field Documentation

12.48.4.1 Ui::LayoutDialog* LayoutDialog::ui [private]

Definition at line 24 of file layoutdialog.h.

Referenced by LayoutDialog(), selected(), and ~LayoutDialog().

The documentation for this class was generated from the following files:

- src/ckb/layoutdialog.h
- src/ckb/layoutdialog.cpp

12.49 MacroReader Class Reference

The MacroReader class creates a worker thread object. It does a connect do delayed deletion of thread local variables in the case the worker thread terminates.

`#include <src/ckb/macroreader.h>`

Inheritance diagram for MacroReader:

Collaboration diagram for MacroReader:

Public Member Functions

- MacroReader ()

  MacroReader Calling MacroReader without params is not allowed.
- MacroReader (int macroNumber, QString macroPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  MacroReader This is the only allowed constructor. It only calls startWorkInAThread() with the four params.
- ∼MacroReader ()
- void startWorkInAThread (int macroNumber, QString macroPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  startWorkInAThread This member function creates the new thread object and starts it with the four params.

Private Attributes

- MacroReaderThread ∗ macroReaderThread

12.49.1 Detailed Description

Definition at line 87 of file macroreader.h.

12.49.2 Constructor & Destructor Documentation

12.49.2.1 MacroReader::MacroReader ( )

Definition at line 9 of file macroreader.cpp.

```
9                           {
10      qDebug() << "Calling MacroReader without params is not allowed.";
11  }
```

12.49.2.2 MacroReader::MacroReader (int *macroNumber*, QString *macroPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*)

Parameters

macroNumber	
macroPath	
macBox	
macText	

Definition at line 13 of file macroreader.cpp.

References startWorkInAThread().

```
13
        {
14      startWorkInAThread(macroNumber, macroPath, macBox, macText);
15  }
```

Here is the call graph for this function:

12.49.2.3 MacroReader::~MacroReader ( )

Definition at line 16 of file macroreader.cpp.

```
16 {}
```

12.49.3 Member Function Documentation

12.49.3.1 void MacroReader::startWorkInAThread (int *macroNumber*, QString *macroPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*)

Parameters

macroNumber	
macroPath	
macBox	
macText	

Definition at line 18 of file macroreader.cpp.

References macroReaderThread.

Referenced by MacroReader().

```
18                                                  {
19     macroReaderThread = new MacroReaderThread(macroNumber, macroPath,
       macBox, macText);
20     connect(macroReaderThread, &MacroReaderThread::finished,
       macroReaderThread, &QObject::deleteLater);
21     macroReaderThread->start();
22 }
```

Here is the caller graph for this function:

12.49.4 Field Documentation

12.49.4.1 MacroReaderThread* MacroReader::macroReaderThread [private]

Definition at line 123 of file macroreader.h.

Referenced by startWorkInAThread().

The documentation for this class was generated from the following files:

- src/ckb/macroreader.h
- src/ckb/macroreader.cpp

12.50 MacroReaderThread Class Reference

The MacroReaderThread class is responsible for reading Macro Key Values. It is created as a separate thread (worker thread) for reading macro commands from an fresh opened notify channel. Standard notify channel for macro definitions is number 2.

`#include <src/ckb/macroreader.h>`

Inheritance diagram for MacroReaderThread:

Collaboration diagram for MacroReaderThread:

Public Member Functions

- MacroReaderThread (int macNum, QString macPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  MacroReaderThread saves the four params to local vars with similar varNames.

- void run () Q_DECL_OVERRIDE

  run is the notification reader main loop.

Private Slots

- void readMacro (QString line)

  readMacro is called for each line received by the worker thread. The method ist called via signal (metaObject) from the worker thread, which reads the keyboard input. Just display the key code in the macroBox Widget without he trailing newline and reposition the cursor in the macro pane.

Private Attributes

- int macroNumber

  macroNumber Filenames of nofity channels have the structure <input-device-path>/ckb1/notify<number> First part is hold in macroPath, the number is hold in macroNumber. macroNumber may range from 0 to 9.
- QString macroPath

  macroPath holds the path for the notify channel
- QPlainTextEdit * macroBox

  macroBox will receive the Macro Key Values sent from the keyboard while defining a new macro.
- QPlainTextEdit * macroText

  macroText is the other textpane used in the UI while typing new macros. That variable is used for setting the focus to that textpane and to set the cursor at EOT.

12.50.1 Detailed Description

While the worker Thread gets input from the keyboard, the lines are sent via signalling (metaobject) to run a member function in the context of the Qt UI manager.

When the notify channel is closed (that's normally done by pressing "Stop"-Button in the UI), the worker thread closes the channelFile and leaves.

See Also

MacroReaderThread(), ~MacroReaderThread(), readMaco(), run()

Definition at line 22 of file macroreader.h.

12.50.2 Constructor & Destructor Documentation

12.50.2.1 MacroReaderThread::MacroReaderThread (int *macNum*, QString *macPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*) [inline]

Parameters

macNum	
macPath	
macBox	
macText	

Definition at line 55 of file macroreader.h.

References macroBox, macroNumber, macroPath, and macroText.

```
55                                                                                                                  {
56          macroNumber = macNum;
57          macroPath = macPath;
58          macroBox = macBox;
59          macroText = macText;
60      }
```

12.50.3 Member Function Documentation

12.50.3.1 void MacroReaderThread::readMacro (QString *line*) [private],[slot]

This is used, because the worker thread shouldn't get access to the UI elements (and normally has none, because the pointers macroBox and macroText remain on the stack). That mechanism guarantees, that the UI does not freeze if it happens something magic to the reading function.

Parameters

line	holds the line just got from keyboard

We want to see the keys as they appear in the macroText Widget.

Because it is possible to change the Focus via keyboard, we must set the focus on each call.

Definition at line 27 of file macroreader.cpp.

References macroBox, and macroText.

```
27                                                  {
32      macroText->setFocus();
33      QTextCursor c = macroText->textCursor();
34      c.setPosition(macroText->toPlainText().length());
35      macroText->setTextCursor(c);
36      macroBox->appendPlainText(line.left(line.size()-1));
37  }
```

12.50.3.2 void MacroReaderThread::run ( )

MacroReaderThread::run is the standard main function for a thread. Tries to open a file <macroPath><macroNumber> several times (in this case, it should be possible the first time (the code was recycled from kb.cpp).

While the file is open, read lines an signal them via metaObject() to the main thread. When the file is closed by the sender, close it as reader and terminate.

Definition at line 47 of file macroreader.cpp.

References macroBox, macroNumber, macroPath, and macroText.

```
47                                  {
48      qDebug() << "MacroReader::run() started with" << macroNumber << "and" <<
        macroPath << "and" << macroBox << "and" << macroText;
49
50      QFile macroFile(macroPath);
51      // Wait a small amount of time for the node to open (100ms) (code reused from kb.cpp)
52      QThread::usleep(100000);
53      if(!macroFile.open(QIODevice::ReadOnly)){
54          // If it's still not open, try again before giving up (1s at a time, 10s total)
55          QThread::usleep(900000);
56          for(int i = 1; i < 10; i++){
57              if(macroFile.open(QIODevice::ReadOnly))
58                  break;
59              QThread::sleep(1);
60          }
61          if(!macroFile.isOpen()) {
62              qDebug() << QString("unable to open macroFile (%1)").arg(macroPath);
63              return;
64          }
65      }
66      // Read data from notification node macroPath
67      // Count time between lines read from the interface
68      QByteArray line;
69      timeval t;
70      gettimeofday(&t, NULL);
71      double tstart = t.tv_sec+(t.tv_usec/1000000.0);
72      bool firstline = true;
73
74      while(macroFile.isOpen() && (line = macroFile.readLine()).length() > 0){
75          QString text = QString::fromUtf8(line);
76          gettimeofday(&t, NULL);
77          double tnow = t.tv_sec+(t.tv_usec/1000000.0);
78
79          // in the first line, there is only a delay "before start". Don't use it.
80          if (!firstline) {
```

```
            text.prepend ("\n");
            text.prepend (QString::number ((tnow - tstart) * 1000000.0, 'f', 0));
            text.prepend ("=");
        } else firstline = false;
        tstart = tnow;

        metaObject()->invokeMethod(this, "readMacro", Qt::QueuedConnection, Q_ARG(QString, text));
    }
    qDebug() << "MacroReader::run() ends.";
    macroFile.close();
    QThread::exit ();
}
```

12.50.4 Field Documentation

12.50.4.1 QPlainTextEdit* MacroReaderThread::macroBox [private]

Definition at line 40 of file macroreader.h.

Referenced by MacroReaderThread(), readMacro(), and run().

12.50.4.2 int MacroReaderThread::macroNumber [private]

Definition at line 31 of file macroreader.h.

Referenced by MacroReaderThread(), and run().

12.50.4.3 QString MacroReaderThread::macroPath [private]

See Also

macroNumber

Definition at line 36 of file macroreader.h.

Referenced by MacroReaderThread(), and run().

12.50.4.4 QPlainTextEdit* MacroReaderThread::macroText [private]

Definition at line 45 of file macroreader.h.

Referenced by MacroReaderThread(), readMacro(), and run().

The documentation for this class was generated from the following files:

- src/ckb/macroreader.h
- src/ckb/macroreader.cpp

12.51 Ui::MainWindow Class Reference

```
#include <src/ckb/ui_mainwindow.h>
```

Inheritance diagram for Ui::MainWindow:

Collaboration diagram for Ui::MainWindow:

Public Member Functions

- void setupUi (QMainWindow *MainWindow)
- void retranslateUi (QMainWindow *MainWindow)

Data Fields

- QAction * actionExit
- QAction * actionAbout
- QWidget * centralWidget
- QGridLayout * gridLayout
- QTabWidget * tabWidget

12.51.1 Detailed Description

Definition at line 79 of file ui_mainwindow.h.

12.51.2 Member Function Documentation

12.51.2.1 void Ui_MainWindow::retranslateUi (QMainWindow * *MainWindow*) [inline],[inherited]

Definition at line 68 of file ui_mainwindow.h.

References Ui_MainWindow::actionAbout, and Ui_MainWindow::actionExit.

Referenced by Ui_MainWindow::setupUi().

```
69     {
70         MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
71         actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
72         actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
73         actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
74     } // retranslateUi
```

Here is the caller graph for this function:

12.51.2.2 void Ui_MainWindow::setupUi (QMainWindow * *MainWindow*) [inline],[inherited]

Definition at line 33 of file ui_mainwindow.h.

References Ui_MainWindow::actionAbout, Ui_MainWindow::actionExit, Ui_MainWindow::centralWidget, Ui_MainWindow::gridLayout, Ui_MainWindow::retranslateUi(), and Ui_MainWindow::tabWidget.

Referenced by MainWindow::MainWindow().

```
34     {
35         if (MainWindow->objectName().isEmpty())
36             MainWindow->setObjectName(QStringLiteral("MainWindow"));
37         MainWindow->resize(1000, 750);
38         MainWindow->setMinimumSize(QSize(1000, 750));
39         QIcon icon;
40         icon.addFile(QStringLiteral(":/img/ckb-logo.png"), QSize(), QIcon::Normal, QIcon::Off);
```

```
        MainWindow->setWindowIcon(icon);
        MainWindow->setUnifiedTitleAndToolBarOnMac(true);
        actionExit = new QAction(MainWindow);
        actionExit->setObjectName(QStringLiteral("actionExit"));
        actionAbout = new QAction(MainWindow);
        actionAbout->setObjectName(QStringLiteral("actionAbout"));
        centralWidget = new QWidget(MainWindow);
        centralWidget->setObjectName(QStringLiteral("centralWidget"));
        gridLayout = new QGridLayout(centralWidget);
        gridLayout->setSpacing(6);
        gridLayout->setContentsMargins(11, 11, 11, 11);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        tabWidget = new QTabWidget(centralWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));

        gridLayout->addWidget(tabWidget, 0, 0, 1, 1);

        MainWindow->setCentralWidget(centralWidget);

        retranslateUi(MainWindow);

        tabWidget->setCurrentIndex(-1);


        QMetaObject::connectSlotsByName(MainWindow);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.51.3 Field Documentation

12.51.3.1 QAction* Ui_MainWindow::actionAbout [inherited]

Definition at line 28 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::retranslateUi(), and Ui_MainWindow::setupUi().

12.51.3.2 QAction* Ui_MainWindow::actionExit [inherited]

Definition at line 27 of file ui_mainwindow.h.

Referenced by MainWindow::MainWindow(), Ui_MainWindow::retranslateUi(), and Ui_MainWindow::setupUi().

12.51.3.3 QWidget* Ui_MainWindow::centralWidget [inherited]

Definition at line 29 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::setupUi().

12.51.3.4 QGridLayout* Ui_MainWindow::gridLayout [inherited]

Definition at line 30 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::setupUi().

12.51.3.5 QTabWidget* Ui_MainWindow::tabWidget [inherited]

Definition at line 31 of file ui_mainwindow.h.

Referenced by MainWindow::addDevice(), MainWindow::MainWindow(), MainWindow::removeDevice(), Ui_MainWindow::setupUi(), and MainWindow::showFwUpdateNotification().

The documentation for this class was generated from the following file:

- src/ckb/ui_mainwindow.h

12.52 MainWindow Class Reference

```
#include <src/ckb/mainwindow.h>
```

Inheritance diagram for MainWindow:

Collaboration diagram for MainWindow:

Public Slots

- void showWindow ()
- void stateChange (Qt::ApplicationState state)
- void quitApp ()

Public Member Functions

- MainWindow (QWidget ∗parent=0)
- ∼MainWindow ()
- void toggleTrayIcon (bool visible)

Static Public Attributes

- static MainWindow ∗ mainWindow = 0

Private Slots

- void addDevice (Kb ∗device)
- void removeDevice (Kb ∗device)
- void updateVersion ()
- void checkFwUpdates ()
- void timerTick ()
- void iconClicked (QSystemTrayIcon::ActivationReason reason)
- void cleanup ()
- void showFwUpdateNotification (QWidget ∗widget, float version)

Private Member Functions

- void closeEvent (QCloseEvent ∗event)

Private Attributes

- SettingsWidget * settingsWidget
- QList< KbWidget * > kbWidgets
- QAction * restoreAction
- QAction * closeAction
- QMenu * trayIconMenu
- QSystemTrayIcon * trayIcon
- Ui::MainWindow * ui

12.52.1 Detailed Description

Definition at line 27 of file mainwindow.h.

12.52.2 Constructor & Destructor Documentation

12.52.2.1 MainWindow::MainWindow (QWidget * *parent* = 0) [explicit]

Definition at line 35 of file mainwindow.cpp.

References Ui_MainWindow::actionExit, addDevice(), cleanup(), closeAction, configLabel, CkbSettings::get(), iconClicked(), KbManager::init(), KbManager::kbManager(), mainWindow, quitApp(), removeDevice(), restoreAction, KbManager::scanTimer(), settingsWidget, Ui_MainWindow::setupUi(), SettingsWidget::setVersion(), showWindow(), stateChange(), Ui_MainWindow::tabWidget, timerTick(), toggleTrayIcon(), trayIcon, trayIconMenu, ui, and updateVersion().

```
                                    :
    QMainWindow(parent),
    ui(new Ui::MainWindow)
{
    ui->setupUi(this);
    mainWindow = this;

    // Start device manager
    KbManager::init(CKB_VERSION_STR);
    connect(KbManager::kbManager(), SIGNAL(kbConnected(Kb*)), this, SLOT(addDevice(Kb*)));
    connect(KbManager::kbManager(), SIGNAL(kbDisconnected(Kb*)), this, SLOT(removeDevice(Kb*)));
    connect(KbManager::kbManager(), SIGNAL(versionUpdated()), this, SLOT(updateVersion()));
    connect(KbManager::scanTimer(), SIGNAL(timeout()), this, SLOT(timerTick()));

    // Set up tray icon
    restoreAction = new QAction(tr("Restore"), this);
    closeAction = new QAction(tr("Quit ckb"), this);
#ifdef USE_LIBAPPINDICATOR
    QString desktop = std::getenv("XDG_CURRENT_DESKTOP");
    unityDesktop = (desktop.toLower() == "unity");

    if(unityDesktop){
        trayIcon = 0;

        indicatorMenu = gtk_menu_new();
        indicatorMenuRestoreItem = gtk_menu_item_new_with_label("Restore");
        indicatorMenuQuitItem = gtk_menu_item_new_with_label("Quit ckb");

        gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuRestoreItem);
        gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuQuitItem);

        g_signal_connect(indicatorMenuQuitItem, "activate",
            G_CALLBACK(quitIndicator), this);
        g_signal_connect(indicatorMenuRestoreItem, "activate",
            G_CALLBACK(restoreIndicator), this);

        gtk_widget_show(indicatorMenuRestoreItem);
        gtk_widget_show(indicatorMenuQuitItem);

        indicator = app_indicator_new("ckb", "indicator-messages", APP_INDICATOR_CATEGORY_APPLICATION_STATUS);

```

```
        app_indicator_set_status(indicator, APP_INDICATOR_STATUS_ACTIVE);
        app_indicator_set_menu(indicator, GTK_MENU(indicatorMenu));
        app_indicator_set_icon(indicator, "ckb");
    } else
#endif // USE_LIBAPPINDICATOR
    {
        trayIconMenu = new QMenu(this);
        trayIconMenu->addAction(restoreAction);
        trayIconMenu->addAction(closeAction);
        trayIcon = new QSystemTrayIcon(QIcon(":/img/ckb-logo.png"), this);
        trayIcon->setContextMenu(trayIconMenu);
        connect(trayIcon, SIGNAL(activated(QSystemTrayIcon::ActivationReason)), this, SLOT(iconClicked(QSystemTrayIcon::ActivationReason)));
    }
    toggleTrayIcon(!CkbSettings::get("Program/SuppressTrayIcon").toBool());

#ifdef Q_OS_MACX
    // Make a custom "Close" menu action for OSX, as the default one brings up the "still running" popup unnecessarily
    QMenuBar* menuBar = new QMenuBar(this);
    setMenuBar(menuBar);
    this->menuBar()->addMenu("ckb")->addAction(closeAction);
#else
    // On linux, add a handler for Ctrl+Q
    new QShortcut(QKeySequence("Ctrl+Q"), this, SLOT(quitApp()));
#endif

    connect(ui->actionExit, SIGNAL(triggered()), this, SLOT(quitApp()));
    connect(closeAction, SIGNAL(triggered()), this, SLOT(quitApp()));
    connect(restoreAction, SIGNAL(triggered()), this, SLOT(showWindow()));
    connect(qApp, SIGNAL(applicationStateChanged(Qt::ApplicationState)), this, SLOT(stateChange(Qt::ApplicationState)));

    connect(qApp, SIGNAL(aboutToQuit()), this, SLOT(cleanup()));

    ui->tabWidget->addTab(settingsWidget = new SettingsWidget(this), configLabel);
    settingsWidget->setVersion("ckb-next " CKB_VERSION_STR);
}
```

Here is the call graph for this function:

12.52.2.2 MainWindow::~MainWindow ( )

Definition at line 303 of file mainwindow.cpp.

References cleanup(), and ui.

```
303                         {
304     cleanup();
305     delete ui;
306 }
```

Here is the call graph for this function:

12.52.3 Member Function Documentation

12.52.3.1 void MainWindow::addDevice (Kb * *device*) [private],[slot]

Definition at line 121 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::name(), Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
121                                     {
122     // Connected already?
123     foreach(KbWidget* w, kbWidgets){
124         if(w->device == device)
125             return;
126     }
127     // Add the keyboard
128     KbWidget* widget = new KbWidget(this, device);
129     kbWidgets.append(widget);
130     // Add to tabber; switch to this device if on the settings screen
131     int count = ui->tabWidget->count();
132     ui->tabWidget->insertTab(count - 1, widget, widget->name());
133     if(ui->tabWidget->currentIndex() == count)
134         ui->tabWidget->setCurrentIndex(count - 1);
135     // Update connected device count
136     updateVersion();
137 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.2 void MainWindow::checkFwUpdates ( ) [private],[slot]

Definition at line 172 of file mainwindow.cpp.

References KbWidget::device, Kb::features, Kb::firmware, KbWidget::hasShownNewFW, kbWidgets, mainWindow, KbWidget::updateFwButton(), and KbFirmware::versionForBoard().

Referenced by timerTick().

```
172                                 {
173     if(!mainWindow->isVisible())
174         return;
175     foreach(KbWidget* w, kbWidgets){
176         // Display firmware upgrade notification if a new version is available
177         float version = KbFirmware::versionForBoard(w->
    device->features);
178         if(version > w->device->firmware.toFloat()){
179             if(w->hasShownNewFW)
180                 continue;
181             w->hasShownNewFW = true;
182             w->updateFwButton();
183             // Don't run this method here because it will lock up the timer and prevent devices from
     working properly
184             // Use a queued invocation instead
185             metaObject()->invokeMethod(this, "showFwUpdateNotification", Qt::QueuedConnection, Q_ARG(
    QWidget*, w), Q_ARG(float, version));
186             // Don't display more than one of these at once
187             return;
188         }
189     }
190 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.3 void MainWindow::cleanup ( ) [private],[slot]

Definition at line 295 of file mainwindow.cpp.

References CkbSettings::cleanUp(), kbWidgets, and KbManager::stop().

Referenced by MainWindow(), and ~MainWindow().

```
295                         {
296     foreach(KbWidget* w, kbWidgets)
297         delete w;
298     kbWidgets.clear();
299     KbManager::stop();
300     CkbSettings::cleanUp();
301 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.4 void MainWindow::closeEvent (QCloseEvent * *event*) [private]

Definition at line 209 of file mainwindow.cpp.

References CkbSettings::get(), and CkbSettings::set().

```
209                                                 {
210     // If the window is hidden already or the event is non-spontaneous (can happen on OSX when using the
        Quit menu), accept it and close
211     if(!event->spontaneous() || isHidden()){
212         event->accept();
213         return;
214     }
215     if(!CkbSettings::get("Popups/BGWarning").toBool()){
216         QMessageBox::information(this, "ckb", "ckb will still run in the background.\nTo close it, choose
        Exit from the tray menu\nor click \"Quit ckb\" on the Settings screen.");
217         CkbSettings::set("Popups/BGWarning", true);
218     }
219     hide();
220     event->ignore();
221 }
```

Here is the call graph for this function:

12.52.3.5 void MainWindow::iconClicked (QSystemTrayIcon::ActivationReason *reason*) [private],[slot]

Definition at line 257 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
257                                                                 {
258     // On Linux, hide/show the app when the tray icon is clicked
259     // On OSX this just shows the menu
260 #ifndef Q_OS_MACX
261     if(reason == QSystemTrayIcon::DoubleClick || reason == QSystemTrayIcon::Trigger){
262         if(isVisible())
263             hide();
264         else
265             showWindow();
266     }
267 #endif
268 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.6 void MainWindow::quitApp ( ) [slot]

Definition at line 291 of file mainwindow.cpp.

Referenced by MainWindow().

```
291                         {
292     qApp->quit();
293 }
```

Here is the caller graph for this function:

12.52.3.7 void MainWindow::removeDevice (Kb * *device*) [private],[slot]

Definition at line 139 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
139                                     {
140     foreach(KbWidget* w, kbWidgets){
141         // Remove this device from the UI
142         if(w->device == device){
143             int i = kbWidgets.indexOf(w);
144             ui->tabWidget->removeTab(i);
145             kbWidgets.removeAt(i);
146             w->deleteLater();
147         }
148     }
149     // Update connected device count
150     updateVersion();
151 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.8 void MainWindow::showFwUpdateNotification (QWidget * *widget*, float *version*) [private],[slot]

Definition at line 192 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::showFwUpdate(), KbWidget::showLastTab(), showWindow(), Ui_MainWindow::tabWidget, ui, and Kb::usbModel.

```
192                                                                 {
193     static bool isShowing = false;
194     if(isShowing)
195         return;
196     isShowing = true;
197     showWindow();
198     KbWidget* w = (KbWidget*)widget;
199     // Ask for update
200     if(QMessageBox::information(this, "Firmware update", tr("A new firmware is available for your %1 (v%2)
      \nWould you like to install it now?").arg(w->device->usbModel, QString::number(version, 'f', 2)
      ), QMessageBox::StandardButtons(QMessageBox::Yes | QMessageBox::No), QMessageBox::Yes) == QMessageBox::Yes){
201         // If accepted, switch to firmware tab and bring up update window
202         w->showLastTab();
203         ui->tabWidget->setCurrentIndex(kbWidgets.indexOf(w));
204         w->showFwUpdate();
205     }
206     isShowing = false;
207 }
```

Here is the call graph for this function:

12.52.3.9 void MainWindow::showWindow ( ) [slot]

Definition at line 270 of file mainwindow.cpp.

Referenced by iconClicked(), MainWindow(), showFwUpdateNotification(), stateChange(), and timerTick().

```
270                                 {
271     showNormal();
272     raise();
273     activateWindow();
274 }
```

Here is the caller graph for this function:

12.52.3.10 void MainWindow::stateChange (Qt::ApplicationState *state*) [slot]

Definition at line 276 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
276                                                 {
277     // On OSX it's possible for the app to be brought to the foreground without the window actually
        reappearing.
278     // We want to make sure it's shown when this happens.
279 #ifdef Q_OS_MAC
280     static quint64 lastStateChange = 0;
281     quint64 now = QDateTime::currentMSecsSinceEpoch();
282     if(state == Qt::ApplicationActive){
283         // This happens once at startup so ignore it. Also don't allow it to be called more than once every
        2s.
284         if(lastStateChange != 0 && now >= lastStateChange + 2 * 1000)
285             showWindow();
286         lastStateChange = now;
287     }
288 #endif
289 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.11 void MainWindow::timerTick ( ) [private],[slot]

Definition at line 223 of file mainwindow.cpp.

References appShare, checkFwUpdates(), KbFirmware::checkUpdates(), CkbSettings::get(), SettingsWidget::pollUpdates(), settingsWidget, and showWindow().

Referenced by MainWindow().

```
223                         {
224     // Check shared memory for changes
225     if(appShare.lock()){
226         void* data = appShare.data();
227         QStringList commands = QString((const char*)data).split("\n");
228         // Restore PID, remove all other data
229         snprintf((char*)appShare.data(), appShare.size(), "PID %ld", (long)getpid());
230         appShare.unlock();
231         // Parse commands
232         foreach(const QString& line, commands){
233             // Old ckb option line - bring application to foreground
234             if(line == "Open")
235                 showWindow();
236             if(line.startsWith("Option ")){
237                 // New ckb option line
238                 QString option = line.split(" ")[1];
239                 if(option == "Open")
240                     // Bring to foreground
241                     showWindow();
242                 else if(option == "Close")
243                     // Quit application
244                     qApp->quit();
245             }
246         }
247     }
248     // Check for firmware updates (when appropriate)
249     if(!CkbSettings::get("Program/DisableAutoFWCheck").toBool()){
250         KbFirmware::checkUpdates();
251         checkFwUpdates();
252     }
253     // Poll for setting updates
254     settingsWidget->pollUpdates();
255 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.12 void MainWindow::toggleTrayIcon (bool *visible*)

Definition at line 112 of file mainwindow.cpp.

References trayIcon.

Referenced by MainWindow(), and ExtraSettingsWidget::on_trayBox_clicked().

```
112                                                 {
113 #ifdef USE_LIBAPPINDICATOR
114     if(unityDesktop)
115         app_indicator_set_status(indicator, visible ? APP_INDICATOR_STATUS_ACTIVE :
    APP_INDICATOR_STATUS_PASSIVE);
116     else
117 #endif // USE_LIBAPPINDICATOR
118         trayIcon->setVisible(visible);
119 }
```

Here is the caller graph for this function:

12.52.3.13 void MainWindow::updateVersion ( ) [private],[slot]

Definition at line 153 of file mainwindow.cpp.

References KbManager::ckbDaemonVersion(), KbManager::ckbDaemonVersionF(), KbManager::ckbGuiVersionF(), DAEMON_UNAVAILABLE_STR, kbWidgets, SettingsWidget::setStatus(), and settingsWidget.

Referenced by addDevice(), MainWindow(), and removeDevice().

```
153                                 {
154     QString daemonVersion = KbManager::ckbDaemonVersion();
155     if(daemonVersion == DAEMON_UNAVAILABLE_STR){
156         settingsWidget->setStatus("Driver inactive");
157         return;
158     }
159     int count = kbWidgets.count();
160     // Warn if the daemon version doesn't match the GUI
```

```
    QString daemonWarning;
    if(daemonVersion != CKB_VERSION_STR)
        daemonWarning = "<br /><br /><b>Warning:</b> Driver version mismatch (" + daemonVersion + ").
 Please upgrade ckb" + QString(KbManager::ckbDaemonVersionF() >
KbManager::ckbGuiVersionF() ? "" : "-daemon") + ". If the problem persists, try
 rebooting.";
    if(count == 0)
        settingsWidget->setStatus("No devices connected" + daemonWarning);
    else if(count == 1)
        settingsWidget->setStatus("1 device connected" + daemonWarning);
    else
        settingsWidget->setStatus(QString("%1 devices connected").arg(count) +
daemonWarning);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.4 Field Documentation

12.52.4.1 QAction* MainWindow::closeAction [private]

Definition at line 44 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.2 QList<KbWidget*> MainWindow::kbWidgets [private]

Definition at line 41 of file mainwindow.h.

Referenced by addDevice(), checkFwUpdates(), cleanup(), removeDevice(), showFwUpdateNotification(), and updateVersion().

12.52.4.3 MainWindow * MainWindow::mainWindow = 0 [static]

Definition at line 35 of file mainwindow.h.

Referenced by checkFwUpdates(), MainWindow(), and ExtraSettingsWidget::on_trayBox_clicked().

12.52.4.4 QAction* MainWindow::restoreAction [private]

Definition at line 43 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.5 SettingsWidget* MainWindow::settingsWidget [private]

Definition at line 40 of file mainwindow.h.

Referenced by MainWindow(), timerTick(), and updateVersion().

12.52.4.6 QSystemTrayIcon* MainWindow::trayIcon [private]

Definition at line 54 of file mainwindow.h.

Referenced by MainWindow(), and toggleTrayIcon().

12.52.4.7 QMenu* MainWindow::trayIconMenu [private]

Definition at line 53 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.8 Ui::MainWindow* MainWindow::ui [private]

Definition at line 75 of file mainwindow.h.

Referenced by addDevice(), MainWindow(), removeDevice(), showFwUpdateNotification(), and ~MainWindow().

The documentation for this class was generated from the following files:

- src/ckb/mainwindow.h
- src/ckb/mainwindow.cpp

12.53 Ui::ModeSelectDialog Class Reference

```
#include <src/ckb/ui_modeselectdialog.h>
```

Inheritance diagram for Ui::ModeSelectDialog:

Collaboration diagram for Ui::ModeSelectDialog:

Public Member Functions

- void setupUi (QDialog *ModeSelectDialog)
- void retranslateUi (QDialog *ModeSelectDialog)

Data Fields

- QGridLayout * gridLayout
- QLabel * label
- QDialogButtonBox * buttonBox
- QListWidget * modeList
- QPushButton * selAllButton
- QPushButton * selNoneButton

12.53.1 Detailed Description

Definition at line 93 of file ui_modeselectdialog.h.

12.53.2 Member Function Documentation

12.53.2.1 void Ui_ModeSelectDialog::retranslateUi (QDialog * *ModeSelectDialog*) [inline],[inherited]

Definition at line 82 of file ui_modeselectdialog.h.

References Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::selAllButton, and Ui_ModeSelectDialog::selNoneButton.

Referenced by Ui_ModeSelectDialog::setupUi().

```
83     {
84         ModeSelectDialog->setWindowTitle(QApplication::translate("ModeSelectDialog", "Select Modes",
    Q_NULLPTR));
85         label->setText(QApplication::translate("ModeSelectDialog", "TextLabel", Q_NULLPTR));
86         selAllButton->setText(QApplication::translate("ModeSelectDialog", "Select All",
    Q_NULLPTR));
87         selNoneButton->setText(QApplication::translate("ModeSelectDialog", "Select None",
    Q_NULLPTR));
88     } // retranslateUi
```

Here is the caller graph for this function:

12.53.2.2 void Ui_ModeSelectDialog::setupUi (QDialog * *ModeSelectDialog*) [inline],[inherited]

Definition at line 36 of file ui_modeselectdialog.h.

References Ui_ModeSelectDialog::buttonBox, Ui_ModeSelectDialog::gridLayout, Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::modeList, Ui_ModeSelectDialog::retranslateUi(), Ui_ModeSelectDialog::selAllButton, and Ui_ModeSelectDialog::selNoneButton.

Referenced by ModeSelectDialog::ModeSelectDialog().

```
37     {
38         if (ModeSelectDialog->objectName().isEmpty())
39             ModeSelectDialog->setObjectName(QStringLiteral("ModeSelectDialog"));
40         ModeSelectDialog->resize(320, 320);
41         gridLayout = new QGridLayout(ModeSelectDialog);
42         gridLayout->setObjectName(QStringLiteral("gridLayout"));
43         label = new QLabel(ModeSelectDialog);
```

```
        label->setObjectName(QStringLiteral("label"));
        label->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);

        gridLayout->addWidget(label, 0, 0, 1, 2);

        buttonBox = new QDialogButtonBox(ModeSelectDialog);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Vertical);
        buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
        buttonBox->setCenterButtons(false);

        gridLayout->addWidget(buttonBox, 0, 2, 3, 1);

        modeList = new QListWidget(ModeSelectDialog);
        modeList->setObjectName(QStringLiteral("modeList"));
        modeList->setFrameShadow(QFrame::Plain);
        modeList->setSelectionMode(QAbstractItemView::ExtendedSelection);

        gridLayout->addWidget(modeList, 1, 0, 1, 2);

        selAllButton = new QPushButton(ModeSelectDialog);
        selAllButton->setObjectName(QStringLiteral("selAllButton"));

        gridLayout->addWidget(selAllButton, 2, 0, 1, 1);

        selNoneButton = new QPushButton(ModeSelectDialog);
        selNoneButton->setObjectName(QStringLiteral("selNoneButton"));

        gridLayout->addWidget(selNoneButton, 2, 1, 1, 1);


        retranslateUi(ModeSelectDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), ModeSelectDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), ModeSelectDialog, SLOT(reject()));

        QMetaObject::connectSlotsByName(ModeSelectDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.53.3 Field Documentation

12.53.3.1 QDialogButtonBox* Ui_ModeSelectDialog::buttonBox [inherited]

Definition at line 31 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::setupUi().

12.53.3.2 QGridLayout* Ui_ModeSelectDialog::gridLayout [inherited]

Definition at line 29 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::setupUi().

12.53.3.3 QLabel* Ui_ModeSelectDialog::label [inherited]

Definition at line 30 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

12.53.3.4 QListWidget* Ui_ModeSelectDialog::modeList [inherited]

Definition at line 32 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), ModeSelectDialog::on_selAllButton_clicked(), ModeSelectDialog::on_selNoneButton_clicked(), ModeSelectDialog::selection(), and Ui_ModeSelectDialog::setupUi().

12.53.3.5 QPushButton* Ui_ModeSelectDialog::selAllButton [inherited]

Definition at line 33 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

12.53.3.6 QPushButton* Ui_ModeSelectDialog::selNoneButton [inherited]

Definition at line 34 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_modeselectdialog.h

12.54 ModeSelectDialog Class Reference

```
#include <src/ckb/modeselectdialog.h>
```

Inheritance diagram for ModeSelectDialog:

Collaboration diagram for ModeSelectDialog:

Public Member Functions

- ModeSelectDialog (QWidget *parent, KbMode *currentMode, QList< KbMode * > modeList, const QString &textLabel)
- ~ModeSelectDialog ()
- QList< KbMode * > selection ()

Private Slots

- void on_selAllButton_clicked ()
- void on_selNoneButton_clicked ()

Private Attributes

- Ui::ModeSelectDialog * ui
- QList< KbMode * > _modeList

12.54.1 Detailed Description

Definition at line 13 of file modeselectdialog.h.

12.54.2 Constructor & Destructor Documentation

12.54.2.1 ModeSelectDialog::ModeSelectDialog (QWidget * *parent*, KbMode * *currentMode*, QList< KbMode * > *modeList*, const QString & *textLabel*)

Definition at line 4 of file modeselectdialog.cpp.

References _modeList, Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::modeList, KbMode::name(), Ui_ModeSelectDialog::setupUi(), and ui.

```
4                                                    :
5     QDialog(parent), ui(new Ui::ModeSelectDialog),
6     _modeList(modeList)
7 {
8     ui->setupUi(this);
9     _modeList.removeAll(currentMode);
10     ui->label->setText(textLabel);
11     // Populate list
12     foreach(KbMode* mode, _modeList)
13         ui->modeList->addItem(mode->name());
14 }
```

Here is the call graph for this function:

12.54.2.2 ModeSelectDialog::~ModeSelectDialog ( )

Definition at line 16 of file modeselectdialog.cpp.

References ui.

```
16                                      {
17     delete ui;
18 }
```

12.54.3 Member Function Documentation

12.54.3.1 void ModeSelectDialog::on_selAllButton_clicked ( ) [private],[slot]

Definition at line 30 of file modeselectdialog.cpp.

References Ui_ModeSelectDialog::modeList, and ui.

```
30                                              {
31     int count = ui->modeList->count();
32     for(int i = 0; i < count; i++)
33         ui->modeList->item(i)->setSelected(true);
34 }
```

12.54.3.2 void ModeSelectDialog::on_selNoneButton_clicked ( ) [private],[slot]

Definition at line 36 of file modeselectdialog.cpp.

References Ui_ModeSelectDialog::modeList, and ui.

```
36                                              {
37     int count = ui->modeList->count();
38     for(int i = 0; i < count; i++)
39         ui->modeList->item(i)->setSelected(false);
40 }
```

12.54.3.3 QList< KbMode * > ModeSelectDialog::selection ( )

Definition at line 20 of file modeselectdialog.cpp.

References _modeList, Ui_ModeSelectDialog::modeList, and ui.

Referenced by KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), and MPerfWidget::on_copyButton_clicked().

```
20                                          {
21     QList<KbMode*> res;
22     int count = ui->modeList->count();
23     for(int i = 0; i < count; i++){
24         if(ui->modeList->item(i)->isSelected())
25             res.append(_modeList[i]);
26     }
27     return res;
28 }
```

Here is the caller graph for this function:

12.54.4 Field Documentation

12.54.4.1 QList<KbMode*> ModeSelectDialog::_modeList [private]

Definition at line 31 of file modeselectdialog.h.

Referenced by ModeSelectDialog(), and selection().

12.54.4.2 Ui::ModeSelectDialog* ModeSelectDialog::ui [private]

Definition at line 30 of file modeselectdialog.h.

Referenced by ModeSelectDialog(), on_selAllButton_clicked(), on_selNoneButton_clicked(), selection(), and ~-ModeSelectDialog().

The documentation for this class was generated from the following files:

- src/ckb/modeselectdialog.h
- src/ckb/modeselectdialog.cpp

12.55 Ui::MPerfWidget Class Reference

```
#include <src/ckb/ui_mperfwidget.h>
```

Inheritance diagram for Ui::MPerfWidget:

Collaboration diagram for Ui::MPerfWidget:

Public Member Functions

- void setupUi (QWidget *MPerfWidget)
- void retranslateUi (QWidget *MPerfWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QLabel * label_25
- QHBoxLayout * horizontalLayout_2
- QComboBox * lHeightBox
- QSpacerItem * horizontalSpacer_2
- QCheckBox * eBox2
- QSlider * ySlider3
- QSlider * xSlider2
- QSpinBox * xBox3
- QSpinBox * yBox0
- QSlider * ySlider0
- ColorButton * iButton4
- ColorButton * iButton5
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_5
- ColorButton * iButton3
- QLabel * label_12
- QSpinBox * xBox4
- QSpinBox * xBox0
- QSpinBox * yBox5
- QCheckBox * eBox5
- QSlider * xSlider5
- QSpinBox * xBox1
- QSpinBox * yBox2
- QSpinBox * yBox3
- QSlider * xSlider4
- QLabel * label_4
- QSlider * xSlider0
- ColorButton * iButton2
- QFrame * line_3
- ColorButton * iButtonO
- QSpinBox * yBox1
- QSlider * ySlider2
- QSpinBox * xBox2
- QSlider * xSlider1
- QSpacerItem * horizontalSpacer
- QSpinBox * yBox4
- ColorButton * iButton1
- QSlider * ySlider4
- QSlider * ySlider1
- ColorButton * iButton0
- QSlider * xSlider3
- QSpinBox * xBox5

- QLabel * label_3
- QLabel * label_6
- QSlider * ySlider5
- QLabel * label_7
- QLabel * label_8
- QLabel * label_5
- QLabel * label_15
- QLabel * label_13
- QLabel * label_14
- QCheckBox * eBox4
- QLabel * label_11
- QCheckBox * eBox3
- QCheckBox * eBox1
- QLabel * label_2
- QSpacerItem * verticalSpacer
- QCheckBox * aSnapBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_4
- QCheckBox * indicBox
- QSpacerItem * horizontalSpacer_3
- QSpinBox * spinBox
- QSpacerItem * horizontalSpacer_7
- QCheckBox * xyBox
- QSpacerItem * verticalSpacer_2
- QHBoxLayout * horizontalLayout
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_6

12.55.1 Detailed Description

Definition at line 727 of file ui_mperfwidget.h.

12.55.2 Member Function Documentation

12.55.2.1 void Ui_MPerfWidget::retranslateUi (QWidget * *MPerfWidget*) [inline], [inherited]

Definition at line 641 of file ui_mperfwidget.h.

References Ui_MPerfWidget::aSnapBox, Ui_MPerfWidget::copyButton, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, Ui_MPerfWidget::iButton0, Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, Ui_MPerfWidget::indicBox, Ui_MPerfWidget::label, Ui_MPerfWidget::label_11, Ui_MPerfWidget::label_12, Ui_MPerfWidget::label_13, Ui_MPerfWidget::label_14, Ui_MPerfWidget::label_15, Ui_MPerfWidget::label_2, Ui_MPerfWidget::label_25, Ui_MPerfWidget::label_3, Ui_MPerfWidget::label_4, Ui_MPerfWidget::label_5, Ui_MPerfWidget::label_6, Ui_MPerfWidget::label_7, Ui_MPerfWidget::label_8, Ui_MPerfWidget::lHeightBox, Ui_MPerfWidget::spinBox, and Ui_MPerfWidget::xyBox.

Referenced by Ui_MPerfWidget::setupUi().

```
    {
        MPerfWidget->setWindowTitle(QApplication::translate("MPerfWidget", "Form", Q_NULLPTR));
        label->setText(QApplication::translate("MPerfWidget", "DPI", Q_NULLPTR));
        label_25->setText(QApplication::translate("MPerfWidget", "Lift height:", Q_NULLPTR));
        lHeightBox->clear();
        lHeightBox->insertItems(0, QStringList()
         << QApplication::translate("MPerfWidget", "Low", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium-low", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium-high", Q_NULLPTR)
```

```
         << QApplication::translate("MPerfWidget", "High", Q_NULLPTR)
        );
#ifndef QT_NO_TOOLTIP
        eBox2->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox2->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton4->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton4->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton5->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton5->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton3->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton3->setText(QString());
        label_12->setText(QApplication::translate("MPerfWidget", "X Value:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox5->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox5->setText(QString());
        label_4->setText(QApplication::translate("MPerfWidget", "Y Value:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        iButton2->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton2->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton0->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton0->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton1->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton1->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton0->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton0->setText(QString());
        label_3->setText(QApplication::translate("MPerfWidget", "You can assign other DPIs in the Binding tab.", Q_NULLPTR));
        label_6->setText(QApplication::translate("MPerfWidget", "2:", Q_NULLPTR));
        label_7->setText(QApplication::translate("MPerfWidget", "3:", Q_NULLPTR));
        label_8->setText(QApplication::translate("MPerfWidget", "4:", Q_NULLPTR));
        label_5->setText(QApplication::translate("MPerfWidget", "1:", Q_NULLPTR));
        label_15->setText(QApplication::translate("MPerfWidget", "Other:", Q_NULLPTR));
        label_13->setText(QApplication::translate("MPerfWidget", "5:", Q_NULLPTR));
        label_14->setText(QApplication::translate("MPerfWidget", "Sniper:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox4->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox4->setText(QString());
        label_11->setText(QApplication::translate("MPerfWidget", "DPI Stage:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox3->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox3->setText(QString());
#ifndef QT_NO_TOOLTIP
        eBox1->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox1->setText(QString());
        label_2->setText(QApplication::translate("MPerfWidget", "Movement", Q_NULLPTR));
        aSnapBox->setText(QApplication::translate("MPerfWidget", "Angle snap", Q_NULLPTR));
        indicBox->setText(QApplication::translate("MPerfWidget", "Use DPI indicator:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        spinBox->setToolTip(QApplication::translate("MPerfWidget", "Indicator intensity", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        spinBox->setSuffix(QApplication::translate("MPerfWidget", "%", Q_NULLPTR));
        xyBox->setText(QApplication::translate("MPerfWidget", "Independent X/Y states", Q_NULLPTR));
        copyButton->setText(QApplication::translate("MPerfWidget", "Copy to mode...", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.55.2.2 void Ui_MPerfWidget::setupUi (QWidget * *MPerfWidget*) [inline],[inherited]

Definition at line 111 of file ui_mperfwidget.h.

References Ui_MPerfWidget::aSnapBox, Ui_MPerfWidget::copyButton, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, Ui_MPerfWidget::gridLayout, Ui_MPerfWidget::horizontalLayout, Ui_MPerfWidget::horizontalLayout_2, Ui_MPerfWidget::horizontalLayout_4, Ui_MPerfWidget::horizontalSpacer, Ui_MPerfWidget::horizontalSpacer_2, Ui_MPerfWidget::horizontalSpacer_3, Ui_MPerfWidget::horizontalSpacer_4, Ui_MPerfWidget::horizontalSpacer_5, Ui_MPerfWidget::horizontalSpacer_6, Ui_MPerfWidget::horizontalSpacer_7, Ui_MPerfWidget::iButton0, Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, Ui_MPerfWidget::indicBox, Ui_MPerfWidget::label, Ui_MPerfWidget::label_11, Ui_MPerfWidget::label_12, Ui_MPerfWidget::label_13, Ui_MPerfWidget::label_14, Ui_MPerfWidget::label_15, Ui_MPerfWidget::label_2, Ui_MPerfWidget::label_25, Ui_MPerfWidget::label_3, Ui_MPerfWidget::label_4, Ui_MPerfWidget::label_5, Ui_MPerfWidget::label_6, Ui_MPerfWidget::label_7, Ui_MPerfWidget::label_8, Ui_MPerfWidget::lHeightBox, Ui_MPerfWidget::line, Ui_MPerfWidget::line_2, Ui_MPerfWidget::line_3, Ui_MPerfWidget::retranslateUi(), Ui_MPerfWidget::spinBox, Ui_MPerfWidget::verticalLayout, Ui_MPerfWidget::verticalSpacer, Ui_MPerfWidget::verticalSpacer_2, Ui_MPerfWidget::verticalSpacer_3, Ui_MPerfWidget::xBox0, Ui_MPerfWidget::xBox1, Ui_MPerfWidget::xBox2, Ui_MPerfWidget::xBox3, Ui_MPerfWidget::xBox4, Ui_MPerfWidget::xBox5, Ui_MPerfWidget::xSlider0, Ui_MPerfWidget::xSlider1, Ui_MPerfWidget::xSlider2, Ui_MPerfWidget::xSlider3, Ui_MPerfWidget::xSlider4, Ui_MPerfWidget::xSlider5, Ui_MPerfWidget::xyBox, Ui_MPerfWidget::yBox0, Ui_MPerfWidget::yBox1, Ui_MPerfWidget::yBox2, Ui_MPerfWidget::yBox3, Ui_MPerfWidget::yBox4, Ui_MPerfWidget::yBox5, Ui_MPerfWidget::ySlider0, Ui_MPerfWidget::ySlider1, Ui_MPerfWidget::ySlider2, Ui_MPerfWidget::ySlider3, Ui_MPerfWidget::ySlider4, and Ui_MPerfWidget::ySlider5.

Referenced by MPerfWidget::MPerfWidget().

```
    {
        if (MPerfWidget->objectName().isEmpty())
            MPerfWidget->setObjectName(QStringLiteral("MPerfWidget"));
        MPerfWidget->resize(932, 637);
        verticalLayout = new QVBoxLayout(MPerfWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        label = new QLabel(MPerfWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        verticalLayout->addWidget(label);

        line = new QFrame(MPerfWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        verticalLayout->addWidget(line);

        gridLayout = new QGridLayout();
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        label_25 = new QLabel(MPerfWidget);
        label_25->setObjectName(QStringLiteral("label_25"));
        label_25->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout->addWidget(label_25, 16, 5, 1, 2);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
```

```
        lHeightBox = new QComboBox(MPerfWidget);
        lHeightBox->setObjectName(QStringLiteral("lHeightBox"));

        horizontalLayout_2->addWidget(lHeightBox);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_2);


        gridLayout->addLayout(horizontalLayout_2, 16, 8, 1, 3);

        eBox2 = new QCheckBox(MPerfWidget);
        eBox2->setObjectName(QStringLiteral("eBox2"));

        gridLayout->addWidget(eBox2, 7, 1, 1, 1);

        ySlider3 = new QSlider(MPerfWidget);
        ySlider3->setObjectName(QStringLiteral("ySlider3"));
        ySlider3->setMinimum(0);
        ySlider3->setMaximum(1000);
        ySlider3->setSingleStep(10);
        ySlider3->setPageStep(50);
        ySlider3->setValue(0);
        ySlider3->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider3, 8, 8, 1, 1);

        xSlider2 = new QSlider(MPerfWidget);
        xSlider2->setObjectName(QStringLiteral("xSlider2"));
        xSlider2->setMinimum(0);
        xSlider2->setMaximum(1000);
        xSlider2->setSingleStep(10);
        xSlider2->setPageStep(50);
        xSlider2->setValue(0);
        xSlider2->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider2, 7, 5, 1, 1);

        xBox3 = new QSpinBox(MPerfWidget);
        xBox3->setObjectName(QStringLiteral("xBox3"));
        xBox3->setMinimum(100);
        xBox3->setMaximum(12000);
        xBox3->setSingleStep(50);

        gridLayout->addWidget(xBox3, 8, 6, 1, 1);

        yBox0 = new QSpinBox(MPerfWidget);
        yBox0->setObjectName(QStringLiteral("yBox0"));
        yBox0->setMinimum(100);
        yBox0->setMaximum(12000);
        yBox0->setSingleStep(50);

        gridLayout->addWidget(yBox0, 11, 9, 1, 1);

        ySlider0 = new QSlider(MPerfWidget);
        ySlider0->setObjectName(QStringLiteral("ySlider0"));
        ySlider0->setMinimum(0);
        ySlider0->setMaximum(1000);
        ySlider0->setSingleStep(10);
        ySlider0->setPageStep(50);
        ySlider0->setValue(0);
        ySlider0->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider0, 11, 8, 1, 1);

        iButton4 = new ColorButton(MPerfWidget);
        iButton4->setObjectName(QStringLiteral("iButton4"));
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(iButton4->sizePolicy().hasHeightForWidth());
        iButton4->setSizePolicy(sizePolicy);
        iButton4->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton4, 9, 2, 1, 1);

        iButton5 = new ColorButton(MPerfWidget);
        iButton5->setObjectName(QStringLiteral("iButton5"));
        sizePolicy.setHeightForWidth(iButton5->sizePolicy().hasHeightForWidth());
        iButton5->setSizePolicy(sizePolicy);
        iButton5->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton5, 10, 2, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
```

```
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_4, 4, 4, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
);

        gridLayout->addItem(verticalSpacer_3, 3, 2, 1, 1);

        horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_5, 4, 7, 1, 1);

        iButton3 = new ColorButton(MPerfWidget);
        iButton3->setObjectName(QStringLiteral("iButton3"));
        sizePolicy.setHeightForWidth(iButton3->sizePolicy().hasHeightForWidth());
        iButton3->setSizePolicy(sizePolicy);
        iButton3->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton3, 8, 2, 1, 1);

        label_12 = new QLabel(MPerfWidget);
        label_12->setObjectName(QStringLiteral("label_12"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(label_12->sizePolicy().hasHeightForWidth());
        label_12->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(label_12, 4, 5, 1, 1);

        xBox4 = new QSpinBox(MPerfWidget);
        xBox4->setObjectName(QStringLiteral("xBox4"));
        xBox4->setMinimum(100);
        xBox4->setMaximum(12000);
        xBox4->setSingleStep(50);

        gridLayout->addWidget(xBox4, 9, 6, 1, 1);

        xBox0 = new QSpinBox(MPerfWidget);
        xBox0->setObjectName(QStringLiteral("xBox0"));
        xBox0->setMinimum(100);
        xBox0->setMaximum(12000);
        xBox0->setSingleStep(50);

        gridLayout->addWidget(xBox0, 11, 6, 1, 1);

        yBox5 = new QSpinBox(MPerfWidget);
        yBox5->setObjectName(QStringLiteral("yBox5"));
        yBox5->setMinimum(100);
        yBox5->setMaximum(12000);
        yBox5->setSingleStep(50);

        gridLayout->addWidget(yBox5, 10, 9, 1, 1);

        eBox5 = new QCheckBox(MPerfWidget);
        eBox5->setObjectName(QStringLiteral("eBox5"));

        gridLayout->addWidget(eBox5, 10, 1, 1, 1);

        xSlider5 = new QSlider(MPerfWidget);
        xSlider5->setObjectName(QStringLiteral("xSlider5"));
        xSlider5->setMinimum(0);
        xSlider5->setMaximum(1000);
        xSlider5->setSingleStep(10);
        xSlider5->setPageStep(50);
        xSlider5->setValue(0);
        xSlider5->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider5, 10, 5, 1, 1);

        xBox1 = new QSpinBox(MPerfWidget);
        xBox1->setObjectName(QStringLiteral("xBox1"));
        sizePolicy.setHeightForWidth(xBox1->sizePolicy().hasHeightForWidth());
        xBox1->setSizePolicy(sizePolicy);
        xBox1->setMinimum(100);
        xBox1->setMaximum(12000);
        xBox1->setSingleStep(50);

        gridLayout->addWidget(xBox1, 6, 6, 1, 1);

        yBox2 = new QSpinBox(MPerfWidget);
        yBox2->setObjectName(QStringLiteral("yBox2"));
        yBox2->setMinimum(100);
        yBox2->setMaximum(12000);
        yBox2->setSingleStep(50);
```

```

        gridLayout->addWidget(yBox2, 7, 9, 1, 1);

        yBox3 = new QSpinBox(MPerfWidget);
        yBox3->setObjectName(QStringLiteral("yBox3"));
        yBox3->setMinimum(100);
        yBox3->setMaximum(12000);
        yBox3->setSingleStep(50);

        gridLayout->addWidget(yBox3, 8, 9, 1, 1);

        xSlider4 = new QSlider(MPerfWidget);
        xSlider4->setObjectName(QStringLiteral("xSlider4"));
        xSlider4->setMinimum(0);
        xSlider4->setMaximum(1000);
        xSlider4->setSingleStep(10);
        xSlider4->setPageStep(50);
        xSlider4->setValue(0);
        xSlider4->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider4, 9, 5, 1, 1);

        label_4 = new QLabel(MPerfWidget);
        label_4->setObjectName(QStringLiteral("label_4"));
        sizePolicy1.setHeightForWidth(label_4->sizePolicy().hasHeightForWidth());
        label_4->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(label_4, 4, 8, 1, 1);

        xSlider0 = new QSlider(MPerfWidget);
        xSlider0->setObjectName(QStringLiteral("xSlider0"));
        xSlider0->setMinimum(0);
        xSlider0->setMaximum(1000);
        xSlider0->setSingleStep(10);
        xSlider0->setPageStep(50);
        xSlider0->setValue(0);
        xSlider0->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider0, 11, 5, 1, 1);

        iButton2 = new ColorButton(MPerfWidget);
        iButton2->setObjectName(QStringLiteral("iButton2"));
        sizePolicy.setHeightForWidth(iButton2->sizePolicy().hasHeightForWidth());
        iButton2->setSizePolicy(sizePolicy);
        iButton2->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton2, 7, 2, 1, 1);

        line_3 = new QFrame(MPerfWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 5, 0, 1, 11);

        iButton0 = new ColorButton(MPerfWidget);
        iButton0->setObjectName(QStringLiteral("iButton0"));
        sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
        iButton0->setSizePolicy(sizePolicy);
        iButton0->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton0, 12, 2, 1, 1);

        yBox1 = new QSpinBox(MPerfWidget);
        yBox1->setObjectName(QStringLiteral("yBox1"));
        sizePolicy.setHeightForWidth(yBox1->sizePolicy().hasHeightForWidth());
        yBox1->setSizePolicy(sizePolicy);
        yBox1->setMinimum(100);
        yBox1->setMaximum(12000);
        yBox1->setSingleStep(50);

        gridLayout->addWidget(yBox1, 6, 9, 1, 1);

        ySlider2 = new QSlider(MPerfWidget);
        ySlider2->setObjectName(QStringLiteral("ySlider2"));
        ySlider2->setMinimum(0);
        ySlider2->setMaximum(1000);
        ySlider2->setSingleStep(10);
        ySlider2->setPageStep(50);
        ySlider2->setValue(0);
        ySlider2->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider2, 7, 8, 1, 1);

        xBox2 = new QSpinBox(MPerfWidget);
        xBox2->setObjectName(QStringLiteral("xBox2"));
        xBox2->setMinimum(100);
```

```
        xBox2->setMaximum(12000);
        xBox2->setSingleStep(50);

        gridLayout->addWidget(xBox2, 7, 6, 1, 1);

        xSlider1 = new QSlider(MPerfWidget);
        xSlider1->setObjectName(QStringLiteral("xSlider1"));
        QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(xSlider1->sizePolicy().hasHeightForWidth());
        xSlider1->setSizePolicy(sizePolicy2);
        xSlider1->setMinimum(0);
        xSlider1->setMaximum(1000);
        xSlider1->setSingleStep(10);
        xSlider1->setPageStep(50);
        xSlider1->setValue(0);
        xSlider1->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider1, 6, 5, 1, 1);

        horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);

        yBox4 = new QSpinBox(MPerfWidget);
        yBox4->setObjectName(QStringLiteral("yBox4"));
        yBox4->setMinimum(100);
        yBox4->setMaximum(12000);
        yBox4->setSingleStep(50);

        gridLayout->addWidget(yBox4, 9, 9, 1, 1);

        iButton1 = new ColorButton(MPerfWidget);
        iButton1->setObjectName(QStringLiteral("iButton1"));
        sizePolicy.setHeightForWidth(iButton1->sizePolicy().hasHeightForWidth());
        iButton1->setSizePolicy(sizePolicy);
        iButton1->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton1, 6, 2, 1, 1);

        ySlider4 = new QSlider(MPerfWidget);
        ySlider4->setObjectName(QStringLiteral("ySlider4"));
        ySlider4->setMinimum(0);
        ySlider4->setMaximum(1000);
        ySlider4->setSingleStep(10);
        ySlider4->setPageStep(50);
        ySlider4->setValue(0);
        ySlider4->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider4, 9, 8, 1, 1);

        ySlider1 = new QSlider(MPerfWidget);
        ySlider1->setObjectName(QStringLiteral("ySlider1"));
        ySlider1->setMinimum(0);
        ySlider1->setMaximum(1000);
        ySlider1->setSingleStep(10);
        ySlider1->setPageStep(50);
        ySlider1->setValue(0);
        ySlider1->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider1, 6, 8, 1, 1);

        iButton0 = new ColorButton(MPerfWidget);
        iButton0->setObjectName(QStringLiteral("iButton0"));
        sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
        iButton0->setSizePolicy(sizePolicy);
        iButton0->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton0, 11, 2, 1, 1);

        xSlider3 = new QSlider(MPerfWidget);
        xSlider3->setObjectName(QStringLiteral("xSlider3"));
        xSlider3->setMinimum(0);
        xSlider3->setMaximum(1000);
        xSlider3->setSingleStep(10);
        xSlider3->setPageStep(50);
        xSlider3->setValue(0);
        xSlider3->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider3, 8, 5, 1, 1);

        xBox5 = new QSpinBox(MPerfWidget);
        xBox5->setObjectName(QStringLiteral("xBox5"));
        xBox5->setMinimum(100);
        xBox5->setMaximum(12000);
```

```
        xBox5->setSingleStep(50);

        gridLayout->addWidget(xBox5, 10, 6, 1, 1);

        label_3 = new QLabel(MPerfWidget);
        label_3->setObjectName(QStringLiteral("label_3"));

        gridLayout->addWidget(label_3, 12, 5, 1, 5);

        label_6 = new QLabel(MPerfWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 7, 3, 1, 1);

        ySlider5 = new QSlider(MPerfWidget);
        ySlider5->setObjectName(QStringLiteral("ySlider5"));
        ySlider5->setMinimum(0);
        ySlider5->setMaximum(1000);
        ySlider5->setSingleStep(10);
        ySlider5->setPageStep(50);
        ySlider5->setValue(0);
        ySlider5->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider5, 10, 8, 1, 1);

        label_7 = new QLabel(MPerfWidget);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout->addWidget(label_7, 8, 3, 1, 1);

        label_8 = new QLabel(MPerfWidget);
        label_8->setObjectName(QStringLiteral("label_8"));

        gridLayout->addWidget(label_8, 9, 3, 1, 1);

        label_5 = new QLabel(MPerfWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout->addWidget(label_5, 6, 3, 1, 1);

        label_15 = new QLabel(MPerfWidget);
        label_15->setObjectName(QStringLiteral("label_15"));

        gridLayout->addWidget(label_15, 12, 3, 1, 1);

        label_13 = new QLabel(MPerfWidget);
        label_13->setObjectName(QStringLiteral("label_13"));

        gridLayout->addWidget(label_13, 10, 3, 1, 1);

        label_14 = new QLabel(MPerfWidget);
        label_14->setObjectName(QStringLiteral("label_14"));

        gridLayout->addWidget(label_14, 11, 3, 1, 1);

        eBox4 = new QCheckBox(MPerfWidget);
        eBox4->setObjectName(QStringLiteral("eBox4"));

        gridLayout->addWidget(eBox4, 9, 1, 1, 1);

        label_11 = new QLabel(MPerfWidget);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout->addWidget(label_11, 4, 2, 1, 2);

        eBox3 = new QCheckBox(MPerfWidget);
        eBox3->setObjectName(QStringLiteral("eBox3"));

        gridLayout->addWidget(eBox3, 8, 1, 1, 1);

        eBox1 = new QCheckBox(MPerfWidget);
        eBox1->setObjectName(QStringLiteral("eBox1"));

        gridLayout->addWidget(eBox1, 6, 1, 1, 1);

        label_2 = new QLabel(MPerfWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        gridLayout->addWidget(label_2, 14, 0, 1, 10);

        verticalSpacer = new QSpacerItem(20, 30, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer, 13, 2, 1, 1);

        aSnapBox = new QCheckBox(MPerfWidget);
        aSnapBox->setObjectName(QStringLiteral("aSnapBox"));
```

```
        gridLayout->addWidget(aSnapBox, 16, 1, 1, 4);

        line_2 = new QFrame(MPerfWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 15, 0, 1, 10);

        horizontalLayout_4 = new QHBoxLayout();
        horizontalLayout_4->setObjectName(QStringLiteral("horizontalLayout_4"));
        indicBox = new QCheckBox(MPerfWidget);
        indicBox->setObjectName(QStringLiteral("indicBox"));

        horizontalLayout_4->addWidget(indicBox);

        horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        horizontalLayout_4->addItem(horizontalSpacer_3);

        spinBox = new QSpinBox(MPerfWidget);
        spinBox->setObjectName(QStringLiteral("spinBox"));
        spinBox->setMaximum(100);
        spinBox->setValue(100);

        horizontalLayout_4->addWidget(spinBox);

        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout_4->addItem(horizontalSpacer_7);


        gridLayout->addLayout(horizontalLayout_4, 0, 1, 1, 9);

        xyBox = new QCheckBox(MPerfWidget);
        xyBox->setObjectName(QStringLiteral("xyBox"));

        gridLayout->addWidget(xyBox, 2, 1, 1, 9);


        verticalLayout->addLayout(gridLayout);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        copyButton = new QPushButton(MPerfWidget);
        copyButton->setObjectName(QStringLiteral("copyButton"));

        horizontalLayout->addWidget(copyButton);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout);


        retranslateUi(MPerfWidget);

        QMetaObject::connectSlotsByName(MPerfWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.55.3 Field Documentation

12.55.3.1 QCheckBox* Ui_MPerfWidget::aSnapBox [inherited]

Definition at line 98 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.2 QPushButton* Ui_MPerfWidget::copyButton [inherited]

Definition at line 108 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.3 QCheckBox* Ui_MPerfWidget::eBox1 [inherited]

Definition at line 95 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.4 QCheckBox* Ui_MPerfWidget::eBox2 [inherited]

Definition at line 44 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.5 QCheckBox* Ui_MPerfWidget::eBox3 [inherited]

Definition at line 94 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.6 QCheckBox* Ui_MPerfWidget::eBox4 [inherited]

Definition at line 92 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.7 QCheckBox* Ui_MPerfWidget::eBox5 [inherited]

Definition at line 60 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.8 QGridLayout* Ui_MPerfWidget::gridLayout [inherited]

Definition at line 39 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.9 QHBoxLayout* Ui_MPerfWidget::horizontalLayout [inherited]

Definition at line 107 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.10 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_2 [inherited]

Definition at line 41 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.11 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_4 [inherited]

Definition at line 100 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.12 QSpacerItem* Ui_MPerfWidget::horizontalSpacer [inherited]

Definition at line 75 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.13 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_2 [inherited]

Definition at line 43 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.14 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_3 [inherited]

Definition at line 102 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.15 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_4 [inherited]

Definition at line 52 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.16 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_5 [inherited]

Definition at line 54 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.17 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_6 [inherited]

Definition at line 109 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.18 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_7 [inherited]

Definition at line 104 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.19 ColorButton* Ui_MPerfWidget::iButton0 [inherited]

Definition at line 80 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.20 ColorButton* Ui_MPerfWidget::iButton1 [inherited]

Definition at line 77 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.21 ColorButton* Ui_MPerfWidget::iButton2 [inherited]

Definition at line 68 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.22 ColorButton* Ui_MPerfWidget::iButton3 [inherited]

Definition at line 55 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.23 ColorButton* Ui_MPerfWidget::iButton4 [inherited]

Definition at line 50 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.24 ColorButton* Ui_MPerfWidget::iButton5 [inherited]

Definition at line 51 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.25 ColorButton* Ui_MPerfWidget::iButtonO [inherited]

Definition at line 70 of file ui_mperfwidget.h.

Referenced by MPerfWidget::colorChanged(), MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.26 QCheckBox* Ui_MPerfWidget::indicBox [inherited]

Definition at line 101 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.27 QLabel* Ui_MPerfWidget::label [inherited]

Definition at line 37 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.28 QLabel* Ui_MPerfWidget::label_11 [inherited]

Definition at line 93 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.29 QLabel* Ui_MPerfWidget::label_12 [inherited]

Definition at line 56 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.30 QLabel* Ui_MPerfWidget::label_13 [inherited]

Definition at line 90 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.31 QLabel* Ui_MPerfWidget::label_14 [inherited]

Definition at line 91 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.32 QLabel* Ui_MPerfWidget::label_15 [inherited]

Definition at line 89 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.33 QLabel* Ui_MPerfWidget::label_2 [inherited]

Definition at line 96 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.34 QLabel* Ui_MPerfWidget::label_25 [inherited]

Definition at line 40 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.35 QLabel* Ui_MPerfWidget::label_3 [inherited]

Definition at line 83 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.36 QLabel* Ui_MPerfWidget::label_4 [inherited]

Definition at line 66 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.37 QLabel* Ui_MPerfWidget::label_5 [inherited]

Definition at line 88 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.38 QLabel* Ui_MPerfWidget::label_6 [inherited]

Definition at line 84 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.39 QLabel* Ui_MPerfWidget::label_7 [inherited]

Definition at line 86 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.40 QLabel* Ui_MPerfWidget::label_8 [inherited]

Definition at line 87 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.41 QComboBox* Ui_MPerfWidget::lHeightBox [inherited]

Definition at line 42 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.42 QFrame* Ui_MPerfWidget::line [inherited]

Definition at line 38 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.43 QFrame* Ui_MPerfWidget::line_2 [inherited]

Definition at line 99 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.44 QFrame* Ui_MPerfWidget::line_3 [inherited]

Definition at line 69 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.45 QSpinBox* Ui_MPerfWidget::spinBox [inherited]

Definition at line 103 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.46 QVBoxLayout* Ui_MPerfWidget::verticalLayout [inherited]

Definition at line 36 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.47 QSpacerItem* Ui_MPerfWidget::verticalSpacer [inherited]

Definition at line 97 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.48 QSpacerItem* Ui_MPerfWidget::verticalSpacer_2 [inherited]

Definition at line 106 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.49 QSpacerItem* Ui_MPerfWidget::verticalSpacer_3 [inherited]

Definition at line 53 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.50 QSpinBox* Ui_MPerfWidget::xBox0 [inherited]

Definition at line 58 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.51 QSpinBox* Ui_MPerfWidget::xBox1 [inherited]

Definition at line 62 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.52 QSpinBox* Ui_MPerfWidget::xBox2 [inherited]

Definition at line 73 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.53 QSpinBox* Ui_MPerfWidget::xBox3 [inherited]

Definition at line 47 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.54 QSpinBox* Ui_MPerfWidget::xBox4 [inherited]

Definition at line 57 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.55 QSpinBox* Ui_MPerfWidget::xBox5 [inherited]

Definition at line 82 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.56 QSlider* Ui_MPerfWidget::xSlider0 [inherited]

Definition at line 67 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.57 QSlider* Ui_MPerfWidget::xSlider1 [inherited]

Definition at line 74 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.58 QSlider* Ui_MPerfWidget::xSlider2 [inherited]

Definition at line 46 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.59 QSlider* Ui_MPerfWidget::xSlider3 [inherited]

Definition at line 81 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.60 QSlider* Ui_MPerfWidget::xSlider4 [inherited]

Definition at line 65 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.61 QSlider* Ui_MPerfWidget::xSlider5 [inherited]

Definition at line 61 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.62 QCheckBox* Ui_MPerfWidget::xyBox [inherited]

Definition at line 105 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), Ui_MPerfWidget::setupUi(), and MPerfWidget::sliderYMoved().

12.55.3.63 QSpinBox* Ui_MPerfWidget::yBox0 [inherited]

Definition at line 48 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.64 QSpinBox* Ui_MPerfWidget::yBox1 [inherited]

Definition at line 71 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.65 QSpinBox* Ui_MPerfWidget::yBox2 [inherited]

Definition at line 63 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.66 QSpinBox* Ui_MPerfWidget::yBox3 [inherited]

Definition at line 64 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.67 QSpinBox* Ui_MPerfWidget::yBox4 [inherited]

Definition at line 76 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.68 QSpinBox* Ui_MPerfWidget::yBox5 [inherited]

Definition at line 59 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.69 QSlider* Ui_MPerfWidget::ySlider0 [inherited]

Definition at line 49 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.70 QSlider* Ui_MPerfWidget::ySlider1 [inherited]

Definition at line 79 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.71 QSlider* Ui_MPerfWidget::ySlider2 [inherited]

Definition at line 72 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.72 QSlider* Ui_MPerfWidget::ySlider3 [inherited]

Definition at line 45 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.73 QSlider* Ui_MPerfWidget::ySlider4 [inherited]

Definition at line 78 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.74 QSlider* Ui_MPerfWidget::ySlider5 [inherited]

Definition at line 85 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_mperfwidget.h

12.56 MPerfWidget Class Reference

```
#include <src/ckb/mperfwidget.h>
```

Inheritance diagram for MPerfWidget:

Collaboration diagram for MPerfWidget:

Data Structures

- struct DpiUi

Public Member Functions

- MPerfWidget (QWidget *parent=0)
- ~MPerfWidget ()
- void setPerf (KbPerf *newPerf, KbProfile *newProfile)

Static Public Attributes

- static const int DPI_COUNT = KbPerf::DPI_COUNT
- static const int DPI_MIN = KbPerf::DPI_MIN
- static const int DPI_MAX = KbPerf::DPI_MAX

Private Slots

- void colorClicked (int index)
- void colorChanged (int index)
- void sliderXMoved (int index)
- void sliderYMoved (int index)
- void boxXChanged (int index)
- void boxYChanged (int index)
- void enableChanged (int index)
- void on_xyBox_clicked (bool checked)
- void on_indicBox_clicked (bool checked)
- void on_aSnapBox_clicked (bool checked)
- void on_lHeightBox_activated (int index)
- void on_copyButton_clicked ()
- void on_spinBox_valueChanged (int arg1)

Private Attributes

- Ui::MPerfWidget * ui
- KbPerf * perf
- KbProfile * profile
- DpiUi stages [DPI_COUNT]
- bool _xyLink
- bool colorLink
- QSignalMapper buttonMapper1
- QSignalMapper buttonMapper2
- QSignalMapper sliderXMapper
- QSignalMapper sliderYMapper
- QSignalMapper boxXMapper
- QSignalMapper boxYMapper
- QSignalMapper enableMapper
- bool isSetting

12.56.1 Detailed Description

Definition at line 18 of file mperfwidget.h.

12.56.2 Data Structure Documentation

12.56.2.1 struct MPerfWidget::DpiUi

Definition at line 37 of file mperfwidget.h.

Collaboration diagram for MPerfWidget::DpiUi:

Data Fields

QCheckBox *	enableCheck	
ColorButton *	indicator	
QSpinBox *	xBox	
QSlider *	xSlider	
QSpinBox *	yBox	
QSlider *	ySlider	

12.56.3 Constructor & Destructor Documentation

12.56.3.1 MPerfWidget::MPerfWidget (QWidget * *parent* = 0) [explicit]

Definition at line 8 of file mperfwidget.cpp.

References _xyLink, ColorButton::allowAlpha(), ColorButton::bigIcons(), boxXChanged(), boxXMapper, boxYChanged(), boxYMapper, buttonMapper1, buttonMapper2, colorChanged(), colorClicked(), DPI_COUNT, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, enableChanged(), MPerfWidget::DpiUi::enableCheck, enableMapper, Ui_MPerfWidget::iButton0,

Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, ColorButton::setLabel(), Ui_MPerfWidget::setupUi(), sliderXMapper, sliderXMoved(), sliderYMapper, sliderYMoved(), stages, ui, MPerfWidget::DpiUi::xBox, Ui_MPerfWidget::xBox0, Ui_MPerfWidget::xBox1, Ui_MPerfWidget::xBox2, Ui_MPerfWidget::xBox3, Ui_MPerfWidget::xBox4, Ui_MPerfWidget::xBox5, MPerfWidget::DpiUi::xSlider, Ui_MPerfWidget::xSlider0, Ui_MPerfWidget::xSlider1, Ui_MPerfWidget::xSlider2, Ui_MPerfWidget::xSlider3, Ui_MPerfWidget::xSlider4, Ui_MPerfWidget::xSlider5, Ui_MPerfWidget::xyBox, MPerfWidget::DpiUi::yBox, Ui_MPerfWidget::yBox0, Ui_MPerfWidget::yBox1, Ui_MPerfWidget::yBox2, Ui_MPerfWidget::yBox3, Ui_MPerfWidget::yBox4, Ui_MPerfWidget::yBox5, MPerfWidget::DpiUi::ySlider, Ui_MPerfWidget::ySlider0, Ui_MPerfWidget::ySlider1, Ui_MPerfWidget::ySlider2, Ui_MPerfWidget::ySlider3, Ui_MPerfWidget::ySlider4, and Ui_MPerfWidget::ySlider5.

```
                                        :
    QWidget(parent), ui(new Ui::MPerfWidget), perf(0), profile(0), _xyLink(!CkbSettings::get(xyLinkPath).toBool()), colorLink(false), isSetting(false) {
     ui->setupUi(this);
     ui->xyBox->setChecked(!_xyLink);
     // Set up DPI stages
     stages[0].indicator = ui->iButton0; stages[0].xSlider = ui->xSlider0; stages[0].ySlider = ui->ySlider0; stages[0].xBox = ui->xBox0; stages[0].yBox = ui->yBox0; stages[0].enableCheck = 0;
     stages[1].indicator = ui->iButton1; stages[1].xSlider = ui->xSlider1; stages[1].ySlider = ui->ySlider1; stages[1].xBox = ui->xBox1; stages[1].yBox = ui->yBox1; stages[1].enableCheck = ui->eBox1;
     stages[2].indicator = ui->iButton2; stages[2].xSlider = ui->xSlider2; stages[2].ySlider = ui->ySlider2; stages[2].xBox = ui->xBox2; stages[2].yBox = ui->yBox2; stages[2].enableCheck = ui->eBox2;
     stages[3].indicator = ui->iButton3; stages[3].xSlider = ui->xSlider3; stages[3].ySlider = ui->ySlider3; stages[3].xBox = ui->xBox3; stages[3].yBox = ui->yBox3; stages[3].enableCheck = ui->eBox3;
     stages[4].indicator = ui->iButton4; stages[4].xSlider = ui->xSlider4; stages[4].ySlider = ui->ySlider4; stages[4].xBox = ui->xBox4; stages[4].yBox = ui->yBox4; stages[4].enableCheck = ui->eBox4;
     stages[5].indicator = ui->iButton5; stages[5].xSlider = ui->xSlider5; stages[5].ySlider = ui->ySlider5; stages[5].xBox = ui->xBox5; stages[5].yBox = ui->yBox5; stages[5].enableCheck = ui->eBox5;
     ui->iButtonO->setLabel(false);
     ui->iButtonO->bigIcons(true);
     ui->iButtonO->allowAlpha(true);
     for(int i = 0; i < DPI_COUNT; i++){
         stages[i].indicator->setLabel(false);
         stages[i].indicator->bigIcons(true);
         stages[i].indicator->allowAlpha(true);
         // Map signals
         connect(stages[i].indicator, SIGNAL(clicked(bool)), &buttonMapper1, SLOT(map()));
         connect(stages[i].indicator, SIGNAL(colorChanged(QColor)), &buttonMapper2, SLOT(map()));
         connect(stages[i].xSlider, SIGNAL(valueChanged(int)), &sliderXMapper, SLOT(map()));
         connect(stages[i].ySlider, SIGNAL(valueChanged(int)), &sliderYMapper, SLOT(map()));
         connect(stages[i].xBox, SIGNAL(valueChanged(int)), &boxXMapper, SLOT(map()));
         connect(stages[i].yBox, SIGNAL(valueChanged(int)), &boxYMapper, SLOT(map()));
         if(stages[i].enableCheck)
             // Sniper has no enable
             connect(stages[i].enableCheck, SIGNAL(stateChanged(int)), &enableMapper, SLOT(map()));
         // Set names
         buttonMapper1.setMapping(stages[i].indicator, i);
         buttonMapper2.setMapping(stages[i].indicator, i);
         sliderXMapper.setMapping(stages[i].xSlider, i);
         sliderYMapper.setMapping(stages[i].ySlider, i);
         boxXMapper.setMapping(stages[i].xBox, i);
         boxYMapper.setMapping(stages[i].yBox, i);
         if(stages[i].enableCheck)
             enableMapper.setMapping(stages[i].enableCheck, i);
     }
     // Connect to slots
     connect(&buttonMapper1, SIGNAL(mapped(int)), this, SLOT(colorClicked(int)));
```

```
48     connect(&buttonMapper2, SIGNAL(mapped(int)), this, SLOT(
      colorChanged(int)));
49     connect(&sliderXMapper, SIGNAL(mapped(int)), this, SLOT(
      sliderXMoved(int)));
50     connect(&sliderYMapper, SIGNAL(mapped(int)), this, SLOT(
      sliderYMoved(int)));
51     connect(&boxXMapper, SIGNAL(mapped(int)), this, SLOT(boxXChanged(int)));
52     connect(&boxYMapper, SIGNAL(mapped(int)), this, SLOT(boxYChanged(int)));
53     connect(&enableMapper, SIGNAL(mapped(int)), this, SLOT(
      enableChanged(int)));
54 }
```

Here is the call graph for this function:

12.56.3.2 MPerfWidget::~MPerfWidget ( )

Definition at line 56 of file mperfwidget.cpp.

References ui.

```
56                          {
57     delete ui;
58 }
```

12.56.4 Member Function Documentation

12.56.4.1 void MPerfWidget::boxXChanged (int *index*) [private],[slot]

Definition at line 157 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiLog(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::xSlider, and MPerfWidget::DpiUi::yBox.

Referenced by MPerfWidget().

```
157                                     {
158     SET_START;
159     QSpinBox* box = stages[index].xBox;
160     QSlider* slider = stages[index].xSlider;
```

```
    int value = box->value();
    slider->setValue(dpiLog(value, slider->minimum(), slider->maximum()));
    if(_xyLink)
        perf->dpi(index, value);
    else
        perf->dpi(index, QPoint(value, perf->dpi(index).y()));
    SET_END;
    if(_xyLink)
        stages[index].yBox->setValue(value);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.2 void MPerfWidget::boxYChanged (int *index*) [private],[slot]

Definition at line 172 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiLog(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::yBox, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
172                                     {
173     SET_START;
174     QSpinBox* box = stages[index].yBox;
175     QSlider* slider = stages[index].ySlider;
176     int value = box->value();
177     slider->setValue(dpiLog(value, slider->minimum(), slider->maximum()));
178     if(_xyLink)
179         perf->dpi(index, value);
180     else
181         perf->dpi(index, QPoint(perf->dpi(index).x(), value));
182     SET_END;
183     if(_xyLink)
184         stages[index].xBox->setValue(value);
185 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.3 void MPerfWidget::colorChanged (int *index*) [private],[slot]

Definition at line 86 of file mperfwidget.cpp.

References ColorButton::color(), colorLink, DPI_COUNT, KbPerf::dpiColor(), Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, KbPerf::OTHER, perf, stages, and ui.

Referenced by MPerfWidget().

```
86                                          {
87     QColor color = stages[index].indicator->color();
88     if(colorLink){
89         // Alt was held down - set all
90         for(int i = 0; i < DPI_COUNT; i++){
91             stages[i].indicator->color(color);
92             perf->dpiColor(i, color);
93         }
94         ui->iButtonO->color(color);
95         perf->dpiColor(KbPerf::OTHER, color);
96     } else {
97         // Set one
98         perf->dpiColor(index, color);
99     }
100     colorLink = false;
101 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.4 void MPerfWidget::colorClicked (int *index*) [private],[slot]

Definition at line 81 of file mperfwidget.cpp.

References colorLink.

Referenced by MPerfWidget().

```
81                                      {
82     // Set all colors at once if Alt is held down
83     colorLink = !!(qApp->keyboardModifiers() & Qt::AltModifier);
84 }
```

Here is the caller graph for this function:

12.56.4.5 void MPerfWidget::enableChanged (int *index*) [private],[slot]

Definition at line 187 of file mperfwidget.cpp.

References KbPerf::dpiEnabled(), perf, and stages.

Referenced by MPerfWidget().

```
                                        {
    perf->dpiEnabled(index, stages[index].enableCheck->isChecked());
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.6 void MPerfWidget::on_aSnapBox_clicked (bool *checked*) [private],[slot]

Definition at line 201 of file mperfwidget.cpp.

References KbPerf::angleSnap(), and perf.

```
                                                {
    perf->angleSnap(checked);
}
```

Here is the call graph for this function:

12.56.4.7 void MPerfWidget::on_copyButton_clicked ( ) [private],[slot]

Definition at line 209 of file mperfwidget.cpp.

References KbProfile::currentMode(), KbProfile::modes(), perf, KbMode::perf(), profile, and ModeSelectDialog::selection().

```
209                                     {
210     ModeSelectDialog dialog(this, profile->currentMode(),
      profile->modes(), "Copy performance settings to:");
211     if(dialog.exec() != QDialog::Accepted)
212         return;
213     QList<KbMode*> selectedModes = dialog.selection();
214     foreach(KbMode* mode, selectedModes){
215         *mode->perf() = *perf;
216     }
217 }
```

Here is the call graph for this function:

12.56.4.8 void MPerfWidget::on_indicBox_clicked (bool *checked*) [private],[slot]

Definition at line 197 of file mperfwidget.cpp.

References KbPerf::dpiIndicator(), and perf.

```
197                                             {
198     perf->dpiIndicator(checked);
199 }
```

Here is the call graph for this function:

12.56.4.9 void MPerfWidget::on_lHeightBox_activated (int *index*) [private],[slot]

Definition at line 205 of file mperfwidget.cpp.

References KbPerf::liftHeight(), and perf.

```
205                                                 {
206     perf->liftHeight((KbPerf::height)(index + 1));
207 }
```

Here is the call graph for this function:

12.56.4.10 void MPerfWidget::on_spinBox_valueChanged (int *arg1*) [private],[slot]

Definition at line 219 of file mperfwidget.cpp.

References KbPerf::iOpacity(), and perf.

```
219                                                 {
220     if(!perf)
221         return;
222     perf->iOpacity(arg1 / 100.f);
223 }
```

Here is the call graph for this function:

12.56.4.11 void MPerfWidget::on_xyBox_clicked (bool *checked*) [private],[slot]

Definition at line 191 of file mperfwidget.cpp.

References _xyLink, CkbSettings::set(), and xyLinkPath.

```
191                                                 {
192     _xyLink = !checked;
193     CkbSettings::set(xyLinkPath, checked);
194     // FIXME: update other MPerfWidgets, since this is a global setting
195 }
```

Here is the call graph for this function:

12.56.4.12 void MPerfWidget::setPerf (KbPerf * *newPerf,* KbProfile * *newProfile*)

Definition at line 60 of file mperfwidget.cpp.

References _xyLink, KbPerf::angleSnap(), Ui_MPerfWidget::aSnapBox, ColorButton::color(), KbPerf::dpi(), DPI_COUNT, KbPerf::dpiColor(), KbPerf::dpiEnabled(), KbPerf::dpiIndicator(), MPerfWidget::DpiUi::enableCheck, Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, Ui_MPerfWidget::indicBox, KbPerf::iOpacity(), Ui_MPerfWidget::lHeightBox, KbPerf::liftHeight(), KbPerf::OTHER, perf, profile, Ui_MPerfWidget::spinBox, stages, ui, MPerfWidget::DpiUi::xBox, and MPerfWidget::DpiUi::yBox.

Referenced by KbWidget::modeChanged().

```
60                                                                  {
61     perf = newPerf;
62     profile = newProfile;
63     ui->spinBox->setValue(round(perf->iOpacity() * 100.f));
64     for(int i = 0; i < DPI_COUNT; i++){
65         stages[i].indicator->color(perf->dpiColor(i));
66         bool oldLink = _xyLink;
67         // Don't force X/Y to the same value if they were set differently in the past
68         _xyLink = false;
69         stages[i].xBox->setValue(perf->dpi(i).x());
70         stages[i].yBox->setValue(perf->dpi(i).y());
71         _xyLink = oldLink;
72         if(stages[i].enableCheck)
73             stages[i].enableCheck->setChecked(perf->
      dpiEnabled(i));
74     }
75     ui->iButtonO->color(perf->dpiColor(KbPerf::OTHER));
76     ui->aSnapBox->setChecked(perf->angleSnap());
77     ui->lHeightBox->setCurrentIndex(perf->liftHeight() - 1);
78     ui->indicBox->setChecked(perf->dpiIndicator());
79 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.13 void MPerfWidget::sliderXMoved (int *index*) [private],[slot]

Definition at line 128 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiExp(), dpiRound(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::xSlider, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
128                                     {
129     SET_START;
```

```
    QSlider* slider = stages[index].xSlider;
    int value = dpiRound(dpiExp(slider->value(), slider->minimum(), slider->maximum()));
    stages[index].xBox->setValue(value);
    if(_xyLink)
        perf->dpi(index, value);
    else
        perf->dpi(index, QPoint(value, perf->dpi(index).y()));
    SET_END;
    if(_xyLink)
        stages[index].ySlider->setValue(slider->value());
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.4.14 void MPerfWidget::sliderYMoved (int *index*) [private],[slot]

Definition at line 142 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiExp(), dpiRound(), perf, SET_END, SET_START, stages, ui, Ui_MPerfWidget::xyBox, MPerfWidget::DpiUi::yBox, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
142                                         {
143     SET_START;
144     QSlider* slider = stages[index].ySlider;
145     int value = dpiRound(dpiExp(slider->value(), slider->minimum(), slider->maximum()));
146     stages[index].yBox->setValue(value);
147     if(_xyLink)
148         perf->dpi(index, value);
149     else
150         perf->dpi(index, QPoint(perf->dpi(index).x(), value));
151     SET_END;
152     if(!ui->xyBox->isChecked())
153         // X/Y linked?
154         stages[index].xSlider->setValue(slider->value());
155 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.56.5 Field Documentation

12.56.5.1 bool MPerfWidget::_xyLink [private]

Definition at line 44 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), MPerfWidget(), on_xyBox_clicked(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.2 QSignalMapper MPerfWidget::boxXMapper [private]

Definition at line 49 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.3 QSignalMapper MPerfWidget::boxYMapper [private]

Definition at line 49 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.4 QSignalMapper MPerfWidget::buttonMapper1 [private]

Definition at line 47 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.5 QSignalMapper MPerfWidget::buttonMapper2 [private]

Definition at line 47 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.6 bool MPerfWidget::colorLink [private]

Definition at line 45 of file mperfwidget.h.

Referenced by colorChanged(), and colorClicked().

12.56.5.7 const int MPerfWidget::DPI_COUNT = KbPerf::DPI_COUNT [static]

Definition at line 28 of file mperfwidget.h.

Referenced by colorChanged(), MPerfWidget(), and setPerf().

12.56.5.8 const int MPerfWidget::DPI_MAX = KbPerf::DPI_MAX [static]

Definition at line 29 of file mperfwidget.h.

12.56.5.9 const int MPerfWidget::DPI_MIN = KbPerf::DPI_MIN [static]

Definition at line 29 of file mperfwidget.h.

12.56.5.10 QSignalMapper MPerfWidget::enableMapper [private]

Definition at line 50 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.11 bool MPerfWidget::isSetting [private]

Definition at line 53 of file mperfwidget.h.

12.56.5.12 KbPerf* MPerfWidget::perf [private]

Definition at line 34 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), colorChanged(), enableChanged(), on_aSnapBox_clicked(), on_copyButton_clicked(), on_indicBox_clicked(), on_lHeightBox_activated(), on_spinBox_valueChanged(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.13 KbProfile* MPerfWidget::profile [private]

Definition at line 35 of file mperfwidget.h.

Referenced by on_copyButton_clicked(), and setPerf().

12.56.5.14 QSignalMapper MPerfWidget::sliderXMapper [private]

Definition at line 48 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.15 QSignalMapper MPerfWidget::sliderYMapper [private]

Definition at line 48 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.16 DpiUi MPerfWidget::stages[DPI_COUNT] [private]

Definition at line 43 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), colorChanged(), enableChanged(), MPerfWidget(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.17 Ui::MPerfWidget* MPerfWidget::ui [private]

Definition at line 32 of file mperfwidget.h.

Referenced by colorChanged(), MPerfWidget(), setPerf(), sliderYMoved(), and ~MPerfWidget().

The documentation for this class was generated from the following files:

- src/ckb/mperfwidget.h
- src/ckb/mperfwidget.cpp

12.57 GradientDialog::Preset Struct Reference

Collaboration diagram for GradientDialog::Preset:

Public Member Functions

- Preset (QString _name, bool _builtIn=false)
- Preset (QString _name, const QGradientStops &_gradient)

- Preset ()

Data Fields

- QString name
- QGradientStops gradient
- bool builtIn

12.57.1 Detailed Description

Definition at line 23 of file gradientdialog.h.

12.57.2 Constructor & Destructor Documentation

12.57.2.1 GradientDialog::Preset::Preset (QString *_name*, bool *_builtIn* = `false`) [inline]

Definition at line 27 of file gradientdialog.h.

```
27 : name(_name), builtIn(_builtIn) {}
```

12.57.2.2 GradientDialog::Preset::Preset (QString *_name*, const QGradientStops & *_gradient*) [inline]

Definition at line 28 of file gradientdialog.h.

```
28 : name(_name), gradient(_gradient), builtIn(false) {}
```

12.57.2.3 GradientDialog::Preset::Preset ( ) [inline]

Definition at line 29 of file gradientdialog.h.

```
29 : builtIn(false) {}
```

12.57.3 Field Documentation

12.57.3.1 bool GradientDialog::Preset::builtIn

Definition at line 26 of file gradientdialog.h.

Referenced by GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), GradientDialog::setPreset(), and GradientDialog::~GradientDialog().

12.57.3.2 QGradientStops GradientDialog::Preset::gradient

Definition at line 25 of file gradientdialog.h.

Referenced by GradientDialog::GradientDialog(), GradientDialog::makeIcon(), GradientDialog::setPreset(), and GradientDialog::~GradientDialog().

12.57.3.3 QString GradientDialog::Preset::name

Definition at line 24 of file gradientdialog.h.

Referenced by GradientDialog::addPreset(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), GradientDialog::setPreset(), GradientDialog::updatePresets(), and GradientDialog::~GradientDialog().

The documentation for this struct was generated from the following file:

- src/ckb/gradientdialog.h

12.58 QDialog Class Reference

Inheritance diagram for QDialog:

Collaboration diagram for QDialog:

The documentation for this class was generated from the following file:

- src/ckb/extrasettingswidget.h

12.59 QIODevice Class Reference

Inheritance diagram for QIODevice:

Collaboration diagram for QIODevice:

The documentation for this class was generated from the following file:

- src/ckb/quazip/quazipfile.h

12.60 QIODevice_descriptor Struct Reference

Collaboration diagram for QIODevice_descriptor:

Public Member Functions

- QIODevice_descriptor ()

Data Fields

- qint64 pos

12.60.1 Detailed Description

Definition at line 78 of file qioapi.cpp.

12.60.2 Constructor & Destructor Documentation

12.60.2.1 QIODevice_descriptor::QIODevice_descriptor ( ) [inline]

Definition at line 81 of file qioapi.cpp.

```
81                                  :
82          pos(0)
83      {}
```

12.60.3 Field Documentation

12.60.3.1 qint64 QIODevice_descriptor::pos

Definition at line 80 of file qioapi.cpp.

Referenced by qiodevice64_tell_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_tell-_file_func(), and qiodevice_write_file_func().

The documentation for this struct was generated from the following file:

- src/ckb/quazip/qioapi.cpp

12.61 QListWidget Class Reference

Inheritance diagram for QListWidget:

Collaboration diagram for QListWidget:

The documentation for this class was generated from the following file:

- src/ckb/rlistwidget.h

12.62 QMainWindow Class Reference

Inheritance diagram for QMainWindow:

Collaboration diagram for QMainWindow:

The documentation for this class was generated from the following file:

- src/ckb/mainwindow.h

12.63 QObject Class Reference

Inheritance diagram for QObject:

Collaboration diagram for QObject:

The documentation for this class was generated from the following file:

- src/ckb/kbprofile.h

12.64 QPushButton Class Reference

Inheritance diagram for QPushButton:

Collaboration diagram for QPushButton:

The documentation for this class was generated from the following file:

- src/ckb/colorbutton.h

12.65 QThread Class Reference

Inheritance diagram for QThread:

Collaboration diagram for QThread:

The documentation for this class was generated from the following file:

- src/ckb/macroreader.h

12.66 QuaAdler32 Class Reference

Adler32 checksum.

`#include <quazip/quaadler32.h>`

Inheritance diagram for QuaAdler32:

Collaboration diagram for QuaAdler32:

Public Member Functions

- QuaAdler32 ()
- quint32 calculate (const QByteArray &data)

  Calculates the checksum for data.
- void reset ()

  Resets the calculation on a checksun for a stream.
- void update (const QByteArray &buf)

  Updates the calculated checksum for the stream.
- quint32 value ()

  Value of the checksum calculated for the stream passed throw update().

Private Attributes

- quint32 checksum

12.66.1 Detailed Description

This class wrappers the adler32 function with the QuaChecksum32 interface. See QuaChecksum32 for more info.

Definition at line 38 of file quaadler32.h.

12.66.2 Constructor & Destructor Documentation

12.66.2.1 QuaAdler32::QuaAdler32 ( )

Definition at line 30 of file quaadler32.cpp.

References reset().

```
{
    reset();
}
```

Here is the call graph for this function:

12.66.3 Member Function Documentation

12.66.3.1 quint32 QuaAdler32::calculate (const QByteArray & *data*) [virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implements QuaChecksum32.

Definition at line 35 of file quaadler32.cpp.

```
{
    return adler32( adler32(0L, Z_NULL, 0), (const Bytef*)data.data(), data.size() );
}
```

12.66.3.2 void QuaAdler32::reset ( ) [virtual]

Implements QuaChecksum32.

Definition at line 40 of file quaadler32.cpp.

References checksum.

Referenced by QuaAdler32().

```
{
    checksum = adler32(0L, Z_NULL, 0);
}
```

Here is the caller graph for this function:

12.66.3.3 void QuaAdler32::update (const QByteArray & *buf*) [virtual]

buf next portion of data from the stream

Implements QuaChecksum32.

Definition at line 45 of file quaadler32.cpp.

References checksum.

```
46 {
47     checksum = adler32( checksum, (const Bytef*)buf.data(), buf.size() );
48 }
```

12.66.3.4 quint32 QuaAdler32::value ( ) [virtual]

Returns

checksum

Implements QuaChecksum32.

Definition at line 50 of file quaadler32.cpp.

References checksum.

```
51 {
52     return checksum;
53 }
```

12.66.4 Field Documentation

12.66.4.1 quint32 QuaAdler32::checksum [private]

Definition at line 51 of file quaadler32.h.

Referenced by reset(), update(), and value().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quaadler32.h
- src/ckb/quazip/quaadler32.cpp

12.67 QuaChecksum32 Class Reference

Checksum interface.

```
#include <quazip/quachecksum32.h>
```

Inheritance diagram for QuaChecksum32:

Collaboration diagram for QuaChecksum32:

Public Member Functions

- virtual quint32 calculate (const QByteArray &data)=0

  Calculates the checksum for data.
- virtual void reset ()=0

  Resets the calculation on a checksun for a stream.
- virtual void update (const QByteArray &buf)=0

Updates the calculated checksum for the stream.

- virtual quint32 value ()=0

  Value of the checksum calculated for the stream passed throw update().

12.67.1 Detailed Description

This is an interface for 32 bit checksums. Classes implementing this interface can calcunate a certin checksum in a single step:

```
QChecksum32 *crc32 = new QuaCrc32();
rasoult = crc32->calculate(data);
```

or by streaming the data:

```
QChecksum32 *crc32 = new QuaCrc32();
while(!fileA.atEnd())
    crc32->update(fileA.read(bufSize));
resoultA = crc32->value();
crc32->reset();
while(!fileB.atEnd())
    crc32->update(fileB.read(bufSize));
resoultB = crc32->value();
```

Definition at line 52 of file quachecksum32.h.

12.67.2 Member Function Documentation

12.67.2.1 virtual quint32 QuaChecksum32::calculate (const QByteArray & *data*) [pure virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.2 virtual void QuaChecksum32::reset ( ) [pure virtual]

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.3 virtual void QuaChecksum32::update (const QByteArray & *buf*) [pure virtual]

buf next portion of data from the stream

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.4 virtual quint32 QuaChecksum32::value ( ) [pure virtual]

Returns

checksum

Implemented in QuaAdler32, and QuaCrc32.

The documentation for this class was generated from the following file:

- src/ckb/quazip/quachecksum32.h

12.68 QuaCrc32 Class Reference

CRC32 checksum.

```
#include <quazip/quacrc32.h>
```

Inheritance diagram for QuaCrc32:

Collaboration diagram for QuaCrc32:

Public Member Functions

- QuaCrc32 ()
- quint32 calculate (const QByteArray &data)

  Calculates the checksum for data.
- void reset ()

  Resets the calculation on a checksun for a stream.
- void update (const QByteArray &buf)

  Updates the calculated checksum for the stream.
- quint32 value ()

  Value of the checksum calculated for the stream passed throw update().

Private Attributes

- quint32 checksum

12.68.1 Detailed Description

This class wrappers the crc32 function with the QuaChecksum32 interface. See QuaChecksum32 for more info.

Definition at line 35 of file quacrc32.h.

12.68.2 Constructor & Destructor Documentation

12.68.2.1 QuaCrc32::QuaCrc32 ( )

Definition at line 29 of file quacrc32.cpp.

References reset().

```
30 {
31     reset();
32 }
```

Here is the call graph for this function:

12.68.3 Member Function Documentation

12.68.3.1 quint32 QuaCrc32::calculate (const QByteArray & *data*) [virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implements QuaChecksum32.

Definition at line 34 of file quacrc32.cpp.

```
35 {
36     return crc32( crc32(0L, Z_NULL, 0), (const Bytef*)data.data(), data.size() );
37 }
```

12.68.3.2 void QuaCrc32::reset ( ) [virtual]

Implements QuaChecksum32.

Definition at line 39 of file quacrc32.cpp.

References checksum.

Referenced by QuaCrc32().

```
40 {
41     checksum = crc32(0L, Z_NULL, 0);
42 }
```

Here is the caller graph for this function:

12.68.3.3 void QuaCrc32::update (const QByteArray & *buf*) [virtual]

buf next portion of data from the stream

Implements QuaChecksum32.

Definition at line 44 of file quacrc32.cpp.

References checksum.

```
45 {
46     checksum = crc32( checksum, (const Bytef*)buf.data(), buf.size() );
47 }
```

12.68.3.4 quint32 QuaCrc32::value ( ) [virtual]

Returns

checksum

Implements QuaChecksum32.

Definition at line 49 of file quacrc32.cpp.

References checksum.

```
50 {
51     return checksum;
52 }
```

12.68.4 Field Documentation

12.68.4.1 quint32 QuaCrc32::checksum [private]

Definition at line 47 of file quacrc32.h.

Referenced by reset(), update(), and value().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quacrc32.h
- src/ckb/quazip/quacrc32.cpp

12.69 QuaGzipFile Class Reference

GZIP file.

```
#include <src/ckb/quazip/quagzipfile.h>
```

Inheritance diagram for QuaGzipFile:

Collaboration diagram for QuaGzipFile:

Public Member Functions

- QuaGzipFile ()

  Empty constructor.
- QuaGzipFile (QObject *parent)

  Empty constructor with a parent.
- QuaGzipFile (const QString &fileName, QObject *parent=NULL)

  Constructor.
- virtual ~QuaGzipFile ()

  Destructor.
- void setFileName (const QString &fileName)

  Sets the name of the GZIP file to be opened.
- QString getFileName () const

  Returns the name of the GZIP file.
- virtual bool isSequential () const

  Returns true.
- virtual bool open (QIODevice::OpenMode mode)

  Opens the file.

- virtual bool open (int fd, QIODevice::OpenMode mode)

  Opens the file.
- virtual bool flush ()

  Flushes data to file.
- virtual void close ()

  Closes the file.

Protected Member Functions

- virtual qint64 readData (char *data, qint64 maxSize)

  Implementation of QIODevice::readData().
- virtual qint64 writeData (const char *data, qint64 maxSize)

  Implementation of QIODevice::writeData().

Private Member Functions

- QuaGzipFile (const QuaGzipFile &that)
- QuaGzipFile & operator= (const QuaGzipFile &that)

Private Attributes

- QuaGzipFilePrivate * d

12.69.1 Detailed Description

This class is a wrapper around GZIP file access functions in zlib. Unlike QuaZip classes, it doesn't allow reading from a GZIP file opened as QIODevice, for example, if your GZIP file is in QBuffer. It only provides QIODevice access to a GZIP file contents, but the GZIP file itself must be identified by its name on disk or by descriptor id.

Definition at line 39 of file quagzipfile.h.

12.69.2 Constructor & Destructor Documentation

12.69.2.1 QuaGzipFile::QuaGzipFile ( )

Must call setFileName() before trying to open.

Definition at line 87 of file quagzipfile.cpp.

```
87                          :
88 d(new QuaGzipFilePrivate())
89 {
90 }
```

12.69.2.2 QuaGzipFile::QuaGzipFile (QObject * *parent*)

Must call setFileName() before trying to open.

Parameters

parent	The parent object, as per QObject logic.

Definition at line 92 of file quagzipfile.cpp.

```
92                                        :
93 QIODevice(parent),
94 d(new QuaGzipFilePrivate())
95 {
96 }
```

12.69.2.3 QuaGzipFile::QuaGzipFile (const QString & *fileName*, QObject * *parent* = NULL)

Parameters

fileName	The name of the GZIP file.
parent	The parent object, as per QObject logic.

Definition at line 98 of file quagzipfile.cpp.

```
98                                                                  :
99   QIODevice(parent),
100 d(new QuaGzipFilePrivate(fileName))
101 {
102 }
```

12.69.2.4 QuaGzipFile::~QuaGzipFile ( ) [virtual]

Definition at line 104 of file quagzipfile.cpp.

References close(), and d.

```
105 {
106   if (isOpen()) {
107     close();
108   }
109   delete d;
110 }
```

Here is the call graph for this function:

12.69.2.5 QuaGzipFile::QuaGzipFile (const QuaGzipFile & *that*) [private]

12.69.3 Member Function Documentation

12.69.3.1 void QuaGzipFile::close ( ) [virtual]

Definition at line 152 of file quagzipfile.cpp.

References d.

Referenced by ~QuaGzipFile().

```
{
  QIODevice::close();
  gzclose(d->gzd);
}
```

Here is the caller graph for this function:

12.69.3.2 bool QuaGzipFile::flush ( ) [virtual]

The data is written using Z_SYNC_FLUSH mode. Doesn't make any sense when reading.

Definition at line 147 of file quagzipfile.cpp.

References d.

```
{
    return gzflush(d->gzd, Z_SYNC_FLUSH) == Z_OK;
}
```

12.69.3.3 QString QuaGzipFile::getFileName ( ) const

Definition at line 117 of file quagzipfile.cpp.

References d.

```
{
    return d->fileName;
}
```

12.69.3.4 bool QuaGzipFile::isSequential ( ) const [virtual]

Strictly speaking, zlib supports seeking for GZIP files, but it is poorly implemented, because there is no way to implement it properly. For reading, seeking backwards is very slow, and for writing, it is downright impossible. Therefore, QuaGzipFile does not support seeking at all.

Definition at line 122 of file quagzipfile.cpp.

```
{
  return true;
}
```

12.69.3.5 bool QuaGzipFile::open (QIODevice::OpenMode *mode*) [virtual]

Parameters

mode	Can be either QIODevice::Write or QIODevice::Read. ReadWrite and Append aren't supported.

Definition at line 127 of file quagzipfile.cpp.

References d.

```
{
    QString error;
    if (!d->open(d->fileName, mode, error)) {
        setErrorString(error);
        return false;
    }
    return QIODevice::open(mode);
}
```

12.69.3.6 bool QuaGzipFile::open (int *fd*, QIODevice::OpenMode *mode*) [virtual]

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

Parameters

fd	The file descriptor to read/write the GZIP file from/to.
mode	Can be either QIODevice::Write or QIODevice::Read. ReadWrite and Append aren't supported.

Definition at line 137 of file quagzipfile.cpp.

References d.

```
{
    QString error;
    if (!d->open(fd, mode, error)) {
        setErrorString(error);
        return false;
    }
    return QIODevice::open(mode);
}
```

12.69.3.7 QuaGzipFile& QuaGzipFile::operator= (const QuaGzipFile & *that*) [private]

12.69.3.8 qint64 QuaGzipFile::readData (char * *data*, qint64 *maxSize*) [protected], [virtual]

Definition at line 158 of file quagzipfile.cpp.

References d.

```
{
    return gzread(d->gzd, (voidp)data, (unsigned)maxSize);
}
```

12.69.3.9 void QuaGzipFile::setFileName (const QString & *fileName*)

Definition at line 112 of file quagzipfile.cpp.

References d.

```
{
    d->fileName = fileName;
}
```

12.69.3.10 qint64 QuaGzipFile::writeData (const char * *data*, qint64 *maxSize*) [protected],[virtual]

Definition at line 163 of file quagzipfile.cpp.

References d.

```
{
    if (maxSize == 0)
        return 0;
    int written = gzwrite(d->gzd, (voidp)data, (unsigned)maxSize);
    if (written == 0)
        return -1;
    else
        return written;
}
```

12.69.4 Field Documentation

12.69.4.1 QuaGzipFilePrivate* QuaGzipFile::d [private]

Definition at line 105 of file quagzipfile.h.

Referenced by close(), flush(), getFileName(), open(), readData(), setFileName(), writeData(), and ~QuaGzipFile().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quagzipfile.h
- src/ckb/quazip/quagzipfile.cpp

12.70 QuaZIODevice Class Reference

A class to compress/decompress QIODevice.

`#include <src/ckb/quazip/quaziodevice.h>`

Inheritance diagram for QuaZIODevice:

Collaboration diagram for QuaZIODevice:

Public Member Functions

- QuaZIODevice (QIODevice ∗io, QObject ∗parent=NULL)

  Constructor.
- ∼QuaZIODevice ()

  Destructor.
- virtual bool flush ()

  Flushes data waiting to be written.
- virtual bool open (QIODevice::OpenMode mode)

  Opens the device.
- virtual void close ()

  Closes this device, but not the underlying one.
- QIODevice ∗ getIoDevice () const

  Returns the underlying device.
- virtual bool isSequential () const

  Returns true.

Protected Member Functions

- virtual qint64 readData (char ∗data, qint64 maxSize)

  Implementation of QIODevice::readData().
- virtual qint64 writeData (const char ∗data, qint64 maxSize)

  Implementation of QIODevice::writeData().

Private Attributes

- QuaZIODevicePrivate * d

12.70.1 Detailed Description

This class can be used to compress any data written to QIODevice or decompress it back. Compressing data sent over a QTcpSocket is a good example.

Definition at line 41 of file quaziodevice.h.

12.70.2 Constructor & Destructor Documentation

12.70.2.1 QuaZIODevice::QuaZIODevice (QIODevice * io, QObject * parent = NULL)

Parameters

io	The QIODevice to read/write.
parent	The parent object, as per QObject logic.

Definition at line 123 of file quaziodevice.cpp.

```
123                                                     :
124     QIODevice(parent),
125     d(new QuaZIODevicePrivate(io))
126 {
127   connect(io, SIGNAL(readyRead()), SIGNAL(readyRead()));
128 }
```

12.70.2.2 QuaZIODevice::~QuaZIODevice ( )

Definition at line 130 of file quaziodevice.cpp.

References close(), and d.

```
131 {
132     if (isOpen())
133         close();
134     delete d;
135 }
```

Here is the call graph for this function:

12.70.3 Member Function Documentation

12.70.3.1 void QuaZIODevice::close ( ) [virtual]

The underlying QIODevice is not closed in case you want to write something else to it.

Definition at line 169 of file quaziodevice.cpp.

References d, and flush().

Referenced by ~QuaZIODevice().

```
{
    if ((openMode() & QIODevice::ReadOnly) != 0) {
        if (inflateEnd(&d->zins) != Z_OK) {
            setErrorString(d->zins.msg);
        }
    }
    if ((openMode() & QIODevice::WriteOnly) != 0) {
        flush();
        if (deflateEnd(&d->zouts) != Z_OK) {
            setErrorString(d->zouts.msg);
        }
    }
    QIODevice::close();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.70.3.2 bool QuaZIODevice::flush ( ) [virtual]

Unfortunately, as QIODevice doesn't support flush() by itself, the only thing this method does is write the compressed data into the device using Z_SYNC_FLUSH mode. If you need the compressed data to actually be flushed from the buffer of the underlying QIODevice, you need to call its flush() method as well, providing it supports it (like QTcpSocket does). Example:

```
QuaZIODevice dev(&sock);
dev.open(QIODevice::Write);
dev.write(yourDataGoesHere);
dev.flush();
sock->flush(); // this actually sends data to network
```

This may change in the future versions of QuaZIP by implementing an ugly hack: trying to cast the QIODevice using qobject_cast to known flush()-supporting subclasses, and calling flush if the resulting pointer is not zero.

Definition at line 281 of file quaziodevice.cpp.

References d, and QUAZIO_OUTBUFSIZE.

Referenced by close().

```
{
    QString error;
    if (d->doFlush(error) < 0) {
```

```
        setErrorString(error);
        return false;
    }
    // can't flush buffer, some data is still waiting
    if (d->outBufPos < d->outBufSize)
        return true;
    Bytef c = 0;
    d->zouts.next_in = &c; // fake input buffer
    d->zouts.avail_in = 0; // of zero size
    do {
        d->zouts.next_out = (Bytef *) d->outBuf;
        d->zouts.avail_out = QUAZIO_OUTBUFSIZE;
        switch (deflate(&d->zouts, Z_SYNC_FLUSH)) {
        case Z_OK:
          d->outBufSize = (char *) d->zouts.next_out - d->outBuf;
          if (d->doFlush(error) < 0) {
              setErrorString(error);
              return false;
          }
          if (d->outBufPos < d->outBufSize)
              return true;
          break;
        case Z_BUF_ERROR: // nothing to write?
          return true;
        default:
          setErrorString(QString::fromLocal8Bit(d->zouts.msg));
          return false;
        }
    } while (d->zouts.avail_out == 0);
    return true;
}
```

Here is the caller graph for this function:

12.70.3.3 QIODevice * QuaZIODevice::getIoDevice ( ) const

Definition at line 137 of file quaziodevice.cpp.

References d.

```
{
    return d->io;
}
```

12.70.3.4 bool QuaZIODevice::isSequential ( ) const [virtual]

Definition at line 317 of file quaziodevice.cpp.

```
{
  return true;
}
```

12.70.3.5 bool QuaZIODevice::open (QIODevice::OpenMode *mode*) [virtual]

Parameters

mode	Neither QIODevice::ReadWrite nor QIODevice::Append are not supported.

Definition at line 142 of file quaziodevice.cpp.

References d.

```
{
    if ((mode & QIODevice::Append) != 0) {
        setErrorString(trUtf8("QIODevice::Append is not supported for"
                    " QuaZIODevice"));
        return false;
    }
    if ((mode & QIODevice::ReadWrite) == QIODevice::ReadWrite) {
        setErrorString(trUtf8("QIODevice::ReadWrite is not supported for"
                    " QuaZIODevice"));
        return false;
    }
    if ((mode & QIODevice::ReadOnly) != 0) {
        if (inflateInit(&d->zins) != Z_OK) {
            setErrorString(d->zins.msg);
            return false;
        }
    }
    if ((mode & QIODevice::WriteOnly) != 0) {
        if (deflateInit(&d->zouts, Z_DEFAULT_COMPRESSION) != Z_OK) {
            setErrorString(d->zouts.msg);
            return false;
        }
    }
    return QIODevice::open(mode);
}
```

12.70.3.6 qint64 QuaZIODevice::readData (char * *data*, qint64 *maxSize*) [protected],[virtual]

Definition at line 185 of file quaziodevice.cpp.

References d, and QUAZIO_INBUFSIZE.

```
{
  int read = 0;
  while (read < maxSize) {
    if (d->inBufPos == d->inBufSize) {
      d->inBufPos = 0;
      d->inBufSize = d->io->read(d->inBuf, QUAZIO_INBUFSIZE);
      if (d->inBufSize == -1) {
        d->inBufSize = 0;
        setErrorString(d->io->errorString());
        return -1;
      }
      if (d->inBufSize == 0)
        break;
    }
    while (read < maxSize && d->inBufPos < d->inBufSize) {
      d->zins.next_in = (Bytef *) (d->inBuf + d->inBufPos);
      d->zins.avail_in = d->inBufSize - d->inBufPos;
      d->zins.next_out = (Bytef *) (data + read);
      d->zins.avail_out = (uInt) (maxSize - read); // hope it's less than 2GB
      int more = 0;
      switch (inflate(&d->zins, Z_SYNC_FLUSH)) {
      case Z_OK:
        read = (char *) d->zins.next_out - data;
        d->inBufPos = (char *) d->zins.next_in - d->inBuf;
        break;
      case Z_STREAM_END:
        read = (char *) d->zins.next_out - data;
        d->inBufPos = (char *) d->zins.next_in - d->inBuf;
        return read;
      case Z_BUF_ERROR: // this should never happen, but just in case
        if (!d->zBufError) {
          qWarning("Z_BUF_ERROR detected with %d/%d in/out, weird",
              d->zins.avail_in, d->zins.avail_out);
          d->zBufError = true;
        }
        memmove(d->inBuf, d->inBuf + d->inBufPos, d->inBufSize - d->inBufPos);
        d->inBufSize -= d->inBufPos;
        d->inBufPos = 0;
        more = d->io->read(d->inBuf + d->inBufSize, QUAZIO_INBUFSIZE -
  d->inBufSize);
```

```
225         if (more == -1) {
226           setErrorString(d->io->errorString());
227           return -1;
228         }
229         if (more == 0)
230           return read;
231         d->inBufSize += more;
232         break;
233       default:
234         setErrorString(QString::fromLocal8Bit(d->zins.msg));
235         return -1;
236       }
237     }
238   }
239 #ifdef QUAZIP_ZIODEVICE_DEBUG_INPUT
240   indebug.write(data, read);
241 #endif
242   return read;
243 }
```

12.70.3.7 qint64 QuaZIODevice::writeData (const char * *data*, qint64 *maxSize*) [protected],[virtual]

Definition at line 245 of file quaziodevice.cpp.

References d, and QUAZIO_OUTBUFSIZE.

```
246 {
247   int written = 0;
248   QString error;
249   if (d->doFlush(error) == -1) {
250     setErrorString(error);
251     return -1;
252   }
253   while (written < maxSize) {
254       // there is some data waiting in the output buffer
255     if (d->outBufPos < d->outBufSize)
256       return written;
257     d->zouts.next_in = (Bytef *) (data + written);
258     d->zouts.avail_in = (uInt) (maxSize - written); // hope it's less than 2GB
259     d->zouts.next_out = (Bytef *) d->outBuf;
260     d->zouts.avail_out = QUAZIO_OUTBUFSIZE;
261     switch (deflate(&d->zouts, Z_NO_FLUSH)) {
262     case Z_OK:
263       written = (char *) d->zouts.next_in - data;
264       d->outBufSize = (char *) d->zouts.next_out - d->outBuf;
265       break;
266     default:
267       setErrorString(QString::fromLocal8Bit(d->zouts.msg));
268       return -1;
269     }
270     if (d->doFlush(error) == -1) {
271       setErrorString(error);
272       return -1;
273     }
274   }
275 #ifdef QUAZIP_ZIODEVICE_DEBUG_OUTPUT
276   debug.write(data, written);
277 #endif
278   return written;
279 }
```

12.70.4 Field Documentation

12.70.4.1 QuaZIODevicePrivate* QuaZIODevice::d [private]

Definition at line 96 of file quaziodevice.h.

Referenced by close(), flush(), getIoDevice(), open(), readData(), writeData(), and ~QuaZIODevice().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quaziodevice.h
- src/ckb/quazip/quaziodevice.cpp

12.71 QuaZip Class Reference

ZIP archive.

`#include <quazip/quazip.h>`

Collaboration diagram for QuaZip:

Public Types

- enum Constants { MAX_FILE_NAME_LENGTH =256 }

  Useful constants.
- enum Mode {
  mdNotOpen, mdUnzip, mdCreate, mdAppend,
  mdAdd }

  Open mode of the ZIP file.
- enum CaseSensitivity { csDefault =0, csSensitive =1, csInsensitive =2 }

  Case sensitivity for the file names.

Public Member Functions

- QuaZip ()

  Constructs QuaZip object.
- QuaZip (const QString &zipName)

  Constructs QuaZip object associated with ZIP file zipName.
- QuaZip (QIODevice ∗ioDevice)

  Constructs QuaZip object associated with ZIP file represented by ioDevice.
- ∼QuaZip ()

  Destroys QuaZip object.
- bool open (Mode mode, zlib_filefunc_def ∗ioApi=NULL)

  Opens ZIP file.
- void close ()

  Closes ZIP file.
- void setFileNameCodec (QTextCodec ∗fileNameCodec)

  Sets the codec used to encode/decode file names inside archive.
- void setFileNameCodec (const char ∗fileNameCodecName)

Sets the codec used to encode/decode file names inside archive.

- QTextCodec * getFileNameCodec () const

  Returns the codec used to encode/decode comments inside archive.
- void setCommentCodec (QTextCodec *commentCodec)

  Sets the codec used to encode/decode comments inside archive.
- void setCommentCodec (const char *commentCodecName)

  Sets the codec used to encode/decode comments inside archive.
- QTextCodec * getCommentCodec () const

  Returns the codec used to encode/decode comments inside archive.
- QString getZipName () const

  Returns the name of the ZIP file.
- void setZipName (const QString &zipName)

  Sets the name of the ZIP file.
- QIODevice * getIoDevice () const

  Returns the device representing this ZIP file.
- void setIoDevice (QIODevice *ioDevice)

  Sets the device representing the ZIP file.
- Mode getMode () const

  Returns the mode in which ZIP file was opened.
- bool isOpen () const

  Returns `true` if ZIP file is open, `false` otherwise.
- int getZipError () const

  Returns the error code of the last operation.
- int getEntriesCount () const

  Returns number of the entries in the ZIP central directory.
- QString getComment () const

  Returns global comment in the ZIP file.
- void setComment (const QString &comment)

  Sets the global comment in the ZIP file.
- bool goToFirstFile ()

  Sets the current file to the first file in the archive.
- bool goToNextFile ()

  Sets the current file to the next file in the archive.
- bool setCurrentFile (const QString &fileName, CaseSensitivity cs=csDefault)

  Sets current file by its name.
- bool hasCurrentFile () const

  Returns `true` if the current file has been set.
- bool getCurrentFileInfo (QuaZipFileInfo *info) const

  Retrieves information about the current file.
- bool getCurrentFileInfo (QuaZipFileInfo64 *info) const

  Retrieves information about the current file.
- QString getCurrentFileName () const

  Returns the current file name.
- unzFile getUnzFile ()

  Returns `unzFile` handle.
- zipFile getZipFile ()

  Returns `zipFile` handle.
- void setDataDescriptorWritingEnabled (bool enabled)

  Changes the data descriptor writing mode.
- bool isDataDescriptorWritingEnabled () const

  Returns the data descriptor default writing mode.

- QStringList getFileNameList () const

  Returns a list of files inside the archive.
- QList< QuaZipFileInfo > getFileInfoList () const

  Returns information list about all files inside the archive.
- QList< QuaZipFileInfo64 > getFileInfoList64 () const

  Returns information list about all files inside the archive.
- void setZip64Enabled (bool zip64)

  Enables the zip64 mode.
- bool isZip64Enabled () const

  Returns whether the zip64 mode is enabled.
- bool isAutoClose () const

  Returns the auto-close flag.
- void setAutoClose (bool autoClose) const

  Sets or unsets the auto-close flag.

Static Public Member Functions

- static Qt::CaseSensitivity convertCaseSensitivity (CaseSensitivity cs)

  Returns the actual case sensitivity for the specified QuaZIP one.
- static void setDefaultFileNameCodec (QTextCodec *codec)

  Sets the default file name codec to use.
- static void setDefaultFileNameCodec (const char *codecName)

  This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setDefltFileNameCodec(QTextCodec::codecForName(codecName)).

Private Member Functions

- QuaZip (const QuaZip &that)
- QuaZip & operator= (const QuaZip &that)

Private Attributes

- QuaZipPrivate * p

Friends

- class QuaZipPrivate

12.71.1 Detailed Description

This class implements basic interface to the ZIP archive. It can be used to read table contents of the ZIP archive and retreiving information about the files inside it.

You can also use this class to open files inside archive by passing pointer to the instance of this class to the constructor of the QuaZipFile class. But see QuaZipFile::QuaZipFile(QuaZip*, QObject*) for the possible pitfalls.

This class is indended to provide interface to the ZIP subpackage of the ZIP/UNZIP package as well as to the UNZIP subpackage. But currently it supports only UNZIP.

The use of this class is simple - just create instance using constructor, then set ZIP archive file name using setFile() function (if you did not passed the name to the constructor), then open() and then use different functions to work with it! Well, if you are paranoid, you may also wish to call close before destructing the instance, to check for errors on close.

You may also use getUnzFile() and getZipFile() functions to get the ZIP archive handle and use it with ZIP/UNZIP package API directly.

This class supports localized file names inside ZIP archive, but you have to set up proper codec with setCodec() function. By default, locale codec will be used, which is probably ok for UNIX systems, but will almost certainly fail with ZIP archives created in Windows. This is because Windows ZIP programs have strange habit of using DOS encoding for file names in ZIP archives. For example, ZIP archive with cyrillic names created in Windows will have file names in `IBM866` encoding instead of `WINDOWS-1251`. I think that calling one function is not much trouble, but for true platform independency it would be nice to have some mechanism for file name encoding auto detection using locale information. Does anyone know a good way to do it?

Definition at line 84 of file quazip.h.

12.71.2 Member Enumeration Documentation

12.71.2.1 enum QuaZip::CaseSensitivity

This is what you specify when accessing files in the archive. Works perfectly fine with any characters thanks to Qt's great unicode support. This is different from ZIP/UNZIP API, where only US-ASCII characters was supported.

Enumerator

csDefault Default for platform. Case sensitive for UNIX, not for Windows.

csSensitive Case sensitive.

csInsensitive Case insensitive.

Definition at line 114 of file quazip.h.

```
114                         {
115       csDefault=0,
116       csSensitive=1,
117       csInsensitive=2
118     };
```

12.71.2.2 enum QuaZip::Constants

Enumerator

MAX_FILE_NAME_LENGTH Maximum file name length. Taken from `UNZ_MAXFILENAMEINZIP` constant in unzip.c.

Definition at line 88 of file quazip.h.

```
88                    {
89       MAX_FILE_NAME_LENGTH=256
92     };
```

12.71.2.3 enum QuaZip::Mode

Enumerator

mdNotOpen ZIP file is not open. This is the initial mode.

mdUnzip ZIP file is open for reading files inside it.

mdCreate ZIP file was created with open() call.

mdAppend ZIP file was opened in append mode. This refers to `APPEND_STATUS_CREATEAFTER` mode in ZIP/UNZIP package and means that zip is appended to some existing file what is useful when that file contains self-extractor code. This is obviously *not* what you whant to use to add files to the existing ZIP archive.

mdAdd ZIP file was opened for adding files in the archive.

Definition at line 94 of file quazip.h.

```
94              {
95       mdNotOpen,
96       mdUnzip,
97       mdCreate,
98       mdAppend,
106       mdAdd
107     };
```

12.71.3 Constructor & Destructor Documentation

12.71.3.1 QuaZip::QuaZip (const QuaZip & *that*) [private]

12.71.3.2 QuaZip::QuaZip ( )

Call setName() before opening constructed object.

Definition at line 193 of file quazip.cpp.

```
193              :
194   p(new QuaZipPrivate(this))
195 {
196 }
```

12.71.3.3 QuaZip::QuaZip (const QString & *zipName*)

Definition at line 198 of file quazip.cpp.

```
198                                  :
199   p(new QuaZipPrivate(this, zipName))
200 {
201 }
```

12.71.3.4 QuaZip::QuaZip (QIODevice * *ioDevice*)

The IO device must be seekable, otherwise an error will occur when opening.

Definition at line 203 of file quazip.cpp.

```
203                                 :
204   p(new QuaZipPrivate(this, ioDevice))
205 {
206 }
```

12.71.3.5 QuaZip::~QuaZip ( )

Calls close() if necessary.

Definition at line 208 of file quazip.cpp.

References close(), isOpen(), and p.

```
209 {
210   if(isOpen())
211     close();
212   delete p;
213 }
```

Here is the call graph for this function:

12.71.4 Member Function Documentation

12.71.4.1 void QuaZip::close ( )

Call getZipError() to determine if the close was successful.

If the file was opened by name, then the underlying QIODevice is closed and deleted.

If the underlying QIODevice was set explicitly using setIoDevice() or the appropriate constructor, then it is closed if the auto-close flag is set (which it is by default). Call setAutoClose() to clear the auto-close flag if this behavior is undesirable.

Since Qt 5.1, the QSaveFile was introduced. It breaks the QIODevice API by making close() private and crashing the application if it is called from the base class where it is public. It is an excellent example of poor design that illustrates why you should never ever break an is-a relationship between the base class and a subclass. QuaZIP works around this bug by checking if the QIODevice is an instance of QSaveFile, using qobject_cast<>, and if it is, calls QSaveFile::commit() instead of close(). It is a really ugly hack, but at least it makes your programs work instead of crashing. Note that if the auto-close flag is cleared, then this is a non-issue, and commit() isn't called.

Definition at line 324 of file quazip.cpp.

References QuaZipPrivate::clearDirectoryMap(), QuaZipPrivate::comment, QuaZipPrivate::commentCodec, QuaZipPrivate::ioDevice, mdAdd, mdAppend, mdCreate, mdNotOpen, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzClose(), zipClose(), QuaZipPrivate::zipError, and QuaZipPrivate::zipName.

Referenced by QuaZipFile::close(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), JlCompress::getFileList(), QuaZipFile::open(), and ~QuaZip().

```
{
  p->zipError=UNZ_OK;
  switch(p->mode) {
    case mdNotOpen:
      qWarning("QuaZip::close(): ZIP is not open");
      return;
    case mdUnzip:
      p->zipError=unzClose(p->unzFile_f);
      break;
    case mdCreate:
    case mdAppend:
    case mdAdd:
      p->zipError=zipClose(p->zipFile_f,
          p->comment.isNull() ? NULL
          : p->commentCodec->fromUnicode(p->comment).constData());
      break;
    default:
      qWarning("QuaZip::close(): unknown mode: %d", (int)p->mode);
      return;
  }
  // opened by name, need to delete the internal IO device
  if (!p->zipName.isEmpty()) {
      delete p->ioDevice;
      p->ioDevice = NULL;
  }
  p->clearDirectoryMap();
  if(p->zipError==UNZ_OK)
    p->mode=mdNotOpen;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.2 Qt::CaseSensitivity QuaZip::convertCaseSensitivity (QuaZip::CaseSensitivity *cs*) [static]

Parameters

cs	The value to convert.

Returns

If CaseSensitivity::csDefault, then returns the default file name case sensitivity for the platform. Otherwise, just returns the appropriate value from the Qt::CaseSensitivity enum.

Definition at line 747 of file quazip.cpp.

References csDefault, and csSensitive.

Referenced by QuaZipDir::exists(), and setCurrentFile().

```
{
  if (cs == csDefault) {
#ifdef Q_WS_WIN
      return Qt::CaseInsensitive;
#else
```

```
753         return Qt::CaseSensitive;
754 #endif
755     } else {
756         return cs == csSensitive ? Qt::CaseSensitive : Qt::CaseInsensitive;
757     }
758 }
```

Here is the caller graph for this function:

12.71.4.3 QString QuaZip::getComment ( ) const

Definition at line 389 of file quazip.cpp.

References QuaZipPrivate::commentCodec, mdUnzip, QuaZipPrivate::mode, p, unz_global_info64_s::size_comment, UNZ_OK, unzGetGlobalComment(), unzGetGlobalInfo64(), and QuaZipPrivate::zipError.

```
390 {
391   QuaZip *fakeThis=(QuaZip*)this; // non-const
392   fakeThis->p->zipError=UNZ_OK;
393   if(p->mode!=mdUnzip) {
394     qWarning("QuaZip::getComment(): ZIP is not open in mdUnzip mode");
395     return QString();
396   }
397   unz_global_info64 globalInfo;
398   QByteArray comment;
399   if((fakeThis->p->zipError=unzGetGlobalInfo64(p->unzFile_f, &globalInfo))!=
      UNZ_OK)
400     return QString();
401   comment.resize(globalInfo.size_comment);
402   if((fakeThis->p->zipError=unzGetGlobalComment(p->unzFile_f, comment.data(),
      comment.size())) < 0)
403     return QString();
404   fakeThis->p->zipError = UNZ_OK;
405   return p->commentCodec->toUnicode(comment);
406 }
```

Here is the call graph for this function:

12.71.4.4 QTextCodec * QuaZip::getCommentCodec ( ) const

Definition at line 597 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

Referenced by QuaZipFile::open().

```
{
  return p->commentCodec;
}
```

Here is the caller graph for this function:

12.71.4.5 bool QuaZip::getCurrentFileInfo (QuaZipFileInfo * *info*) const

Fills the structure pointed by *info*. Returns `true` on success, `false` otherwise. In the latter case structure pointed by *info* remains untouched. If there was an error, getZipError() returns error code.

Should be used only in QuaZip::mdUnzip mode.

Does nothing and returns `false` in any of the following cases.

- ZIP is not open;
- ZIP does not have current file.

In both cases getZipError() returns `UNZ_OK` since there is no ZIP/UNZIP API call.

This overload doesn't support zip64, but will work OK on zip64 archives except that if one of the sizes (compressed or uncompressed) is greater than 0xFFFFFFFFu, it will be set to exactly 0xFFFFFFFFu.

See Also

getCurrentFileInfo(QuaZipFileInfo64* info)const
QuaZipFileInfo64::toQuaZipFileInfo(QuaZipFileInfo&)const

Definition at line 492 of file quazip.cpp.

References QuaZipFileInfo64::toQuaZipFileInfo().

Referenced by JlCompress::extractFile(), QuaZipFile::getFileInfo(), JlCompress::getFileList(), QuaZip_getFileInfo(), and QuaZipDir_getFileInfo().

```
{
    QuaZipFileInfo64 info64;
    if (info == NULL) { // Very unlikely because of the overloads
        return false;
    }
    if (getCurrentFileInfo(&info64)) {
        info64.toQuaZipFileInfo(*info);
        return true;
    } else {
        return false;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.6 bool QuaZip::getCurrentFileInfo (QuaZipFileInfo64 ∗ *info*) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

This function supports zip64. If the archive doesn't use zip64, it is completely equivalent to getCurrentFileInfo(QuaZipFileInfo∗ info) except for the argument type.

See Also

Definition at line 506 of file quazip.cpp.

References QuaZipPrivate::addCurrentFileToDirectoryMap(), QuaZipFileInfo64::comment, QuaZipPrivate::commentCodec, unz_file_info64_s::compressed_size, QuaZipFileInfo64::compressedSize, unz_file_info64_s::compression_method, QuaZipFileInfo64::crc, unz_file_info64_s::crc, QuaZipFileInfo64::dateTime, unz_file_info64_s::disk_num_start, QuaZipFileInfo64::diskNumberStart, unz_file_info64_s::external_fa, QuaZipFileInfo64::externalAttr, QuaZipFileInfo64::extra, QuaZipPrivate::fileNameCodec, unz_file_info64_s::flag, QuaZipFileInfo64::flags, hasCurrentFile(), unz_file_info64_s::internal_fa, QuaZipFileInfo64::internalAttr, isOpen(), mdUnzip, QuaZipFileInfo64::method, QuaZipPrivate::mode, QuaZipFileInfo64::name, p, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, tm_unz_s::tm_hour, tm_unz_s::tm_mday, tm_unz_s::tm_min, tm_unz_s::tm_mon, tm_unz_s::tm_sec, tm_unz_s::tm_year, unz_file_info64_s::tmu_date, unz_file_info64_s::uncompressed_size, QuaZipFileInfo64::uncompressedSize, UNZ_OK, unzGetCurrentFileInfo64(), unz_file_info64_s::version, unz_file_info64_s::version_needed, QuaZipFileInfo64::versionCreated, QuaZipFileInfo64::versionNeeded, and QuaZipPrivate::zipError.

```
{
  QuaZip *fakeThis=(QuaZip*)this; // non-const
  fakeThis->p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::getCurrentFileInfo(): ZIP is not open in mdUnzip mode");
    return false;
  }
  unz_file_info64 info_z;
  QByteArray fileName;
  QByteArray extra;
  QByteArray comment;
  if(info==NULL) return false;
  if(!isOpen()||!hasCurrentFile()) return false;
  if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
  p->unzFile_f, &info_z, NULL, 0, NULL, 0, NULL, 0))!=UNZ_OK)
    return false;
  fileName.resize(info_z.size_filename);
  extra.resize(info_z.size_file_extra);
  comment.resize(info_z.size_file_comment);
  if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
  p->unzFile_f, NULL,
      fileName.data(), fileName.size(),
      extra.data(), extra.size(),
      comment.data(), comment.size()))!=UNZ_OK)
    return false;
  info->versionCreated=info_z.version;
  info->versionNeeded=info_z.version_needed;
  info->flags=info_z.flag;
  info->method=info_z.compression_method;
  info->crc=info_z.crc;
  info->compressedSize=info_z.compressed_size;
  info->uncompressedSize=info_z.uncompressed_size;
  info->diskNumberStart=info_z.disk_num_start;
  info->internalAttr=info_z.internal_fa;
  info->externalAttr=info_z.external_fa;
  info->name=p->fileNameCodec->toUnicode(fileName);
  info->comment=p->commentCodec->toUnicode(comment);
  info->extra=extra;
  info->dateTime=QDateTime(
      QDate(info_z.tmu_date.tm_year, info_z.tmu_date.
  tm_mon+1, info_z.tmu_date.tm_mday),
      QTime(info_z.tmu_date.tm_hour, info_z.tmu_date.
  tm_min, info_z.tmu_date.tm_sec));
  // Add to directory map
  p->addCurrentFileToDirectoryMap(info->name);
  return true;
}
```

Here is the call graph for this function:

12.71.4.7 QString QuaZip::getCurrentFileName ( ) const

Equivalent to calling getCurrentFileInfo() and then getting `name` field of the QuaZipFileInfo structure, but faster and more convenient.

Should be used only in QuaZip::mdUnzip mode.

Definition at line 551 of file quazip.cpp.

References QuaZipPrivate::addCurrentFileToDirectoryMap(), QuaZipPrivate::fileNameCodec, hasCurrentFile(), isOpen(), MAX_FILE_NAME_LENGTH, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzGetCurrentFileInfo64(), and QuaZipPrivate::zipError.

Referenced by JlCompress::extractDir(), QuaZipFile::getActualFileName(), QuaZipPrivate::getFileInfoList(), QuaZip_getFileInfo(), and setCurrentFile().

```
{
  QuaZip *fakeThis=(QuaZip*)this; // non-const
  fakeThis->p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::getCurrentFileName(): ZIP is not open in mdUnzip mode");
    return QString();
  }
  if(!isOpen()||!hasCurrentFile()) return QString();
  QByteArray fileName(MAX_FILE_NAME_LENGTH, 0);
  if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
  p->unzFile_f, NULL, fileName.data(), fileName.size(),
      NULL, 0, NULL, 0))!=UNZ_OK)
    return QString();
  QString result = p->fileNameCodec->toUnicode(fileName.constData());
  if (result.isEmpty())
      return result;
  // Add to directory map
  p->addCurrentFileToDirectoryMap(result);
  return result;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.8 int QuaZip::getEntriesCount ( ) const

Returns negative error code in the case of error. The same error code will be returned by subsequent getZipError() call.

Definition at line 375 of file quazip.cpp.

References mdUnzip, QuaZipPrivate::mode, unz_global_info64_s::number_entry, p, UNZ_OK, unzGetGlobalInfo64(), and QuaZipPrivate::zipError.

```
{
  QuaZip *fakeThis=(QuaZip*)this; // non-const
  fakeThis->p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::getEntriesCount(): ZIP is not open in mdUnzip mode");
    return -1;
```

```
  }
  unz_global_info64 globalInfo;
  if((fakeThis->p->zipError=unzGetGlobalInfo64(p->unzFile_f, &globalInfo))!=
  UNZ_OK)
    return p->zipError;
  return (int)globalInfo.number_entry;
}
```

Here is the call graph for this function:

12.71.4.9 QList< QuaZipFileInfo > QuaZip::getFileInfoList ( ) const

Returns

A list of QuaZipFileInfo objects or an empty list if there was an error or if the archive is empty (call getZipError() to figure out which).

This function doesn't support zip64, but will still work with zip64 archives, converting results using QuaZipFileInfo64::toQuaZipFileInfo(). If all file sizes are below 4 GB, it will work just fine.

See Also

getFileNameList()
getFileInfoList64()

Definition at line 729 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
{
    QList<QuaZipFileInfo> list;
    if (p->getFileInfoList(&list))
        return list;
    else
        return QList<QuaZipFileInfo>();
}
```

Here is the call graph for this function:

12.71.4.10 QList< QuaZipFileInfo64 > QuaZip::getFileInfoList64 ( ) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

This function supports zip64.

See Also

getFileNameList()
getFileInfoList()

Definition at line 738 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
739 {
740     QList<QuaZipFileInfo64> list;
741     if (p->getFileInfoList(&list))
742         return list;
743     else
744         return QList<QuaZipFileInfo64>();
745 }
```

Here is the call graph for this function:

12.71.4.11 QTextCodec * QuaZip::getFileNameCodec ( ) const

Definition at line 582 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

Referenced by QuaZipFile::open().

```
583 {
584   return p->fileNameCodec;
585 }
```

Here is the caller graph for this function:

12.71.4.12 QStringList QuaZip::getFileNameList ( ) const

Returns

A list of file names or an empty list if there was an error or if the archive is empty (call getZipError() to figure out which).

See Also

getFileInfoList()

Definition at line 720 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
721 {
722     QStringList list;
723     if (p->getFileInfoList(&list))
724         return list;
725     else
726         return QStringList();
727 }
```

Here is the call graph for this function:

12.71.4.13 QIODevice * QuaZip::getIoDevice ( ) const

Returns null string if no device has been set explicitly, for example when opening a ZIP file by name.

See Also

setIoDevice(), getZipName(), setZipName()

Definition at line 607 of file quazip.cpp.

References QuaZipPrivate::ioDevice, p, and QuaZipPrivate::zipName.

```
608 {
609   if (!p->zipName.isEmpty()) // opened by name, using an internal QIODevice
610     return NULL;
611   return p->ioDevice;
612 }
```

12.71.4.14 QuaZip::Mode QuaZip::getMode ( ) const

Definition at line 614 of file quazip.cpp.

References QuaZipPrivate::mode, and p.

Referenced by JlCompress::compressFile(), JlCompress::compressSubDir(), QuaZipFile::csize(), JlCompress::extractFile(), QuaZipFile::getFileInfo(), QuaZipFile::open(), and QuaZipFile::usize().

```
{
  return p->mode;
}
```

Here is the caller graph for this function:

12.71.4.15 unzFile QuaZip::getUnzFile ( )

You can use this handle to directly call UNZIP part of the ZIP/UNZIP package functions (see unzip.h).

Warning

> When using the handle returned by this function, please keep in mind that QuaZip class is unable to detect any changes you make in the ZIP file state (e. g. changing current file, or closing the handle). So please do not do anything with this handle that is possible to do with the functions of this class. Or at least return the handle in the original state before calling some another function of this class (including implicit destructor calls and calls from the QuaZipFile objects that refer to this QuaZip instance!). So if you have changed the current file in the ZIP archive - then change it back or you may experience some strange behavior or even crashes.

Definition at line 639 of file quazip.cpp.

References p.

Referenced by QuaZipFile::atEnd(), QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::readData(), and QuaZipFile::usize().

```
{
  return p->unzFile_f;
}
```

Here is the caller graph for this function:

12.71.4.16 int QuaZip::getZipError ( ) const

Returns `UNZ_OK` if the last operation was successful.

Error code resets to `UNZ_OK` every time you call any function that accesses something inside ZIP archive, even if it is `const` (like getEntriesCount()). open() and close() calls reset error code too. See documentation for the specific functions for details on error detection.

Definition at line 624 of file quazip.cpp.

References p, and QuaZipPrivate::zipError.

Referenced by QuaZipFile::close(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), JlCompress::getFileList(), and QuaZipFile::open().

```
{
  return p->zipError;
}
```

Here is the caller graph for this function:

12.71.4.17 zipFile QuaZip::getZipFile ( )

You can use this handle to directly call ZIP part of the ZIP/UNZIP package functions (see zip.h). Warnings about the getUnzFile() function also apply to this function.

Definition at line 644 of file quazip.cpp.

References p.

Referenced by QuaZipFile::close(), QuaZipFile::open(), and QuaZipFile::writeData().

```
{
  return p->zipFile_f;
}
```

Here is the caller graph for this function:

12.71.4.18 QString QuaZip::getZipName ( ) const

Returns null string if no ZIP file name has been set, for example when the QuaZip instance is set up to use a QIODevice instead.

See Also

setZipName(), setIoDevice(), getIoDevice()

Definition at line 602 of file quazip.cpp.

References p, and QuaZipPrivate::zipName.

Referenced by JlCompress::compressSubDir(), and QuaZipFile::getZipName().

```
603 {
604   return p->zipName;
605 }
```

Here is the caller graph for this function:

12.71.4.19 bool QuaZip::goToFirstFile ( )

Returns `true` on success, `false` otherwise. Call getZipError() to get the error code.

Definition at line 466 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzGoToFirstFile(), and QuaZipPrivate::zipError.

Referenced by JlCompress::extractDir(), QuaZipPrivate::getFileInfoList(), and JlCompress::getFileList().

```
467 {
468   p->zipError=UNZ_OK;
469   if(p->mode!=mdUnzip) {
470     qWarning("QuaZip::goToFirstFile(): ZIP is not open in mdUnzip mode");
471     return false;
472   }
473   p->zipError=unzGoToFirstFile(p->unzFile_f);
474   p->hasCurrentFile_f=p->zipError==UNZ_OK;
475   return p->hasCurrentFile_f;
476 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.20 bool QuaZip::goToNextFile ( )

Returns `true` on success, `false` otherwise. Call getZipError() to determine if there was an error.

Should be used only in QuaZip::mdUnzip mode.

Note

If the end of file was reached, getZipError() will return `UNZ_OK` instead of `UNZ_END_OF_LIST_OF_FILE`. This is to make things like this easier:

```
for(bool more=zip.goToFirstFile(); more; more=zip.goToNextFile()) {
  // do something
}
if(zip.getZipError()==UNZ_OK) {
  // ok, there was no error
}
```

Definition at line 478 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, mdUnzip, QuaZipPrivate::mode, p, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, unzGoToNextFile(), and QuaZipPrivate::zipError.

Referenced by JlCompress::extractDir(), QuaZipPrivate::getFileInfoList(), JlCompress::getFileList(), and setCurrentFile().

```
{
  p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::goToFirstFile(): ZIP is not open in mdUnzip mode");
    return false;
  }
  p->zipError=unzGoToNextFile(p->unzFile_f);
  p->hasCurrentFile_f=p->zipError==UNZ_OK;
  if(p->zipError==UNZ_END_OF_LIST_OF_FILE)
    p->zipError=UNZ_OK;
  return p->hasCurrentFile_f;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.21 bool QuaZip::hasCurrentFile ( ) const

Definition at line 634 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, and p.

Referenced by getCurrentFileInfo(), getCurrentFileName(), QuaZipPrivate::getFileInfoList(), and QuaZipFile::open().

```
635 {
636   return p->hasCurrentFile_f;
637 }
```

Here is the caller graph for this function:

12.71.4.22 bool QuaZip::isAutoClose ( ) const

See Also

setAutoClose()

Definition at line 780 of file quazip.cpp.

References QuaZipPrivate::autoClose, and p.

```
781 {
782     return p->autoClose;
783 }
```

12.71.4.23 bool QuaZip::isDataDescriptorWritingEnabled ( ) const

See Also

setDataDescriptorWritingEnabled()

Definition at line 654 of file quazip.cpp.

References QuaZipPrivate::dataDescriptorWritingEnabled, and p.

Referenced by QuaZipFile::open().

```
{
    return p->dataDescriptorWritingEnabled;
}
```

Here is the caller graph for this function:

12.71.4.24 bool QuaZip::isOpen ( ) const

Definition at line 619 of file quazip.cpp.

References mdNotOpen, QuaZipPrivate::mode, and p.

Referenced by QuaZipFile::close(), getCurrentFileInfo(), getCurrentFileName(), open(), setIoDevice(), setZipName(), and ~QuaZip().

```
{
  return p->mode!=mdNotOpen;
}
```

Here is the caller graph for this function:

12.71.4.25 bool QuaZip::isZip64Enabled ( ) const

Returns

`true` if and only if the zip64 mode is enabled.

See Also

setZip64Enabled()

Definition at line 775 of file quazip.cpp.

References p, and QuaZipPrivate::zip64.

Referenced by QuaZipFile::open().

```
776 {
777     return p->zip64;
778 }
```

Here is the caller graph for this function:

12.71.4.26 bool QuaZip::open (Mode *mode*, zlib_filefunc_def * *ioApi* = NULL)

Argument *mode* specifies open mode of the ZIP archive. See Mode for details. Note that there is zipOpen2() function in the ZIP/UNZIP API which accepts *globalcomment* argument, but it does not use it anywhere, so this open() function does not have this argument. See setComment() if you need to set global comment.

If the ZIP file is accessed via explicitly set QIODevice, then this device is opened in the necessary mode. If the device was already opened by some other means, then QuaZIP checks if the open mode is compatible to the mode needed for the requested operation. If necessary, seeking is performed to position the device properly.

Returns

`true` if successful, `false` otherwise.

Note

ZIP/UNZIP API open calls do not return error code - they just return `NULL` indicating an error. But to make things easier, quazip.h header defines additional error code `UNZ_ERROROPEN` and getZipError() will return it if the open call of the ZIP/UNZIP API returns `NULL`.

Argument *ioApi* specifies IO function set for ZIP/UNZIP package to use. See unzip.h, zip.h and ioapi.h for details. Note that IO API for QuaZip is different from the original package. The file path argument was changed to be of type `voidpf`, and QuaZip passes a QIODevice pointer there. This QIODevice is either set explicitly via setIoDevice() or the QuaZip(QIODevice*) constructor, or it is created internally when opening the archive by its file name. The default API (qioapi.cpp) just delegates everything to the QIODevice API. Not only this allows to use a QIODevice instead of file name, but also has a nice side effect of raising the file size limit from 2G to 4G (in non-zip64 archives).

Note

If the zip64 support is needed, the ioApi argument *must* be NULL because due to the backwards compatibility issues it can be used to provide a 32-bit API only.
If the no-auto-close feature is used, then the *ioApi* argument *should* be NULL because the old API doesn't support the 'fake close' operation, causing slight memory leaks and other possible troubles (like closing the output device in case when an error occurs during opening).

In short: just forget about the *ioApi* argument and you'll be fine.

Definition at line 215 of file quazip.cpp.

References APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, QuaZipPrivate::autoClose, QuaZipPrivate::dataDescriptorWritingEnabled, QuaZipPrivate::ioDevice, isOpen(), mdAdd, mdAppend, mdCreate, mdUnzip, QuaZipPrivate::mode, p, UNZ_AUTO_CLOSE, UNZ_OK, UNZ_OPENERROR, unzClearFlags(), unzClose(), unzOpen2(), unzOpenInternal(), unzSetFlags(), ZIP_AUTO_CLOSE, ZIP_SEQUENTIAL, ZIP_WRITE_DATA_DESCRIPTOR, zipClose(), QuaZipPrivate::zipError, QuaZipPrivate::zipName, zipOpen2(), zipOpen3(), and zipSetFlags().

Referenced by KbFirmware::_fileForBoard(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), JlCompress::getFileList(), and QuaZipFile::open().

```
{
  p->zipError=UNZ_OK;
  if(isOpen()) {
    qWarning("QuaZip::open(): ZIP already opened");
    return false;
  }
  QIODevice *ioDevice = p->ioDevice;
  if (ioDevice == NULL) {
    if (p->zipName.isEmpty()) {
      qWarning("QuaZip::open(): set either ZIP file name or IO device first");
      return false;
    } else {
      ioDevice = new QFile(p->zipName);
    }
  }
  unsigned flags = 0;
  switch(mode) {
    case mdUnzip:
      if (ioApi == NULL) {
          if (p->autoClose)
              flags |= UNZ_AUTO_CLOSE;
          p->unzFile_f=unzOpenInternal(ioDevice, NULL, 1, flags);
      } else {
          // QuaZIP pre-zip64 compatibility mode
          p->unzFile_f=unzOpen2(ioDevice, ioApi);
          if (p->unzFile_f != NULL) {
              if (p->autoClose) {
                  unzSetFlags(p->unzFile_f, UNZ_AUTO_CLOSE);
              } else {
                  unzClearFlags(p->unzFile_f, UNZ_AUTO_CLOSE);
              }
          }
      }
      if(p->unzFile_f!=NULL) {
        if (ioDevice->isSequential()) {
            unzClose(p->unzFile_f);
            if (!p->zipName.isEmpty())
                delete ioDevice;
            qWarning("QuaZip::open(): "
                     "only mdCreate can be used with "
                     "sequential devices");
            return false;
        }
        p->mode=mode;
        p->ioDevice = ioDevice;
        return true;
      } else {
        p->zipError=UNZ_OPENERROR;
        if (!p->zipName.isEmpty())
          delete ioDevice;
        return false;
      }
    case mdCreate:
    case mdAppend:
    case mdAdd:
      if (ioApi == NULL) {
```

```
        if (p->autoClose)
            flags |= ZIP_AUTO_CLOSE;
        if (p->dataDescriptorWritingEnabled)
            flags |= ZIP_WRITE_DATA_DESCRIPTOR;
        p->zipFile_f=zipOpen3(ioDevice,
            mode==mdCreate?APPEND_STATUS_CREATE:
            mode==mdAppend?APPEND_STATUS_CREATEAFTER:
            APPEND_STATUS_ADDINZIP,
            NULL, NULL, flags);
    } else {
        // QuaZIP pre-zip64 compatibility mode
        p->zipFile_f=zipOpen2(ioDevice,
            mode==mdCreate?APPEND_STATUS_CREATE:
            mode==mdAppend?APPEND_STATUS_CREATEAFTER:
            APPEND_STATUS_ADDINZIP,
            NULL,
            ioApi);
        if (p->zipFile_f != NULL) {
            zipSetFlags(p->zipFile_f, flags);
        }
    }
    if(p->zipFile_f!=NULL) {
      if (ioDevice->isSequential()) {
          if (mode != mdCreate) {
              zipClose(p->zipFile_f, NULL);
              qWarning("QuaZip::open(): "
                       "only mdCreate can be used with "
                        "sequential devices");
              if (!p->zipName.isEmpty())
                  delete ioDevice;
              return false;
          }
          zipSetFlags(p->zipFile_f, ZIP_SEQUENTIAL);
      }
      p->mode=mode;
      p->ioDevice = ioDevice;
      return true;
    } else {
      p->zipError=UNZ_OPENERROR;
      if (!p->zipName.isEmpty())
        delete ioDevice;
      return false;
    }
  default:
    qWarning("QuaZip::open(): unknown mode: %d", (int)mode);
    if (!p->zipName.isEmpty())
      delete ioDevice;
    return false;
    break;
  }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.27 QuaZip& QuaZip::operator= (const QuaZip & *that*) [private]

12.71.4.28 void QuaZip::setAutoClose (bool *autoClose*) const

By default, QuaZIP opens the underlying QIODevice when open() is called, and closes it when close() is called. In some cases, when the device is set explicitly using setIoDevice(), it may be desirable to leave the device open. If the auto-close flag is unset using this method, then the device isn't closed automatically if it was set explicitly.

If it is needed to clear this flag, it is recommended to do so before opening the archive because otherwise QuaZIP may close the device during the open() call if an error is encountered after the device is opened.

If the device was not set explicitly, but rather the setZipName() or the appropriate constructor was used to set the

ZIP file name instead, then the auto-close flag has no effect, and the internal device is closed nevertheless because there is no other way to close it.

See Also

isAutoClose()
setIoDevice()

Definition at line 785 of file quazip.cpp.

References QuaZipPrivate::autoClose, and p.

```
786 {
787     p->autoClose = autoClose;
788 }
```

12.71.4.29 void QuaZip::setComment (const QString & *comment*)

The comment will be written to the archive on close operation. QuaZip makes a distinction between a null QByteArray() comment and an empty "" comment in the QuaZip::mdAdd mode. A null comment is the default and it means "don't change the comment". An empty comment removes the original comment.

See Also

open()

Definition at line 629 of file quazip.cpp.

References QuaZipPrivate::comment, and p.

```
630 {
631   p->comment=comment;
632 }
```

12.71.4.30 void QuaZip::setCommentCodec (QTextCodec * *commentCodec*)

This codec defaults to locale codec, which is probably ok.

Definition at line 587 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

```
588 {
589   p->commentCodec=commentCodec;
590 }
```

12.71.4.31 void QuaZip::setCommentCodec (const char * *commentCodecName*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setCommentCodec(QTextCodec::codecForName(codecName));

Definition at line 592 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

```
593 {
594   p->commentCodec=QTextCodec::codecForName(commentCodecName);
595 }
```

12.71.4.32 bool QuaZip::setCurrentFile (const QString & *fileName*, CaseSensitivity *cs* = csDefault)

Returns `true` if successful, `false` otherwise. Argument *cs* specifies case sensitivity of the file name. Call getZipError() in the case of a failure to get error code.

This is not a wrapper to unzLocateFile() function. That is because I had to implement locale-specific case-insensitive comparison.

Here are the differences from the original implementation:

- If the file was not found, error code is `UNZ_OK`, not `UNZ_END_OF_LIST_OF_FILE` (see also goToNextFile()).
- If this function fails, it unsets the current file rather than resetting it back to what it was before the call.

If *fileName* is null string then this function unsets the current file and return `true`. Note that you should close the file first if it is open! See QuaZipFile::QuaZipFile(QuaZip∗,QObject∗) for the details.

Should be used only in QuaZip::mdUnzip mode.

See Also

setFileNameCodec(), CaseSensitivity

Definition at line 408 of file quazip.cpp.

References convertCaseSensitivity(), current, QuaZipPrivate::directoryCaseInsensitive, QuaZipPrivate::directoryCaseSensitive, getCurrentFileName(), QuaZipPrivate::goToFirstUnmappedFile(), goToNextFile(), QuaZipPrivate::hasCurrentFile_f, MAX_FILE_NAME_LENGTH, mdUnzip, QuaZipPrivate::mode, p, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, UNZ_PARAMERROR, unzGoToFilePos64(), and QuaZipPrivate::zipError.

Referenced by KbFirmware::_fileForBoard(), JlCompress::extractFile(), QuaZipPrivate::getFileInfoList(), and QuaZipFile::open().

```
{
  p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::setCurrentFile(): ZIP is not open in mdUnzip mode");
    return false;
  }
  if(fileName.isEmpty()) {
    p->hasCurrentFile_f=false;
    return true;
  }
  // Unicode-aware reimplementation of the unzLocateFile function
  if(p->unzFile_f==NULL) {
    p->zipError=UNZ_PARAMERROR;
    return false;
  }
  if(fileName.length()>MAX_FILE_NAME_LENGTH) {
    p->zipError=UNZ_PARAMERROR;
    return false;
  }
  // Find the file by name
  bool sens = convertCaseSensitivity(cs) == Qt::CaseSensitive;
  QString lower, current;
  if(!sens) lower=fileName.toLower();
  p->hasCurrentFile_f=false;

  // Check the appropriate Map
  unz64_file_pos fileDirPos;
  fileDirPos.pos_in_zip_directory = 0;
  if (sens) {
      if (p->directoryCaseSensitive.contains(fileName))
          fileDirPos = p->directoryCaseSensitive.value(fileName);
  } else {
      if (p->directoryCaseInsensitive.contains(lower))
          fileDirPos = p->directoryCaseInsensitive.value(lower);
  }

  if (fileDirPos.pos_in_zip_directory != 0) {
      p->zipError = unzGoToFilePos64(p->unzFile_f, &fileDirPos);
      p->hasCurrentFile_f = p->zipError == UNZ_OK;
  }
```

```
449
450   if (p->hasCurrentFile_f)
451       return p->hasCurrentFile_f;
452
453   // Not mapped yet, start from where we have got to so far
454   for(bool more=p->goToFirstUnmappedFile(); more; more=
      goToNextFile()) {
455     current=getCurrentFileName();
456     if(current.isEmpty()) return false;
457     if(sens) {
458       if(current==fileName) break;
459     } else {
460       if(current.toLower()==lower) break;
461     }
462   }
463   return p->hasCurrentFile_f;
464 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.71.4.33 void QuaZip::setDataDescriptorWritingEnabled (bool *enabled*)

According to the ZIP format specification, a file inside archive may have a data descriptor immediately following the file data. This is reflected by a special flag in the local file header and in the central directory. By default, QuaZIP sets this flag and writes the data descriptor unless both method and level were set to 0, in which case it operates in 1.0-compatible mode and never writes data descriptors.

By setting this flag to false, it is possible to disable data descriptor writing, thus increasing compatibility with archive readers that don't understand this feature of the ZIP file format.

Setting this flag affects all the QuaZipFile instances that are opened after this flag is set.

The data descriptor writing mode is enabled by default.

Note that if the ZIP archive is written into a QIODevice for which QIODevice::isSequential() returns `true`, then the data descriptor is mandatory and will be written even if this flag is set to false.

Parameters

enabled	If `true`, enable local descriptor writing, disable it otherwise.

See Also

QuaZipFile::isDataDescriptorWritingEnabled()

Definition at line 649 of file quazip.cpp.

References QuaZipPrivate::dataDescriptorWritingEnabled, and p.

```
{
    p->dataDescriptorWritingEnabled = enabled;
}
```

12.71.4.34 void QuaZip::setDefaultFileNameCodec (QTextCodec * *codec*) [static]

The default codec is used by the constructors, so calling this function won't affect the QuaZip instances already created at that moment.

The codec specified here can be overriden by calling setFileNameCodec(). If neither function is called, QTextCodec::codecForLocale() will be used to decode or encode file names. Use this function with caution if the application uses other libraries that depend on QuaZIP. Those libraries can either call this function by themselves, thus overriding your setting or can rely on the default encoding, thus failing mysteriously if you change it. For these reasons, it isn't recommended to use this function if you are developing a library, not an application. Instead, ask your library users to call it in case they need specific encoding.

In most cases, using setFileNameCodec() instead is the right choice. However, if you depend on third-party code that uses QuaZIP, then the reasons stated above can actually become a reason to use this function in case the third-party code in question fails because it doesn't understand the encoding you need and doesn't provide a way to specify it. This applies to the JlCompress class as well, as it was contributed and doesn't support explicit encoding parameters.

In short: use setFileNameCodec() when you can, resort to setDefaultFileNameCodec() when you don't have access to the QuaZip instance.

Parameters

codec	The codec to use by default. If NULL, resets to default.

Definition at line 760 of file quazip.cpp.

References QuaZipPrivate::defaultFileNameCodec.

Referenced by setDefaultFileNameCodec().

```
{
    QuaZipPrivate::defaultFileNameCodec = codec;
}
```

Here is the caller graph for this function:

12.71.4.35 void QuaZip::setDefaultFileNameCodec (const char * *codecName*) [static]

Definition at line 765 of file quazip.cpp.

References setDefaultFileNameCodec().

```
766 {
767     setDefaultFileNameCodec(QTextCodec::codecForName(codecName));
768 }
```

Here is the call graph for this function:

12.71.4.36 void QuaZip::setFileNameCodec (QTextCodec * *fileNameCodec*)

This is necessary to access files in the ZIP archive created under Windows with non-latin characters in file names. For example, file names with cyrillic letters will be in `IBM866` encoding.

Definition at line 572 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

```
573 {
574   p->fileNameCodec=fileNameCodec;
575 }
```

12.71.4.37 void QuaZip::setFileNameCodec (const char * *fileNameCodecName*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setFileNameCodec(QTextCodec::codecForName(codecName));

Definition at line 577 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

```
578 {
579   p->fileNameCodec=QTextCodec::codecForName(fileNameCodecName);
580 }
```

12.71.4.38 void QuaZip::setIoDevice (QIODevice * *ioDevice*)

Does nothing if the ZIP file is open.

Does not reset error code returned by getZipError().

See Also

getIoDevice(), getZipName(), setZipName()

Definition at line 365 of file quazip.cpp.

References QuaZipPrivate::ioDevice, isOpen(), p, and QuaZipPrivate::zipName.

```
366 {
367   if(isOpen()) {
368     qWarning("QuaZip::setIoDevice(): ZIP is already open!");
369     return;
370   }
371   p->ioDevice = ioDevice;
372   p->zipName = QString();
373 }
```

Here is the call graph for this function:

12.71.4.39 void QuaZip::setZip64Enabled (bool *zip64*)

Parameters

zip64	If `true`, the zip64 mode is enabled, disabled otherwise.

Once this is enabled, all new files (until the mode is disabled again) will be created in the zip64 mode, thus enabling the ability to write files larger than 4 GB. By default, the zip64 mode is off due to compatibility reasons.

Note that this does not affect the ability to read zip64 archives in any way.

See Also

isZip64Enabled()

Definition at line 770 of file quazip.cpp.

References p, and QuaZipPrivate::zip64.

```
771 {
772     p->zip64 = zip64;
773 }
```

12.71.4.40 void QuaZip::setZipName (const QString & *zipName*)

Does nothing if the ZIP file is open.

Does not reset error code returned by getZipError().

See Also

setIoDevice(), getIoDevice(), getZipName()

Definition at line 355 of file quazip.cpp.

References QuaZipPrivate::ioDevice, isOpen(), p, and QuaZipPrivate::zipName.

```
{
  if(isOpen()) {
    qWarning("QuaZip::setZipName(): ZIP is already open!");
    return;
  }
  p->zipName=zipName;
  p->ioDevice = NULL;
}
```

Here is the call graph for this function:

12.71.5 Friends And Related Function Documentation

12.71.5.1 friend class QuaZipPrivate [friend]

Definition at line 85 of file quazip.h.

12.71.6 Field Documentation

12.71.6.1 QuaZipPrivate* QuaZip::p [private]

Definition at line 129 of file quazip.h.

Referenced by close(), getComment(), getCommentCodec(), getCurrentFileInfo(), getCurrentFileName(), getEntriesCount(), getFileInfoList(), getFileInfoList64(), getFileNameCodec(), getFileNameList(), getIoDevice(), getMode(), getUnzFile(), getZipError(), getZipFile(), getZipName(), goToFirstFile(), goToNextFile(), hasCurrentFile(), isAutoClose(), isDataDescriptorWritingEnabled(), isOpen(), isZip64Enabled(), open(), setAutoClose(), setComment(), setCommentCodec(), setCurrentFile(), setDataDescriptorWritingEnabled(), setFileNameCodec(), setIoDevice(), setZip64Enabled(), setZipName(), and ~QuaZip().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quazip.h
- src/ckb/quazip/quazip.cpp

12.72 QuaZipDir Class Reference

Provides ZIP archive navigation.

`#include <src/ckb/quazip/quazipdir.h>`

Collaboration diagram for QuaZipDir:

Public Member Functions

- QuaZipDir (const QuaZipDir &that)

  The copy constructor.
- QuaZipDir (QuaZip *zip, const QString &dir=QString())

  Constructs a QuaZipDir instance pointing to the specified directory.
- ~QuaZipDir ()

  Destructor.
- bool operator== (const QuaZipDir &that)

  The assignment operator.
- bool operator!= (const QuaZipDir &that)

  operator!=
- QuaZipDir & operator= (const QuaZipDir &that)

  operator==
- QString operator[] (int pos) const

  Returns the name of the entry at the specified position.
- QuaZip::CaseSensitivity caseSensitivity () const

  Returns the current case sensitivity mode.
- bool cd (const QString &dirName)

  Changes the 'current' directory.

- bool cdUp ()

  Goes up.
- uint count () const

  Returns the number of entries in the directory.
- QString dirName () const

  Returns the current directory name.
- QList< QuaZipFileInfo > entryInfoList (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory.
- QList< QuaZipFileInfo > entryInfoList (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory.
- QList< QuaZipFileInfo64 > entryInfoList64 (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory with zip64 support.
- QList< QuaZipFileInfo64 > entryInfoList64 (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory with zip64 support.
- QStringList entryList (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entry names in the directory.
- QStringList entryList (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entry names in the directory.
- bool exists (const QString &fileName) const

  Returns `true` if the entry with the specified name exists.
- bool exists () const

  Return `true` if the directory pointed by this QuaZipDir exists.
- QString filePath (const QString &fileName) const

  Returns the full path to the specified file.
- QDir::Filters filter ()

  Returns the default filter.
- bool isRoot () const

  Returns if the QuaZipDir points to the root of the archive.
- QStringList nameFilters () const

  Return the default name filter.
- QString path () const

  Returns the path to the current dir.
- QString relativeFilePath (const QString &fileName) const

  Returns the path to the specified file relative to the current dir.
- void setCaseSensitivity (QuaZip::CaseSensitivity caseSensitivity)

  Sets the default case sensitivity mode.
- void setFilter (QDir::Filters filters)

  Sets the default filter.
- void setNameFilters (const QStringList &nameFilters)

  Sets the default name filter.
- void setPath (const QString &path)

  Goes to the specified path.
- void setSorting (QDir::SortFlags sort)

  Sets the default sorting mode.
- QDir::SortFlags sorting () const

  Returns the default sorting mode.

Private Attributes

- QSharedDataPointer
  < QuaZipDirPrivate > d

12.72.1 Detailed Description

This class is modelled after QDir, and is designed to provide similar features for ZIP archives.

The only significant difference from QDir is that the root path is not '/', but an empty string since that's how the file paths are stored in the archive. However, QuaZipDir understands the paths starting with '/'. It is important in a few places:

- In the cd() function.
- In the constructor.
- In the exists() function.
- In the relativePath() function.

Note that since ZIP uses '/' on all platforms, the '\' separator is not supported.

Definition at line 54 of file quazipdir.h.

12.72.2 Constructor & Destructor Documentation

12.72.2.1 QuaZipDir::QuaZipDir (const QuaZipDir & *that*)

Definition at line 50 of file quazipdir.cpp.

Referenced by exists().

```
50                                          :
51     d(that.d)
52 {
53 }
```

Here is the caller graph for this function:

12.72.2.2 QuaZipDir::QuaZipDir (QuaZip * *zip*, const QString & *dir* = `QString()`)

If *dir* is not specified, points to the root of the archive. The same happens if the *dir* is "/".

Definition at line 55 of file quazipdir.cpp.

References d.

```
55                                                  :
56     d(new QuaZipDirPrivate(zip, dir))
57 {
58     if (d->dir.startsWith('/'))
59         d->dir = d->dir.mid(1);
60 }
```

12.72.2.3 QuaZipDir::~QuaZipDir ( )

Definition at line 62 of file quazipdir.cpp.

```
63 {
64 }
```

12.72.3 Member Function Documentation

12.72.3.1 QuaZip::CaseSensitivity QuaZipDir::caseSensitivity ( ) const

Definition at line 82 of file quazipdir.cpp.

References d.

Referenced by setCaseSensitivity().

```
83 {
84     return d->caseSensitivity;
85 }
```

Here is the caller graph for this function:

12.72.3.2 bool QuaZipDir::cd (const QString & *dirName*)

If the path starts with '/', it is interpreted as an absolute path from the root of the archive. Otherwise, it is interpreted as a path relative to the current directory as was set by the previous cd() or the constructor.

Note that the subsequent path() call will not return a path starting with '/' in all cases.

Definition at line 87 of file quazipdir.cpp.

References cd(), d, dirName(), exists(), isRoot(), and path().

Referenced by cd(), and cdUp().

```
88 {
89     if (directoryName == "/") {
90         d->dir = "";
91         return true;
92     }
93     QString dirName = directoryName;
94     if (dirName.endsWith('/'))
95         dirName.chop(1);
96     if (dirName.contains('/')) {
97         QuaZipDir dir(*this);
98         if (dirName.startsWith('/')) {
99 #ifdef QUAZIP_QUAZIPDIR_DEBUG
100             qDebug("QuaZipDir::cd(%s): going to /",
101                     dirName.toUtf8().constData());
102 #endif
103             if (!dir.cd("/"))
104                 return false;
105         }
106         QStringList path = dirName.split('/', QString::SkipEmptyParts);
107         for (QStringList::const_iterator i = path.constBegin();
108                 i != path.end();
```

```
                ++i) {
            const QString &step = *i;
#ifdef QUAZIP_QUAZIPDIR_DEBUG
            qDebug("QuaZipDir::cd(%s): going to %s",
                    dirName.toUtf8().constData(),
                    step.toUtf8().constData());
#endif
            if (!dir.cd(step))
                return false;
        }
        d->dir = dir.path();
        return true;
    } else { // no '/'
        if (dirName == ".") {
            return true;
        } else if (dirName == "..") {
            if (isRoot()) {
                return false;
            } else {
                int slashPos = d->dir.lastIndexOf('/');
                if (slashPos == -1) {
                    d->dir = "";
                } else {
                    d->dir = d->dir.left(slashPos);
                }
                return true;
            }
        } else { // a simple subdirectory
            if (exists(dirName)) {
                if (isRoot())
                    d->dir = dirName;
                else
                    d->dir += "/" + dirName;
                return true;
            } else {
                return false;
            }
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.72.3.3 bool QuaZipDir::cdUp ( )

Definition at line 150 of file quazipdir.cpp.

References cd().

```
151 {
152     return cd("..");
153 }
```

Here is the call graph for this function:

12.72.3.4 uint QuaZipDir::count ( ) const

Definition at line 155 of file quazipdir.cpp.

References entryList().

```
156 {
157     return entryList().count();
158 }
```

Here is the call graph for this function:

12.72.3.5 QString QuaZipDir::dirName ( ) const

The name doesn't include the path.

Definition at line 160 of file quazipdir.cpp.

References d.

Referenced by cd().

```
161 {
162     return QDir(d->dir).dirName();
163 }
```

Here is the caller graph for this function:

12.72.3.6 QList< QuaZipFileInfo > QuaZipDir::entryInfoList (const QStringList & *nameFilters*, QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

Parameters

nameFilters	The list of file patterns to list, uses the same syntax as QDir.
filters	The entry type filters, only Files and Dirs are accepted.
sort	Sorting mode.

Definition at line 401 of file quazipdir.cpp.

References d.

Referenced by entryInfoList().

```
403 {
404     QList<QuaZipFileInfo> result;
405     if (d->entryInfoList(nameFilters, filters, sort, result))
406         return result;
407     else
408         return QList<QuaZipFileInfo>();
409 }
```

Here is the caller graph for this function:

12.72.3.7 QList< QuaZipFileInfo > QuaZipDir::entryInfoList (QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryInfoList(QStringList(), filters, sort).

Definition at line 411 of file quazipdir.cpp.

References entryInfoList().

```
413 {
414     return entryInfoList(QStringList(), filters, sort);
415 }
```

Here is the call graph for this function:

12.72.3.8 QList< QuaZipFileInfo64 > QuaZipDir::entryInfoList64 (const QStringList & *nameFilters*, QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

Parameters

nameFilters	The list of file patterns to list, uses the same syntax as QDir.
filters	The entry type filters, only Files and Dirs are accepted.
sort	Sorting mode.

Definition at line 417 of file quazipdir.cpp.

References d.

Referenced by entryInfoList64().

```
419 {
420     QList<QuaZipFileInfo64> result;
421     if (d->entryInfoList(nameFilters, filters, sort, result))
422         return result;
423     else
424         return QList<QuaZipFileInfo64>();
425 }
```

Here is the caller graph for this function:

12.72.3.9 QList< QuaZipFileInfo64 > QuaZipDir::entryInfoList64 (QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryInfoList64(QStringList(), filters, sort).

Definition at line 427 of file quazipdir.cpp.

References entryInfoList64().

```
{
    return entryInfoList64(QStringList(), filters, sort);
}
```

Here is the call graph for this function:

12.72.3.10 QStringList QuaZipDir::entryList (const QStringList & *nameFilters*, QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

The same as entryInfoList(nameFilters, filters, sort), but only returns entry names.

Definition at line 433 of file quazipdir.cpp.

References d.

Referenced by count(), entryList(), exists(), and operator[]().

```
{
    QStringList result;
    if (d->entryInfoList(nameFilters, filters, sort, result))
        return result;
    else
        return QStringList();
}
```

Here is the caller graph for this function:

12.72.3.11 QStringList QuaZipDir::entryList (QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryList(QStringList(), filters, sort).

Definition at line 443 of file quazipdir.cpp.

References entryList().

```
{
    return entryList(QStringList(), filters, sort);
}
```

Here is the call graph for this function:

12.72.3.12 bool QuaZipDir::exists (const QString & *fileName*) const

The ".." is considered to exist if the current directory is not root. The "." and "/" are considered to always exist. Paths starting with "/" are relative to the archive root, other paths are relative to the current dir.

Definition at line 449 of file quazipdir.cpp.

References QuaZip::convertCaseSensitivity(), d, entryList(), filePath(), and isRoot().

```
{
    if (filePath == "/" || filePath.isEmpty())
        return true;
    QString fileName = filePath;
    if (fileName.endsWith('/'))
        fileName.chop(1);
    if (fileName.contains('/')) {
        QFileInfo fileInfo(fileName);
#ifdef QUAZIP_QUAZIPDIR_DEBUG
        qDebug("QuaZipDir::exists(): fileName=%s, fileInfo.fileName()=%s, "
                "fileInfo.path()=%s", fileName.toUtf8().constData(),
                fileInfo.fileName().toUtf8().constData(),
                fileInfo.path().toUtf8().constData());
#endif
        QuaZipDir dir(*this);
        return dir.cd(fileInfo.path()) && dir.exists(fileInfo.fileName());
    } else {
        if (fileName == "..") {
            return !isRoot();
        } else if (fileName == ".") {
            return true;
        } else {
            QStringList entries = entryList(QDir::AllEntries, QDir::NoSort);
#ifdef QUAZIP_QUAZIPDIR_DEBUG
            qDebug("QuaZipDir::exists(): looking for %s",
                    fileName.toUtf8().constData());
            for (QStringList::const_iterator i = entries.constBegin();
                    i != entries.constEnd();
                    ++i) {
                qDebug("QuaZipDir::exists(): entry: %s",
                        i->toUtf8().constData());
            }
#endif
            Qt::CaseSensitivity cs = QuaZip::convertCaseSensitivity(
                    d->caseSensitivity);
            if (filePath.endsWith('/')) {
                return entries.contains(filePath, cs);
            } else {
                return entries.contains(fileName, cs)
                    || entries.contains(fileName + "/", cs);
            }
        }
    }
}
```

Here is the call graph for this function:

12.72.3.13 bool QuaZipDir::exists ( ) const

Definition at line 495 of file quazipdir.cpp.

References d, and QuaZipDir().

Referenced by cd().

```
496 {
497     return QuaZipDir(d->zip).exists(d->dir);
498 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.72.3.14 QString QuaZipDir::filePath (const QString & *fileName*) const

Doesn't check if the file actually exists.

Definition at line 500 of file quazipdir.cpp.

References d.

Referenced by exists().

```
501 {
502     return QDir(d->dir).filePath(fileName);
503 }
```

Here is the caller graph for this function:

12.72.3.15 QDir::Filters QuaZipDir::filter ( )

Definition at line 505 of file quazipdir.cpp.

References d.

```
506 {
507     return d->filter;
508 }
```

12.72.3.16 bool QuaZipDir::isRoot ( ) const

Not that the root path is the empty string, not '/'.

Definition at line 510 of file quazipdir.cpp.

References d.

Referenced by cd(), and exists().

```
511 {
512     return d->simplePath().isEmpty();
513 }
```

Here is the caller graph for this function:

12.72.3.17 QStringList QuaZipDir::nameFilters ( ) const

Definition at line 515 of file quazipdir.cpp.

References d.

Referenced by setNameFilters().

```
516 {
517     return d->nameFilters;
518 }
```

Here is the caller graph for this function:

12.72.3.18 bool QuaZipDir::operator!= (const QuaZipDir & *that*) [inline]

Returns

`true` if either this and *that* use different QuaZip instances or if they point to different directories.

Definition at line 75 of file quazipdir.h.

```
75 {return !operator==(that);}
```

12.72.3.19 QuaZipDir & QuaZipDir::operator= (const QuaZipDir & *that*)

Returns

`true` if both this and *that* use the same QuaZip instance and point to the same directory.

Definition at line 71 of file quazipdir.cpp.

References d.

```
72 {
73     this->d = that.d;
74     return *this;
75 }
```

12.72.3.20 bool QuaZipDir::operator== (const QuaZipDir & *that*)

Definition at line 66 of file quazipdir.cpp.

References d.

```
67 {
68     return d->zip == that.d->zip && d->dir == that.d->dir;
69 }
```

12.72.3.21 QString QuaZipDir::operator[] (int *pos*) const

Definition at line 77 of file quazipdir.cpp.

References entryList().

```
78 {
79     return entryList().at(pos);
80 }
```

Here is the call graph for this function:

12.72.3.22 QString QuaZipDir::path ( ) const

The path never starts with '/', and the root path is an empty string.

Definition at line 520 of file quazipdir.cpp.

References d.

Referenced by cd(), and setPath().

```
521 {
522     return d->dir;
523 }
```

Here is the caller graph for this function:

12.72.3.23 QString QuaZipDir::relativeFilePath (const QString & *fileName*) const

This function is mostly useless, provided only for the sake of completeness.

Parameters

fileName	The path to the file, should start with "/" if relative to the archive root.

Returns

Path relative to the current dir.

Definition at line 525 of file quazipdir.cpp.

References d.

```
526 {
527     return QDir("/" + d->dir).relativeFilePath(fileName);
528 }
```

12.72.3.24 void QuaZipDir::setCaseSensitivity (QuaZip::CaseSensitivity *caseSensitivity*)

Definition at line 530 of file quazipdir.cpp.

References caseSensitivity(), and d.

```
531 {
532     d->caseSensitivity = caseSensitivity;
533 }
```

Here is the call graph for this function:

12.72.3.25 void QuaZipDir::setFilter (QDir::Filters *filters*)

Definition at line 535 of file quazipdir.cpp.

References d.

```
536 {
537     d->filter = filters;
538 }
```

12.72.3.26 void QuaZipDir::setNameFilters (const QStringList & *nameFilters*)

Definition at line 540 of file quazipdir.cpp.

References d, and nameFilters().

```
541 {
542     d->nameFilters = nameFilters;
543 }
```

Here is the call graph for this function:

12.72.3.27 void QuaZipDir::setPath (const QString & *path*)

The difference from cd() is that this function never checks if the path actually exists and doesn't use relative paths, so it's possible to go to the root directory with setPath("").

Note that this function still chops the trailing and/or leading '/' and treats a single '/' as the root path (path() will still return an empty string).

Definition at line 545 of file quazipdir.cpp.

References d, and path().

```
546 {
547     QString newDir = path;
```

```
    if (newDir == "/") {
        d->dir = "";
    } else {
        if (newDir.endsWith('/'))
            newDir.chop(1);
        if (newDir.startsWith('/'))
            newDir = newDir.mid(1);
        d->dir = newDir;
    }
}
```

Here is the call graph for this function:

12.72.3.28 void QuaZipDir::setSorting (QDir::SortFlags *sort*)

Definition at line 559 of file quazipdir.cpp.

References d.

```
{
    d->sorting = sort;
}
```

12.72.3.29 QDir::SortFlags QuaZipDir::sorting ( ) const

Definition at line 564 of file quazipdir.cpp.

References d.

```
{
    return d->sorting;
}
```

12.72.4 Field Documentation

12.72.4.1 QSharedDataPointer<QuaZipDirPrivate> QuaZipDir::d [private]

Definition at line 56 of file quazipdir.h.

Referenced by caseSensitivity(), cd(), dirName(), entryInfoList(), entryInfoList64(), entryList(), exists(), filePath(), filter(), isRoot(), nameFilters(), operator=(), operator==(), path(), QuaZipDir(), relativeFilePath(), setCaseSensitivity(), setFilter(), setNameFilters(), setPath(), setSorting(), and sorting().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quazipdir.h
- src/ckb/quazip/quazipdir.cpp

12.73 QuaZipFile Class Reference

A file inside ZIP archive.

```
#include <quazip/quazipfile.h>
```

Inheritance diagram for QuaZipFile:

Collaboration diagram for QuaZipFile:

Public Member Functions

- QuaZipFile ()

  Constructs a QuaZipFile instance.
- QuaZipFile (QObject *parent)

  Constructs a QuaZipFile instance.
- QuaZipFile (const QString &zipName, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- QuaZipFile (const QString &zipName, const QString &fileName, QuaZip::CaseSensitivity cs=QuaZip::cs-Default, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- QuaZipFile (QuaZip *zip, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- virtual ~QuaZipFile ()

  Destroys a QuaZipFile instance.
- QString getZipName () const

  Returns the ZIP archive file name.
- QuaZip * getZip () const

  Returns a pointer to the associated QuaZip object.
- QString getFileName () const

  Returns file name.
- QuaZip::CaseSensitivity getCaseSensitivity () const

  Returns case sensitivity of the file name.
- QString getActualFileName () const

  Returns the actual file name in the archive.
- void setZipName (const QString &zipName)

  Sets the ZIP archive file name.
- bool isRaw () const

  Returns `true` if the file was opened in raw mode.
- void setZip (QuaZip *zip)

  Binds to the existing QuaZip instance.
- void setFileName (const QString &fileName, QuaZip::CaseSensitivity cs=QuaZip::csDefault)

  Sets the file name.
- virtual bool open (OpenMode mode)

  Opens a file for reading.
- bool open (OpenMode mode, const char *password)

  Opens a file for reading.
- bool open (OpenMode mode, int *method, int *level, bool raw, const char *password=NULL)

  Opens a file for reading.
- bool open (OpenMode mode, const QuaZipNewInfo &info, const char *password=NULL, quint32 crc=0, int method=Z_DEFLATED, int level=Z_DEFAULT_COMPRESSION, bool raw=false, int windowBits=-MAX_WB-ITS, int memLevel=MAX_MEM_LEVEL, int strategy=Z_DEFAULT_STRATEGY)

  Opens a file for writing.
- virtual bool isSequential () const

  Returns `true`, but beware!
- virtual qint64 pos () const

  Returns current position in the file.
- virtual bool atEnd () const

  Returns `true` if the end of file was reached.
- virtual qint64 size () const

  Returns file size.

- qint64 csize () const

  Returns compressed file size.
- qint64 usize () const

  Returns uncompressed file size.
- bool getFileInfo (QuaZipFileInfo *info)

  Gets information about current file.
- bool getFileInfo (QuaZipFileInfo64 *info)

  Gets information about current file with zip64 support.
- virtual void close ()

  Closes the file.
- int getZipError () const

  Returns the error code returned by the last ZIP/UNZIP API call.
- virtual qint64 bytesAvailable () const

  Returns the number of bytes available for reading.

Protected Member Functions

- qint64 readData (char *data, qint64 maxSize)

  Implementation of the QIODevice::readData().
- qint64 writeData (const char *data, qint64 maxSize)

  Implementation of the QIODevice::writeData().

Private Member Functions

- QuaZipFile (const QuaZipFile &that)
- QuaZipFile & operator= (const QuaZipFile &that)

Private Attributes

- QuaZipFilePrivate * p

Friends

- class QuaZipFilePrivate

12.73.1 Detailed Description

This is the most interesting class. Not only it provides C++ interface to the ZIP/UNZIP package, but also integrates it with Qt by subclassing QIODevice. This makes possible to access files inside ZIP archive using QTextStream or QDataStream, for example. Actually, this is the main purpose of the whole QuaZIP library.

You can either use existing QuaZip instance to create instance of this class or pass ZIP archive file name to this class, in which case it will create internal QuaZip object. See constructors' descriptions for details. Writing is only possible with the existing instance.

Note that due to the underlying library's limitation it is not possible to use multiple QuaZipFile instances to open several files in the same archive at the same time. If you need to write to multiple files in parallel, then you should write to temporary files first, then pack them all at once when you have finished writing. If you need to read multiple files inside the same archive in parallel, you should extract them all into a temporary directory first.

12.73.2 Sequential or random-access?

At the first thought, QuaZipFile has fixed size, the start and the end and should be therefore considered random-access device. But there is one major obstacle to making it random-access: ZIP/UNZIP API does not support seek() operation and the only way to implement it is through reopening the file and re-reading to the required position, but this is prohibitively slow.

Therefore, QuaZipFile is considered to be a sequential device. This has advantage of availability of the ungetChar() operation (QIODevice does not implement it properly for non-sequential devices unless they support seek()). Disadvantage is a somewhat strange behaviour of the size() and pos() functions. This should be kept in mind while using this class.

Definition at line 74 of file quazipfile.h.

12.73.3 Constructor & Destructor Documentation

12.73.3.1 QuaZipFile::QuaZipFile (const QuaZipFile & *that*) [private]

12.73.3.2 QuaZipFile::QuaZipFile ( )

You should use setZipName() and setFileName() or setZip() before trying to call open() on the constructed object.

Definition at line 108 of file quazipfile.cpp.

```
108                         :
109   p(new QuaZipFilePrivate(this))
110 {
111 }
```

12.73.3.3 QuaZipFile::QuaZipFile (QObject * *parent*)

parent argument specifies this object's parent object.

You should use setZipName() and setFileName() or setZip() before trying to call open() on the constructed object.

Definition at line 113 of file quazipfile.cpp.

```
113                                     :
114   QIODevice(parent),
115   p(new QuaZipFilePrivate(this))
116 {
117 }
```

12.73.3.4 QuaZipFile::QuaZipFile (const QString & *zipName*, QObject * *parent* = NULL)

parent argument specifies this object's parent object and *zipName* specifies ZIP archive file name.

You should use setFileName() before trying to call open() on the constructed object.

QuaZipFile constructed by this constructor can be used for read only access. Use QuaZipFile(QuaZip*,QObject*) for writing.

Definition at line 119 of file quazipfile.cpp.

```
119                                                         :
120   QIODevice(parent),
121   p(new QuaZipFilePrivate(this, zipName))
122 {
123 }
```

12.73.3.5 QuaZipFile::QuaZipFile (const QString & *zipName*, const QString & *fileName*, QuaZip::CaseSensitivity *cs* = QuaZip::csDefault, QObject * *parent* = NULL)

parent argument specifies this object's parent object, *zipName* specifies ZIP archive file name and *fileName* and *cs* specify a name of the file to open inside archive.

QuaZipFile constructed by this constructor can be used for read only access. Use QuaZipFile(QuaZip*,QObject*) for writing.

See Also

QuaZip::setCurrentFile()

Definition at line 125 of file quazipfile.cpp.

```
126                                                 :
127   QIODevice(parent),
128   p(new QuaZipFilePrivate(this, zipName, fileName, cs))
129 {
130 }
```

12.73.3.6 QuaZipFile::QuaZipFile (QuaZip * *zip*, QObject * *parent* = NULL)

parent argument specifies this object's parent object.

zip is the pointer to the existing QuaZip object. This QuaZipFile object then can be used to read current file in the *zip* or to write to the file inside it.

Warning

Using this constructor for reading current file can be tricky. Let's take the following example:

```
QuaZip zip("archive.zip");
zip.open(QuaZip::mdUnzip);
zip.setCurrentFile("file-in-archive");
QuaZipFile file(&zip);
file.open(QIODevice::ReadOnly);
// ok, now we can read from the file
file.read(somewhere, some);
zip.setCurrentFile("another-file-in-archive"); // oops...
QuaZipFile anotherFile(&zip);
anotherFile.open(QIODevice::ReadOnly);
anotherFile.read(somewhere, some); // this is still ok...
file.read(somewhere, some); // and this is NOT
```

So, what exactly happens here? When we change current file in the `zip` archive, `file` that references it becomes invalid (actually, as far as I understand ZIP/UNZIP sources, it becomes closed, but QuaZipFile has no means to detect it).

Summary: do not close `zip` object or change its current file as long as QuaZipFile is open. Even better - use another constructors which create internal QuaZip instances, one per object, and therefore do not cause unnecessary trouble. This constructor may be useful, though, if you already have a QuaZip instance and do not want to access several files at once. Good example:

```
QuaZip zip("archive.zip");
zip.open(QuaZip::mdUnzip);
// first, we need some information about archive itself
QByteArray comment=zip.getComment();
// and now we are going to access files inside it
QuaZipFile file(&zip);
for(bool more=zip.goToFirstFile(); more; more=zip.goToNextFile()) {
  file.open(QIODevice::ReadOnly);
  // do something cool with file here
  file.close(); // do not forget to close!
}
zip.close();
```

Definition at line 132 of file quazipfile.cpp.

```
                                                    :
  QIODevice(parent),
  p(new QuaZipFilePrivate(this, zip))
{
}
```

12.73.3.7 QuaZipFile::~QuaZipFile ( ) [virtual]

Closes file if open, destructs internal QuaZip object (if it exists and *is* internal, of course).

Definition at line 138 of file quazipfile.cpp.

References close(), and p.

```
{
  if (isOpen())
    close();
  delete p;
}
```

Here is the call graph for this function:

12.73.4 Member Function Documentation

12.73.4.1 bool QuaZipFile::atEnd ( ) const [virtual]

This function returns `false` in the case of error. This means that you called this function on either not open file, or a file in the not open archive or even on a QuaZipFile instance that does not even have QuaZip instance associated. Do not do that because there is no means to determine whether `false` is returned because of error or because end of file was reached. Well, on the other side you may interpret `false` return value as "there is no file open to check for end of file and there is no end of file therefore".

When writing, this function always returns `true` (because you are always writing to the end of file).

Error code returned by getZipError() is not affected by this function call.

Definition at line 361 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, unzeof(), and QuaZipFilePrivate::zip.

```
{
  if(p->zip==NULL) {
    qWarning("QuaZipFile::atEnd(): call setZipName() or setZip() first");
    return false;
  }
  if(!isOpen()) {
    qWarning("QuaZipFile::atEnd(): file is not open");
    return false;
  }
  if(openMode()&ReadOnly)
      // the same problem as with pos()
    return QIODevice::bytesAvailable() == 0
        && unzeof(p->zip->getUnzFile())==1;
```

```
  else
    return true;
}
```

Here is the call graph for this function:

12.73.4.2 qint64 QuaZipFile::bytesAvailable ( ) const [virtual]

Definition at line 499 of file quazipfile.cpp.

References pos(), and size().

```
{
    return size() - pos();
}
```

Here is the call graph for this function:

12.73.4.3 void QuaZipFile::close ( ) [virtual]

Call getZipError() to determine if the close was successful.

Definition at line 432 of file quazipfile.cpp.

References QuaZip::close(), QuaZipFilePrivate::crc, QuaZip::getUnzFile(), QuaZip::getZipError(), QuaZip::getZipFile(), QuaZipFilePrivate::internal, QuaZip::isOpen(), isRaw(), p, QuaZipFilePrivate::resetZipError(), QuaZipFilePrivate::setZipError(), QuaZipFilePrivate::uncompressedSize, UNZ_OK, unzCloseCurrentFile(), QuaZipFilePrivate::zip, zipCloseFileInZip(), zipCloseFileInZipRaw64(), and QuaZipFilePrivate::zipError.

Referenced by JlCompress::compressFile(), JlCompress::compressSubDir(), JlCompress::extractFile(), and ~QuaZipFile().

```
{
  p->resetZipError();
  if(p->zip==NULL||!p->zip->isOpen()) return;
```

```
436   if(!isOpen()) {
437     qWarning("QuaZipFile::close(): file isn't open");
438     return;
439   }
440   if(openMode()&ReadOnly)
441     p->setZipError(unzCloseCurrentFile(p->zip->
      getUnzFile()));
442   else if(openMode()&WriteOnly)
443     if(isRaw()) p->setZipError(zipCloseFileInZipRaw64(
      p->zip->getZipFile(), p->uncompressedSize, p->
      crc));
444     else p->setZipError(zipCloseFileInZip(p->zip->
      getZipFile()));
445   else {
446     qWarning("Wrong open mode: %d", (int)openMode());
447     return;
448   }
449   if(p->zipError==UNZ_OK) setOpenMode(QIODevice::NotOpen);
450   else return;
451   if(p->internal) {
452     p->zip->close();
453     p->setZipError(p->zip->getZipError());
454   }
455 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.73.4.4 qint64 QuaZipFile::csize ( ) const

Equivalent to calling getFileInfo() and then getting compressedSize field, but more convenient and faster.

File must be open for reading before calling this function.

Returns -1 on error, call getZipError() to get error code.

Definition at line 391 of file quazipfile.cpp.

References unz_file_info64_s::compressed_size, QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), UNZ_OK, unzGetCurrentFileInfo64(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

Referenced by size().

```
{
  unz_file_info64 info_z;
  p->setZipError(UNZ_OK);
  if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return -1;
  p->setZipError(unzGetCurrentFileInfo64(p->
  zip->getUnzFile(), &info_z, NULL, 0, NULL, 0, NULL, 0));
  if(p->zipError!=UNZ_OK)
    return -1;
  return info_z.compressed_size;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.73.4.5 QString QuaZipFile::getActualFileName ( ) const

This is *not* a ZIP archive file name, but a name of file inside archive. It is not necessary the same name that you have passed to the QuaZipFile(const QString&,const QString&,QuaZip::CaseSensitivity,QObject*), setFileName() or QuaZip::setCurrentFile() - this is the real file name inside archive, so it may differ in case if the file name search was case-insensitive.

Equivalent to calling getCurrentFileName() on the associated QuaZip object. Returns null string if there is no associated QuaZip object or if it does not have a current file yet. And this is the case if you called setFileName() but did not open the file yet. So this is perfectly fine:

```
QuaZipFile file("somezip.zip");
file.setFileName("somefile");
QString name=file.getName(); // name=="somefile"
QString actual=file.getActualFileName(); // actual is null string
file.open(QIODevice::ReadOnly);
QString actual=file.getActualFileName(); // actual can be "SoMeFiLe" on Windows
```

See Also

getZipName(), getFileName(), QuaZip::CaseSensitivity

Definition at line 155 of file quazipfile.cpp.

References QuaZip::getCurrentFileName(), QuaZip::getZipError(), p, QuaZipFilePrivate::setZipError(), UNZ_OK, and QuaZipFilePrivate::zip.

```
{
  p->setZipError(UNZ_OK);
  if (p->zip == NULL || (openMode() & WriteOnly))
    return QString();
  QString name=p->zip->getCurrentFileName();
  if(name.isNull())
    p->setZipError(p->zip->getZipError());
  return name;
}
```

Here is the call graph for this function:

12.73.4.6 QuaZip::CaseSensitivity QuaZipFile::getCaseSensitivity ( ) const

This function returns case sensitivity argument you passed to this object either by using QuaZipFile(const QString&,const QString&,QuaZip::CaseSensitivity,QObject*) or by calling setFileName().

Returns unpredictable value if getFileName() returns null string (this is the case when you did not used setFileName() or constructor above).

See Also

getFileName

Definition at line 484 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, and p.

```
{
  return p->caseSensitivity;
}
```

12.73.4.7 bool QuaZipFile::getFileInfo (QuaZipFileInfo * *info*)

This function does the same thing as calling QuaZip::getCurrentFileInfo() on the associated QuaZip object, but you can not call getCurrentFileInfo() if the associated QuaZip is internal (because you do not have access to it), while you still can call this function in that case.

File must be open for reading before calling this function.

Returns

`false` in the case of an error.

This function doesn't support zip64, but will still work fine on zip64 archives if file sizes are below 4 GB, otherwise the values will be set as if converted using QuaZipFileInfo64::toQuaZipFileInfo().

See Also

getFileInfo(QuaZipFileInfo64*)

Definition at line 413 of file quazipfile.cpp.

References QuaZipFileInfo64::toQuaZipFileInfo().

```
{
    QuaZipFileInfo64 info64;
    if (getFileInfo(&info64)) {
        info64.toQuaZipFileInfo(*info);
        return true;
    } else {
        return false;
    }
}
```

Here is the call graph for this function:

12.73.4.8 bool QuaZipFile::getFileInfo (QuaZipFileInfo64 * *info*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

See Also

getFileInfo(QuaZipFileInfo*)

Definition at line 424 of file quazipfile.cpp.

References QuaZip::getCurrentFileInfo(), QuaZip::getMode(), QuaZip::getZipError(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), UNZ_OK, QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

```
{
    if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return false;
    p->zip->getCurrentFileInfo(info);
    p->setZipError(p->zip->getZipError());
    return p->zipError==UNZ_OK;
}
```

Here is the call graph for this function:

12.73.4.9 QString QuaZipFile::getFileName ( ) const

This function returns file name you passed to this object either by using QuaZipFile(const QString&,const QString&,-QuaZip::CaseSensitivity,QObject∗) or by calling setFileName(). Real name of the file may differ in case if you used case-insensitivity.

Returns null string if there is no file name set yet. This is the case when this QuaZipFile operates on the existing QuaZip object (constructor QuaZipFile(QuaZip∗,QObject∗) or setZip() was used).

See Also

getActualFileName

Definition at line 479 of file quazipfile.cpp.

References QuaZipFilePrivate::fileName, and p.

```
{
  return p->fileName;
}
```

12.73.4.10 QuaZip ∗ QuaZipFile::getZip ( ) const

Returns NULL if there is no associated QuaZip or it is internal (so you will not mess with it).

Definition at line 150 of file quazipfile.cpp.

References QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
{
    return p->internal ? NULL : p->zip;
}
```

12.73.4.11 int QuaZipFile::getZipError ( ) const

Definition at line 494 of file quazipfile.cpp.

References p, and QuaZipFilePrivate::zipError.

Referenced by JlCompress::compressFile(), and JlCompress::extractFile().

```
{
  return p->zipError;
}
```

Here is the caller graph for this function:

12.73.4.12 QString QuaZipFile::getZipName ( ) const

If this object was created by passing QuaZip pointer to the constructor, this function will return that QuaZip's file name (or null string if that object does not have file name yet).

Otherwise, returns associated ZIP archive file name or null string if there are no name set yet.

See Also

setZipName() getFileName()

Definition at line 145 of file quazipfile.cpp.

References QuaZip::getZipName(), p, and QuaZipFilePrivate::zip.

```
{
  return p->zip==NULL ? QString() : p->zip->getZipName();
}
```

Here is the call graph for this function:

12.73.4.13 bool QuaZipFile::isRaw ( ) const

If the file is not open, the returned value is undefined.

See Also

open(OpenMode,int*,int*,bool,const char*)

Definition at line 489 of file quazipfile.cpp.

References p, and QuaZipFilePrivate::raw.

Referenced by close().

```
490 {
491   return p->raw;
492 }
```

Here is the caller graph for this function:

12.73.4.14 bool QuaZipFile::isSequential ( ) const [virtual]

Definition at line 337 of file quazipfile.cpp.

```
338 {
339   return true;
340 }
```

12.73.4.15 bool QuaZipFile::open (OpenMode *mode*) [virtual]

Returns `true` on success, `false` otherwise. Call getZipError() to get error code.

Note

Since ZIP/UNZIP API provides buffered reading only, QuaZipFile does not support unbuffered reading. So do not pass QIODevice::Unbuffered flag in *mode*, or open will fail.

Definition at line 221 of file quazipfile.cpp.

Referenced by KbFirmware::_fileForBoard(), JICompress::compressFile(), JICompress::compressSubDir(), and JICompress::extractFile().

```
222 {
223   return open(mode, NULL);
224 }
```

Here is the caller graph for this function:

12.73.4.16 bool QuaZipFile::open (OpenMode *mode*, const char * *password*) [inline]

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Argument *password* specifies a password to decrypt the file. If it is NULL then this function behaves just like open(OpenMode).

Definition at line 298 of file quazipfile.h.

```
299     {return open(mode, NULL, NULL, false, password);}
```

12.73.4.17 bool QuaZipFile::open (OpenMode *mode*, int * *method*, int * *level*, bool *raw*, const char * *password* = NULL)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Argument *password* specifies a password to decrypt the file.

An integers pointed by *method* and *level* will receive codes of the compression method and level used. See unzip.h.

If raw is `true` then no decompression is performed.

method should not be `NULL`. *level* can be `NULL` if you don't want to know the compression level.

Definition at line 226 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, QuaZip::close(), QuaZipFilePrivate::fileName, QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::getZipError(), QuaZip::hasCurrentFile(), QuaZipFilePrivate::internal, QuaZip::mdUnzip, QuaZip::open(), p, QuaZipFilePrivate::raw, QuaZipFilePrivate::resetZipError(), QuaZip::setCurrentFile(), QuaZipFilePrivate::setZipError(), UNZ_OK, unzOpenCurrentFile3(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

```
227 {
228   p->resetZipError();
229   if(isOpen()) {
230     qWarning("QuaZipFile::open(): already opened");
231     return false;
232   }
233   if(mode&Unbuffered) {
234     qWarning("QuaZipFile::open(): Unbuffered mode is not supported");
235     return false;
236   }
237   if((mode&ReadOnly)&&!(mode&WriteOnly)) {
238     if(p->internal) {
239       if(!p->zip->open(QuaZip::mdUnzip)) {
240         p->setZipError(p->zip->getZipError());
241         return false;
242       }
243       if(!p->zip->setCurrentFile(p->fileName, p->
      caseSensitivity)) {
244         p->setZipError(p->zip->getZipError());
245         p->zip->close();
246         return false;
247       }
248     } else {
249       if(p->zip==NULL) {
250         qWarning("QuaZipFile::open(): zip is NULL");
251         return false;
```

```
      }
      if(p->zip->getMode()!=QuaZip::mdUnzip) {
        qWarning("QuaZipFile::open(): file open mode %d incompatible with ZIP open mode %d",
            (int)mode, (int)p->zip->getMode());
        return false;
      }
      if(!p->zip->hasCurrentFile()) {
        qWarning("QuaZipFile::open(): zip does not have current file");
        return false;
      }
    }
    p->setZipError(unzOpenCurrentFile3(p->zip->
  getUnzFile(), method, level, (int)raw, password));
    if(p->zipError==UNZ_OK) {
      setOpenMode(mode);
      p->raw=raw;
      return true;
    } else
      return false;
  }
  qWarning("QuaZipFile::open(): open mode %d not supported by this function", (int)mode);
  return false;
}
```

Here is the call graph for this function:

12.73.4.18 bool QuaZipFile::open (OpenMode *mode*, const QuaZipNewInfo & *info*, const char * *password* = NULL, quint32 *crc* = 0, int *method* = Z_DEFLATED, int *level* = Z_DEFAULT_COMPRESSION, bool *raw* = false, int *windowBits* = -MAX_WBITS, int *memLevel* = MAX_MEM_LEVEL, int *strategy* = Z_DEFAULT_STRATEGY)

info argument specifies information about file. It should at least specify a correct file name. Also, it is a good idea to specify correct timestamp (by default, current time will be used). See QuaZipNewInfo.

The *password* argument specifies the password for crypting. Pass NULL if you don't need any crypting. The *crc* argument was supposed to be used for crypting too, but then it turned out that it's false information, so you need to set it to 0 unless you want to use the raw mode (see below).

Arguments *method* and *level* specify compression method and level. The only method supported is Z_DEFLATED, but you may also specify 0 for no compression. If all of the files in the archive use both method 0 and either level 0 is explicitly specified or data descriptor writing is disabled with QuaZip::setDataDescriptorWritingEnabled(), then the resulting archive is supposed to be compatible with the 1.0 ZIP format version, should you need that. Except for this, *level* has no other effects with method 0.

If *raw* is `true`, no compression is performed. In this case, *crc* and uncompressedSize field of the *info* are required.

Arguments *windowBits*, *memLevel*, *strategy* provide zlib algorithms tuning. See deflateInit2() in zlib.

Definition at line 275 of file quazipfile.cpp.

References QuaZipNewInfo::comment, QuaZipFilePrivate::crc, QuaZipNewInfo::dateTime, zip_fileinfo::dosDate, zip_fileinfo::external_fa, QuaZipNewInfo::externalAttr, QuaZipNewInfo::extraGlobal, QuaZipNewInfo::extraLocal, QuaZip::getCommentCodec(), QuaZip::getFileNameCodec(), QuaZip::getMode(), QuaZip::getZipFile(), QuaZipFilePrivate::internal, zip_fileinfo::internal_fa, QuaZipNewInfo::internalAttr, QuaZip::isDataDescriptorWritingEnabled(), QuaZip::isZip64Enabled(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, QuaZipNewInfo::name, p, QuaZipFilePrivate::raw, QuaZipFilePrivate::resetZipError(), QuaZipFilePrivate::setZipError(), tm_zip_s::tm_hour, tm_zip_s::tm_mday, tm_zip_s::tm_min, tm_zip_s::tm_mon, tm_zip_s::tm_sec, tm_zip_s::tm_year, zip_fileinfo::tmz_date, QuaZipFilePrivate::uncompressedSize, QuaZipNewInfo::uncompressedSize, UNZ_OK, QuaZipFilePrivate::writePos, QuaZipFilePrivate::zip, ZIP_WRITE_DATA_DESCRIPTOR, zipClearFlags(), QuaZipFilePrivate::zipError, zipOpenNewFileInZip3_64(), and zipSetFlags().

```
{
  zip_fileinfo info_z;
  p->resetZipError();
  if(isOpen()) {
    qWarning("QuaZipFile::open(): already opened");
    return false;
  }
  if((mode&WriteOnly)&&!(mode&ReadOnly)) {
    if(p->internal) {
      qWarning("QuaZipFile::open(): write mode is incompatible with internal QuaZip approach");
      return false;
    }
    if(p->zip==NULL) {
      qWarning("QuaZipFile::open(): zip is NULL");
      return false;
    }
    if(p->zip->getMode()!=QuaZip::mdCreate&&p->zip->getMode()!=QuaZip::mdAppend&&p->zip->getMode()!=QuaZip::mdAdd) {
      qWarning("QuaZipFile::open(): file open mode %d incompatible with ZIP open mode %d",
          (int)mode, (int)p->zip->getMode());
      return false;
    }
    info_z.tmz_date.tm_year=info.dateTime.date().year();
    info_z.tmz_date.tm_mon=info.dateTime.date().month() - 1;
    info_z.tmz_date.tm_mday=info.dateTime.date().day();
    info_z.tmz_date.tm_hour=info.dateTime.time().hour();
    info_z.tmz_date.tm_min=info.dateTime.time().minute();
    info_z.tmz_date.tm_sec=info.dateTime.time().second();
    info_z.dosDate = 0;
    info_z.internal_fa=(uLong)info.internalAttr;
    info_z.external_fa=(uLong)info.externalAttr;
    if (p->zip->isDataDescriptorWritingEnabled())
        zipSetFlags(p->zip->getZipFile(), ZIP_WRITE_DATA_DESCRIPTOR);
    else
        zipClearFlags(p->zip->getZipFile(), ZIP_WRITE_DATA_DESCRIPTOR);
    p->setZipError(zipOpenNewFileInZip3_64(p->zip->getZipFile(),
            p->zip->getFileNameCodec()->fromUnicode(info.name).constData(), &info_z,
            info.extraLocal.constData(), info.extraLocal.length(),
            info.extraGlobal.constData(), info.extraGlobal.length(),
            p->zip->getCommentCodec()->fromUnicode(info.comment).constData(),
            method, level, (int)raw,
            windowBits, memLevel, strategy,
            password, (uLong)crc, p->zip->isZip64Enabled()));
    if(p->zipError==UNZ_OK) {
      p->writePos=0;
      setOpenMode(mode);
      p->raw=raw;
      if(raw) {
        p->crc=crc;
        p->uncompressedSize=info.uncompressedSize;
      }
      return true;
    } else
      return false;
  }
  qWarning("QuaZipFile::open(): open mode %d not supported by this function", (int)mode);
  return false;
}
```

Here is the call graph for this function:

12.73.4.19 QuaZipFile& QuaZipFile::operator= (const QuaZipFile & *that*) [private]

12.73.4.20 qint64 QuaZipFile::pos ( ) const [virtual]

Implementation of the QIODevice::pos(). When reading, this function is a wrapper to the ZIP/UNZIP unztell(), therefore it is unable to keep track of the ungetChar() calls (which is non-virtual and therefore is dangerous to reimplement). So if you are using ungetChar() feature of the QIODevice, this function reports incorrect value until you get back characters which you ungot.

When writing, pos() returns number of bytes already written (uncompressed unless you use raw mode).

Note

Although QuaZipFile is a sequential device and therefore pos() should always return zero, it does not, because it would be misguiding. Keep this in mind.

This function returns -1 if the file or archive is not open.

Error code returned by getZipError() is not affected by this function call.

Definition at line 342 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, unztell(), QuaZipFilePrivate::writePos, and QuaZipFilePrivate::zip.

Referenced by bytesAvailable().

```
{
  if(p->zip==NULL) {
    qWarning("QuaZipFile::pos(): call setZipName() or setZip() first");
    return -1;
  }
  if(!isOpen()) {
    qWarning("QuaZipFile::pos(): file is not open");
    return -1;
  }
  if(openMode()&ReadOnly)
      // QIODevice::pos() is broken for sequential devices,
      // but thankfully bytesAvailable() returns the number of
      // bytes buffered, so we know how far ahead we are.
    return unztell(p->zip->getUnzFile()) - QIODevice::bytesAvailable();
  else
    return p->writePos;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.73.4.21 qint64 QuaZipFile::readData (char * *data*, qint64 *maxSize*) [protected]

Definition at line 457 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, QuaZipFilePrivate::setZipError(), UNZ_OK, unzReadCurrentFile(), and QuaZipFilePrivate::zip.

```
{
  p->setZipError(UNZ_OK);
  qint64 bytesRead=unzReadCurrentFile(p->zip->getUnzFile(), data, (unsigned
  )maxSize);
  if (bytesRead < 0) {
    p->setZipError((int) bytesRead);
    return -1;
  }
  return bytesRead;
}
```

Here is the call graph for this function:

12.73.4.22 void QuaZipFile::setFileName (const QString & *fileName*, QuaZip::CaseSensitivity *cs* = QuaZip::csDefault)

Will do nothing if at least one of the following conditions is met:

- ZIP name has not been set yet (getZipName() returns null string).
- This QuaZipFile is associated with external QuaZip. In this case you should call that QuaZip's setCurrentFile() function instead!
- File is already open so setting the name is meaningless.

See Also

QuaZip::setCurrentFile

Definition at line 191 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, QuaZipFilePrivate::fileName, QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
{
  if(p->zip==NULL) {
    qWarning("QuaZipFile::setFileName(): call setZipName() first");
    return;
  }
  if(!p->internal) {
    qWarning("QuaZipFile::setFileName(): should not be used when not using internal QuaZip");
    return;
  }
  if(isOpen()) {
    qWarning("QuaZipFile::setFileName(): can not set file name for already opened file");
    return;
  }
  p->fileName=fileName;
  if (p->fileName.startsWith('/'))
      p->fileName = p->fileName.mid(1);
  p->caseSensitivity=cs;
}
```

12.73.4.23 void QuaZipFile::setZip (QuaZip * *zip*)

This function destroys internal QuaZip object, if any, and makes this QuaZipFile to use current file in the *zip* object for any further operations. See QuaZipFile(QuaZip*,QObject*) for the possible pitfalls.

Will do nothing if the file is currently open. You must close() it first.

Definition at line 178 of file quazipfile.cpp.

References QuaZipFilePrivate::fileName, QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
{
  if(isOpen()) {
    qWarning("QuaZipFile::setZip(): file is already open - can not set ZIP");
    return;
  }
  if(p->zip!=NULL && p->internal)
    delete p->zip;
  p->zip=zip;
  p->fileName=QString();
  p->internal=false;
}
```

12.73.4.24 void QuaZipFile::setZipName (const QString & *zipName*)

Automatically creates internal QuaZip object and destroys previously created internal QuaZip object, if any.

Will do nothing if this file is already open. You must close() it first.

Definition at line 166 of file quazipfile.cpp.

References QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
{
  if(isOpen()) {
    qWarning("QuaZipFile::setZipName(): file is already open - can not set ZIP name");
    return;
  }
  if(p->zip!=NULL && p->internal)
    delete p->zip;
  p->zip=new QuaZip(zipName);
  p->internal=true;
}
```

12.73.4.25 qint64 QuaZipFile::size ( ) const [virtual]

This function returns csize() if the file is open for reading in raw mode, usize() if it is open for reading in normal mode and pos() if it is open for writing.

Returns -1 on error, call getZipError() to get error code.

Note

> This function returns file size despite that QuaZipFile is considered to be sequential device, for which size() should return bytesAvailable() instead. But its name would be very misguiding otherwise, so just keep in mind this inconsistence.

Definition at line 379 of file quazipfile.cpp.

References csize(), p, QuaZipFilePrivate::raw, usize(), and QuaZipFilePrivate::writePos.

Referenced by bytesAvailable().

```
{
  if(!isOpen()) {
    qWarning("QuaZipFile::atEnd(): file is not open");
    return -1;
  }
  if(openMode()&ReadOnly)
    return p->raw?csize():usize();
  else
    return p->writePos;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.73.4.26 qint64 QuaZipFile::usize ( ) const

Equivalent to calling getFileInfo() and then getting uncompressedSize field, but more convenient and faster. See getFileInfo() for a warning.

File must be open for reading before calling this function.

Returns -1 on error, call getZipError() to get error code.

Definition at line 402 of file quazipfile.cpp.

References QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), unz_file_info64_s::uncompressed_size, UNZ_OK, unzGetCurrentFileInfo64(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

Referenced by size().

```
{
  unz_file_info64 info_z;
  p->setZipError(UNZ_OK);
  if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return -1;
  p->setZipError(unzGetCurrentFileInfo64(p->zip->getUnzFile(), &info_z, NULL, 0, NULL, 0, NULL, 0));
  if(p->zipError!=UNZ_OK)
    return -1;
  return info_z.uncompressed_size;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.73.4.27 qint64 QuaZipFile::writeData (const char * *data*, qint64 *maxSize*) [protected]

Definition at line 468 of file quazipfile.cpp.

References QuaZip::getZipFile(), p, QuaZipFilePrivate::setZipError(), QuaZipFilePrivate::writePos, QuaZipFilePrivate::zip, ZIP_OK, QuaZipFilePrivate::zipError, and zipWriteInFileInZip().

```
{
  p->setZipError(ZIP_OK);
  p->setZipError(zipWriteInFileInZip(p->zip->getZipFile(), data, (uint)maxSize));
  if(p->zipError!=ZIP_OK) return -1;
  else {
    p->writePos+=maxSize;
    return maxSize;
  }
}
```

Here is the call graph for this function:

12.73.5 Friends And Related Function Documentation

12.73.5.1 friend class QuaZipFilePrivate [friend]

Definition at line 75 of file quazipfile.h.

12.73.6 Field Documentation

12.73.6.1 QuaZipFilePrivate* QuaZipFile::p [private]

Definition at line 78 of file quazipfile.h.

Referenced by atEnd(), close(), csize(), getActualFileName(), getCaseSensitivity(), getFileInfo(), getFileName(), getZip(), getZipError(), getZipName(), isRaw(), open(), pos(), readData(), setFileName(), setZip(), setZipName(), size(), usize(), writeData(), and ~QuaZipFile().

The documentation for this class was generated from the following files:

- src/ckb/quazip/quazipfile.h
- src/ckb/quazip/quazipfile.cpp

12.74 QuaZipFileInfo Struct Reference

Information about a file inside archive.

```
#include <src/ckb/quazip/quazipfileinfo.h>
```

Collaboration diagram for QuaZipFileInfo:

Public Member Functions

- QFile::Permissions getPermissions () const

  Get the file permissions.

Data Fields

- QString name

  File name.
- quint16 versionCreated

Version created by.

- quint16 versionNeeded

  Version needed to extract.

- quint16 flags

  General purpose flags.

- quint16 method

  Compression method.

- QDateTime dateTime

  Last modification date and time.

- quint32 crc

  CRC.

- quint32 compressedSize

  Compressed file size.

- quint32 uncompressedSize

  Uncompressed file size.

- quint16 diskNumberStart

  Disk number start.

- quint16 internalAttr

  Internal file attributes.

- quint32 externalAttr

  External file attributes.

- QString comment

  Comment.

- QByteArray extra

  Extra field.

12.74.1 Detailed Description

Deprecated Use QuaZipFileInfo64 instead. Not only it supports large files, but also more convenience methods as well.

Call QuaZip::getCurrentFileInfo() or QuaZipFile::getFileInfo() to fill this structure.

Definition at line 41 of file quazipfileinfo.h.

12.74.2 Member Function Documentation

12.74.2.1 QFile::Permissions QuaZipFileInfo::getPermissions ( ) const

Returns the high 16 bits of external attributes converted to QFile::Permissions.

Definition at line 52 of file quazipfileinfo.cpp.

References externalAttr, and permissionsFromExternalAttr().

```
53 {
54     return permissionsFromExternalAttr(externalAttr);
55 }
```

Here is the call graph for this function:

12.74.3 Field Documentation

12.74.3.1 QString QuaZipFileInfo::comment

Definition at line 67 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.2 quint32 QuaZipFileInfo::compressedSize

Definition at line 57 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.3 quint32 QuaZipFileInfo::crc

Definition at line 55 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.4 QDateTime QuaZipFileInfo::dateTime

Definition at line 53 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.5 quint16 QuaZipFileInfo::diskNumberStart

Definition at line 61 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.6 quint32 QuaZipFileInfo::externalAttr

Definition at line 65 of file quazipfileinfo.h.

Referenced by getPermissions(), and QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.7 QByteArray QuaZipFileInfo::extra

Definition at line 69 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.8 quint16 QuaZipFileInfo::flags

Definition at line 49 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.9 quint16 QuaZipFileInfo::internalAttr

Definition at line 63 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.10 quint16 QuaZipFileInfo::method

Definition at line 51 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.11 QString QuaZipFileInfo::name

Definition at line 43 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.12 quint32 QuaZipFileInfo::uncompressedSize

Definition at line 59 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.13 quint16 QuaZipFileInfo::versionCreated

Definition at line 45 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.14 quint16 QuaZipFileInfo::versionNeeded

Definition at line 47 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

The documentation for this struct was generated from the following files:

- src/ckb/quazip/quazipfileinfo.h
- src/ckb/quazip/quazipfileinfo.cpp

12.75 QuaZipFileInfo64 Struct Reference

Information about a file inside archive (with zip64 support).

```
#include <src/ckb/quazip/quazipfileinfo.h>
```

Collaboration diagram for QuaZipFileInfo64:

Public Member Functions

- QFile::Permissions getPermissions () const

  Get the file permissions.
- bool toQuaZipFileInfo (QuaZipFileInfo &info) const

  Converts to QuaZipFileInfo.
- QDateTime getNTFSmTime (int ∗fineTicks=NULL) const

  Returns the NTFS modification time.
- QDateTime getNTFSaTime (int ∗fineTicks=NULL) const

  Returns the NTFS access time.
- QDateTime getNTFScTime (int ∗fineTicks=NULL) const

  Returns the NTFS creation time.
- bool isEncrypted () const

  Checks whether the file is encrypted.

Data Fields

- QString name

  File name.
- quint16 versionCreated

  Version created by.
- quint16 versionNeeded

  Version needed to extract.
- quint16 flags

  General purpose flags.
- quint16 method

  Compression method.
- QDateTime dateTime

  Last modification date and time.
- quint32 crc

  CRC.

- quint64 compressedSize

  Compressed file size.
- quint64 uncompressedSize

  Uncompressed file size.
- quint16 diskNumberStart

  Disk number start.
- quint16 internalAttr

  Internal file attributes.
- quint32 externalAttr

  External file attributes.
- QString comment

  Comment.
- QByteArray extra

  Extra field.

12.75.1 Detailed Description

Call QuaZip::getCurrentFileInfo() or QuaZipFile::getFileInfo() to fill this structure.

Definition at line 81 of file quazipfileinfo.h.

12.75.2 Member Function Documentation

12.75.2.1 QDateTime QuaZipFileInfo64::getNTFSaTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSmTime()
getNTFScTime()

Returns

The NTFS access time, UTC

Definition at line 168 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
{
    return getNTFSTime(extra, 8, fineTicks);
}
```

Here is the call graph for this function:

12.75.2.2 QDateTime QuaZipFileInfo64::getNTFScTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSmTime()
getNTFSaTime()

Returns

The NTFS creation time, UTC

Definition at line 173 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
174 {
175     return getNTFSTime(extra, 16, fineTicks);
176 }
```

Here is the call graph for this function:

12.75.2.3 QDateTime QuaZipFileInfo64::getNTFSmTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSaTime()
getNTFScTime()

Returns

The NTFS modification time, UTC

Definition at line 163 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
164 {
165     return getNTFSTime(extra, 0, fineTicks);
166 }
```

Here is the call graph for this function:

12.75.2.4 QFile::Permissions QuaZipFileInfo64::getPermissions ( ) const

Returns the high 16 bits of external attributes converted to QFile::Permissions.

Definition at line 57 of file quazipfileinfo.cpp.

References externalAttr, and permissionsFromExternalAttr().

Referenced by JlCompress::extractFile().

```
58 {
59     return permissionsFromExternalAttr(externalAttr);
60 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.75.2.5 bool QuaZipFileInfo64::isEncrypted ( ) const [inline]

Definition at line 175 of file quazipfileinfo.h.

```
175 {return (flags & 1) != 0;}
```

12.75.2.6 bool QuaZipFileInfo64::toQuaZipFileInfo (QuaZipFileInfo & *info*) const

If any of the fields are greater than 0xFFFFFFFFu, they are set to 0xFFFFFFFFu exactly, not just truncated. This function should be mainly used for compatibility with the old code expecting QuaZipFileInfo, in the cases when it's impossible or otherwise unadvisable (due to ABI compatibility reasons, for example) to modify that old code to use QuaZipFileInfo64.

Returns

`true` if all fields converted correctly, `false` if an overflow occured.

Definition at line 62 of file quazipfileinfo.cpp.

References QuaZipFileInfo::comment, comment, QuaZipFileInfo::compressedSize, compressedSize, QuaZipFileInfo::crc, crc, QuaZipFileInfo::dateTime, dateTime, QuaZipFileInfo::diskNumberStart, diskNumberStart, QuaZipFileInfo::externalAttr, externalAttr, QuaZipFileInfo::extra, extra, QuaZipFileInfo::flags, flags, QuaZipFileInfo::internalAttr, internalAttr, QuaZipFileInfo::method, method, QuaZipFileInfo::name, name, QuaZipFileInfo::uncompressedSize, uncompressedSize, QuaZipFileInfo::versionCreated, versionCreated, QuaZipFileInfo::versionNeeded, and versionNeeded.

Referenced by QuaZip::getCurrentFileInfo(), and QuaZipFile::getFileInfo().

```
63 {
64     bool noOverflow = true;
65     info.name = name;
66     info.versionCreated = versionCreated;
67     info.versionNeeded = versionNeeded;
68     info.flags = flags;
69     info.method = method;
70     info.dateTime = dateTime;
71     info.crc = crc;
72     if (compressedSize > 0xFFFFFFFFu) {
73         info.compressedSize = 0xFFFFFFFFu;
74         noOverflow = false;
75     } else {
76         info.compressedSize = compressedSize;
77     }
78     if (uncompressedSize > 0xFFFFFFFFu) {
79         info.uncompressedSize = 0xFFFFFFFFu;
80         noOverflow = false;
81     } else {
82         info.uncompressedSize = uncompressedSize;
83     }
84     info.diskNumberStart = diskNumberStart;
85     info.internalAttr = internalAttr;
```

```
    info.externalAttr = externalAttr;
    info.comment = comment;
    info.extra = extra;
    return noOverflow;
}
```

Here is the caller graph for this function:

12.75.3 Field Documentation

12.75.3.1 QString QuaZipFileInfo64::comment

Definition at line 114 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), and toQuaZipFileInfo().

12.75.3.2 quint64 QuaZipFileInfo64::compressedSize

Definition at line 104 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.3 quint32 QuaZipFileInfo64::crc

Definition at line 102 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.4 QDateTime QuaZipFileInfo64::dateTime

This is the time stored in the standard ZIP header. This format only allows to store time with 2-second precision, so the seconds will always be even and the milliseconds will always be zero. If you need more precise date and time, you can try to call the getNTFSmTime() function or its siblings, provided that the archive itself contains these NTFS times.

Definition at line 100 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), and toQuaZipFileInfo().

12.75.3.5 quint16 QuaZipFileInfo64::diskNumberStart

Definition at line 108 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.6 quint32 QuaZipFileInfo64::externalAttr

Definition at line 112 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), getPermissions(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.7 QByteArray QuaZipFileInfo64::extra

Definition at line 116 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), getNTFSaTime(), getNTFScTime(), getNTFSmTime(), and toQuaZipFileInfo().

12.75.3.8 quint16 QuaZipFileInfo64::flags

Definition at line 89 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.9 quint16 QuaZipFileInfo64::internalAttr

Definition at line 110 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.10 quint16 QuaZipFileInfo64::method

Definition at line 91 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.11 QString QuaZipFileInfo64::name

Definition at line 83 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), JlCompress::getFileList(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.12 quint64 QuaZipFileInfo64::uncompressedSize

Definition at line 106 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.13 quint16 QuaZipFileInfo64::versionCreated

Definition at line 85 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.14 quint16 QuaZipFileInfo64::versionNeeded

Definition at line 87 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

The documentation for this struct was generated from the following files:

- src/ckb/quazip/quazipfileinfo.h
- src/ckb/quazip/quazipfileinfo.cpp

12.76 QuaZipFilePrivate Class Reference

The implementation class for QuaZip.

Collaboration diagram for QuaZipFilePrivate:

Private Member Functions

- void resetZipError () const

  Resets zipError.
- void setZipError (int zipError) const

  Sets the zip error.
- QuaZipFilePrivate (QuaZipFile *q)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, const QString &zipName)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, const QString &zipName, const QString &fileName, QuaZip::CaseSensitivity cs)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, QuaZip *zip)

  The constructor for the QuaZipFile constructor accepting a file name.
- ~QuaZipFilePrivate ()

  The destructor.

Private Attributes

- QuaZipFile * q

  The pointer to the associated QuaZipFile instance.
- QuaZip * zip

  The QuaZip object to work with.
- QString fileName

  The file name.

- QuaZip::CaseSensitivity caseSensitivity

  Case sensitivity mode.
- bool raw

  Whether this file is opened in the raw mode.
- qint64 writePos

  Write position to keep track of.
- quint64 uncompressedSize

  Uncompressed size to write along with a raw file.
- quint32 crc

  CRC to write along with a raw file.
- bool internal

  Whether zip points to an internal QuaZip instance.
- int zipError

  The last error.

Friends

- class QuaZipFile

12.76.1 Detailed Description

This class contains all the private stuff for the QuaZipFile class, thus allowing to preserve binary compatibility between releases, the technique known as the Pimpl (private implementation) idiom.

Definition at line 37 of file quazipfile.cpp.

12.76.2 Constructor & Destructor Documentation

12.76.2.1 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*) [inline],[private]

Definition at line 78 of file quazipfile.cpp.

```
78                                          :
79        q(q), zip(NULL), internal(true), zipError(UNZ_OK) {}
```

12.76.2.2 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, const QString & *zipName*) [inline],[private]

Definition at line 81 of file quazipfile.cpp.

```
81                                                                  :
82        q(q), internal(true), zipError(UNZ_OK)
83        {
84          zip=new QuaZip(zipName);
85        }
```

12.76.2.3 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, const QString & *zipName*, const QString & *fileName*, QuaZip::CaseSensitivity *cs*) [inline],[private]

Definition at line 87 of file quazipfile.cpp.

```
                                :
    q(q), internal(true), zipError(UNZ_OK)
    {
      zip=new QuaZip(zipName);
      this->fileName=fileName;
      if (this->fileName.startsWith('/'))
          this->fileName = this->fileName.mid(1);
      this->caseSensitivity=cs;
    }
```

12.76.2.4 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, QuaZip * *zip*) [inline],[private]

Definition at line 98 of file quazipfile.cpp.

```
                                                    :
    q(q), zip(zip), internal(false), zipError(UNZ_OK) {}
```

12.76.2.5 QuaZipFilePrivate::~QuaZipFilePrivate ( ) [inline],[private]

Definition at line 101 of file quazipfile.cpp.

```
  {
    if (internal)
      delete zip;
  }
```

12.76.3 Member Function Documentation

12.76.3.1 void QuaZipFilePrivate::resetZipError ( ) const [inline],[private]

Definition at line 69 of file quazipfile.cpp.

References UNZ_OK.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

```
{setZipError(UNZ_OK);}
```

Here is the caller graph for this function:

12.76.3.2 void QuaZipFilePrivate::setZipError (int *zipError*) const [private]

This function is marked as const although it changes one field. This allows to call it from const functions that don't change anything by themselves.

Definition at line 211 of file quazipfile.cpp.

References q, UNZ_OK, and zipError.

Referenced by QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), QuaZipFile::open(), QuaZipFile::readData(), QuaZipFile::usize(), and QuaZipFile::writeData().

```
{
  QuaZipFilePrivate *fakeThis = const_cast<QuaZipFilePrivate*>(this); //
   non-const
  fakeThis->zipError=zipError;
  if(zipError==UNZ_OK)
    q->setErrorString(QString());
  else
    q->setErrorString(QuaZipFile::tr("ZIP/UNZIP API error %1").arg(zipError));
}
```

Here is the caller graph for this function:

12.76.4 Friends And Related Function Documentation

12.76.4.1 friend class QuaZipFile [friend]

Definition at line 38 of file quazipfile.cpp.

12.76.5 Field Documentation

12.76.5.1 QuaZip::CaseSensitivity QuaZipFilePrivate::caseSensitivity [private]

Definition at line 47 of file quazipfile.cpp.

Referenced by QuaZipFile::getCaseSensitivity(), QuaZipFile::open(), and QuaZipFile::setFileName().

12.76.5.2 quint32 QuaZipFilePrivate::crc [private]

Definition at line 59 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

12.76.5.3 QString QuaZipFilePrivate::fileName [private]

Definition at line 45 of file quazipfile.cpp.

Referenced by QuaZipFile::getFileName(), QuaZipFile::open(), QuaZipFile::setFileName(), and QuaZipFile::setZip().

12.76.5.4 bool QuaZipFilePrivate::internal [private]

This is true if the archive was opened by name, rather than by supplying an existing QuaZip instance.

Definition at line 65 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), QuaZipFile::getZip(), QuaZipFile::open(), QuaZipFile::setFileName(), QuaZipFile::setZip(), and QuaZipFile::setZipName().

12.76.5.5 QuaZipFile* QuaZipFilePrivate::q [private]

Definition at line 41 of file quazipfile.cpp.

Referenced by setZipError().

12.76.5.6 bool QuaZipFilePrivate::raw [private]

Definition at line 49 of file quazipfile.cpp.

Referenced by QuaZipFile::isRaw(), QuaZipFile::open(), and QuaZipFile::size().

12.76.5.7 quint64 QuaZipFilePrivate::uncompressedSize [private]

Definition at line 57 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

12.76.5.8 qint64 QuaZipFilePrivate::writePos [private]

QIODevice::pos() is broken for non-seekable devices, so we need our own position.

Definition at line 55 of file quazipfile.cpp.

Referenced by QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::size(), and QuaZipFile::writeData().

12.76.5.9 QuaZip* QuaZipFilePrivate::zip [private]

Definition at line 43 of file quazipfile.cpp.

Referenced by QuaZipFile::atEnd(), QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), QuaZipFile::getZip(), QuaZipFile::getZipName(), QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::readData(), QuaZipFile::setFileName(), QuaZipFile::setZip(), QuaZipFile::setZipName(), QuaZipFile::usize(), and QuaZipFile::writeData().

12.76.5.10 int QuaZipFilePrivate::zipError [private]

Definition at line 67 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getFileInfo(), QuaZipFile::getZipError(), QuaZipFile::open(), setZipError(), QuaZipFile::usize(), and QuaZipFile::writeData().

The documentation for this class was generated from the following file:

- src/ckb/quazip/quazipfile.cpp

12.77 QuaZipNewInfo Struct Reference

Information about a file to be created.

`#include <src/ckb/quazip/quazipnewinfo.h>`

Collaboration diagram for QuaZipNewInfo:

Public Member Functions

- QuaZipNewInfo (const QString &name)

  Constructs QuaZipNewInfo instance.
- QuaZipNewInfo (const QString &name, const QString &file)

  Constructs QuaZipNewInfo instance.
- QuaZipNewInfo (const QuaZipFileInfo &existing)

  Initializes the new instance from existing file info.
- QuaZipNewInfo (const QuaZipFileInfo64 &existing)

  Initializes the new instance from existing file info.
- void setFileDateTime (const QString &file)

  Sets the file timestamp from the existing file.
- void setFilePermissions (const QString &file)

  Sets the file permissions from the existing file.
- void setPermissions (QFile::Permissions permissions)

  Sets the file permissions.
- void setFileNTFSTimes (const QString &fileName)

  Sets the NTFS times from an existing file.
- void setFileNTFSmTime (const QDateTime &mTime, int fineTicks=0)

  Sets the NTFS modification time.
- void setFileNTFSaTime (const QDateTime &aTime, int fineTicks=0)

  Sets the NTFS access time.
- void setFileNTFScTime (const QDateTime &cTime, int fineTicks=0)

  Sets the NTFS creation time.

Data Fields

- QString name

  File name.
- QDateTime dateTime

  File timestamp.
- quint16 internalAttr

  File internal attributes.
- quint32 externalAttr

  File external attributes.
- QString comment

  File comment.
- QByteArray extraLocal

  File local extra field.
- QByteArray extraGlobal

  File global extra field.
- ulong uncompressedSize

  Uncompressed file size.

12.77.1 Detailed Description

This structure holds information about a file to be created inside ZIP archive. At least name should be set to something correct before passing this structure to QuaZipFile::open(OpenMode,const QuaZipNewInfo&,int,int,bool).

Zip64 support of this structure is slightly limited: in the raw mode (when a pre-compressed file is written into a ZIP file as-is), it is necessary to specify the uncompressed file size and the appropriate field is 32 bit. Since the raw mode is used extremely rare, there is no real need to have a separate QuaZipNewInfo64 structure like QuaZipFileInfo64. It may be added in the future though, if there is a demand for the raw mode with zip64 archives.

Definition at line 50 of file quazipnewinfo.h.

12.77.2 Constructor & Destructor Documentation

12.77.2.1 QuaZipNewInfo::QuaZipNewInfo (const QString & *name*)

Initializes name with *name*, dateTime with current date and time. Attributes are initialized with zeros, comment and extra field with null values.

Definition at line 79 of file quazipnewinfo.cpp.

```
79                                                  :
80   name(name), dateTime(QDateTime::currentDateTime()),
      internalAttr(0), externalAttr(0),
81   uncompressedSize(0)
82 {
83 }
```

12.77.2.2 QuaZipNewInfo::QuaZipNewInfo (const QString & *name*, const QString & *file*)

Initializes name with *name*. Timestamp and permissions are taken from the specified file. If the *file* does not exists or its timestamp is inaccessible (e. g. you do not have read permission for the directory file in), uses current time and zero permissions. Other attributes are initialized with zeros, comment and extra field with null values.

See Also

setFileDateTime()

Definition at line 85 of file quazipnewinfo.cpp.

References dateTime, and QuaZipNewInfo_setPermissions().

```
85                                                                  :
86   name(name), internalAttr(0), externalAttr(0),
      uncompressedSize(0)
87 {
88   QFileInfo info(file);
89   QDateTime lm = info.lastModified();
90   if (!info.exists()) {
91     dateTime = QDateTime::currentDateTime();
92   } else {
93     dateTime = lm;
94     QuaZipNewInfo_setPermissions(this, info.permissions(), info.isDir());
95   }
96 }
```

Here is the call graph for this function:

12.77.2.3 QuaZipNewInfo::QuaZipNewInfo (const QuaZipFileInfo & *existing*)

Mainly used when copying files between archives.

Both extra fields are initialized to existing.extra. QuaZipNewInfo

Parameters

existing	

Definition at line 69 of file quazipnewinfo.cpp.

References QuaZipNewInfo_init().

```
70 {
71     QuaZipNewInfo_init(*this, existing);
72 }
```

Here is the call graph for this function:

12.77.2.4 QuaZipNewInfo::QuaZipNewInfo (const QuaZipFileInfo64 & *existing*)

Mainly used when copying files between archives.

Both extra fields are initialized to existing.extra. QuaZipNewInfo

Parameters

existing	

Definition at line 74 of file quazipnewinfo.cpp.

References QuaZipNewInfo_init().

```
75 {
76     QuaZipNewInfo_init(*this, existing);
77 }
```

Here is the call graph for this function:

12.77.3 Member Function Documentation

12.77.3.1 void QuaZipNewInfo::setFileDateTime (const QString & *file*)

Use this function to set the file timestamp from the existing file. Use it like this:

```
QuaZipFile zipFile(&zip);
QFile file("file-to-add");
file.open(QIODevice::ReadOnly);
QuaZipNewInfo info("file-name-in-archive");
info.setFileDateTime("file-to-add"); // take the timestamp from file
zipFile.open(QIODevice::WriteOnly, info);
```

This function does not change dateTime if some error occured (e. g. file is inaccessible).

Definition at line 98 of file quazipnewinfo.cpp.

References dateTime.

```
99 {
100   QFileInfo info(file);
101   QDateTime lm = info.lastModified();
102   if (info.exists())
103     dateTime = lm;
104 }
```

12.77.3.2 void QuaZipNewInfo::setFileNTFSaTime (const QDateTime & *aTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

aTime	The new access time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 267 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
268 {
269     setNTFSTime(extraLocal, aTime, 8, fineTicks);
270     setNTFSTime(extraGlobal, aTime, 8, fineTicks);
271 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.3 void QuaZipNewInfo::setFileNTFScTime (const QDateTime & *cTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

cTime	The new creation time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 273 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
274 {
275     setNTFSTime(extraLocal, cTime, 16, fineTicks);
276     setNTFSTime(extraGlobal, cTime, 16, fineTicks);
277 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.4 void QuaZipNewInfo::setFileNTFSmTime (const QDateTime & *mTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

mTime	The new modification time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 261 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
{
    setNTFSTime(extraLocal, mTime, 0, fineTicks);
    setNTFSTime(extraGlobal, mTime, 0, fineTicks);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.5 void QuaZipNewInfo::setFileNTFSTimes (const QString & *fileName*)

If the file doesn't exist, a warning is printed to the stderr and nothing is done. Otherwise, all three times, as reported by QFileInfo::lastModified(), QFileInfo::lastRead() and QFileInfo::created(), are written to the NTFS extra field record.

The NTFS record is written to both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field.

The microseconds will be zero, as they aren't reported by QFileInfo.

Parameters

fileName	

Definition at line 118 of file quazipnewinfo.cpp.

References setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

```
{
    QFileInfo fi(fileName);
    if (!fi.exists()) {
        qWarning("QuaZipNewInfo::setFileNTFSTimes(): '%s' doesn't exist",
                 fileName.toUtf8().constData());
        return;
    }
    setFileNTFSmTime(fi.lastModified());
    setFileNTFSaTime(fi.lastRead());
    setFileNTFScTime(fi.created());
}
```

Here is the call graph for this function:

12.77.3.6 void QuaZipNewInfo::setFilePermissions (const QString & *file*)

Takes permissions from the file and sets the high 16 bits of external attributes. Uses QFileInfo to get permissions on all platforms.

Definition at line 106 of file quazipnewinfo.cpp.

References QuaZipNewInfo_setPermissions().

```
{
    QFileInfo info = QFileInfo(file);
    QFile::Permissions perm = info.permissions();
    QuaZipNewInfo_setPermissions(this, perm, info.isDir());
}
```

Here is the call graph for this function:

12.77.3.7 void QuaZipNewInfo::setPermissions (QFile::Permissions *permissions*)

Modifies the highest 16 bits of external attributes. The type part is set to dir if the name ends with a slash, and to regular file otherwise.

Definition at line 113 of file quazipnewinfo.cpp.

References name, and QuaZipNewInfo_setPermissions().

```
{
    QuaZipNewInfo_setPermissions(this, permissions,
  name.endsWith('/'));
}
```

Here is the call graph for this function:

12.77.4 Field Documentation

12.77.4.1 QString QuaZipNewInfo::comment

Will be encoded using QuaZip::getCommentCodec().

Definition at line 75 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

12.77.4.2 QDateTime QuaZipNewInfo::dateTime

This is the last file modification date and time. Will be stored in the archive central directory. It is a good practice to set it to the source file timestamp instead of archive creating time. Use setFileDateTime() or QuaZipNewInfo(const QString&, const QString&).

Definition at line 62 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), QuaZipNewInfo(), and setFileDateTime().

12.77.4.3 quint32 QuaZipNewInfo::externalAttr

The highest 16 bits contain Unix file permissions and type (dir or file). The constructor QuaZipNewInfo(const QString&, const QString&) takes permissions from the provided file.

Definition at line 71 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), and QuaZipNewInfo_setPermissions().

12.77.4.4 QByteArray QuaZipNewInfo::extraGlobal

Definition at line 79 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

12.77.4.5 QByteArray QuaZipNewInfo::extraLocal

Definition at line 77 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

12.77.4.6 quint16 QuaZipNewInfo::internalAttr

Definition at line 64 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

12.77.4.7 QString QuaZipNewInfo::name

This field holds file name inside archive, including path relative to archive root.

Definition at line 55 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), and setPermissions().

12.77.4.8 ulong QuaZipNewInfo::uncompressedSize

This is only needed if you are using raw file zipping mode, i. e. adding precompressed file in the zip archive.

Definition at line 84 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

The documentation for this struct was generated from the following files:

- src/ckb/quazip/quazipnewinfo.h
- src/ckb/quazip/quazipnewinfo.cpp

12.78 QuaZipPrivate Class Reference

All the internal stuff for the QuaZip class.

Collaboration diagram for QuaZipPrivate:

Private Member Functions

- QTextCodec * getDefaultFileNameCodec ()
- QuaZipPrivate (QuaZip *q)

  The constructor for the corresponding QuaZip constructor.
- QuaZipPrivate (QuaZip *q, const QString &zipName)

  The constructor for the corresponding QuaZip constructor.
- QuaZipPrivate (QuaZip *q, QIODevice *ioDevice)

  The constructor for the corresponding QuaZip constructor.
- template<typename TFileInfo >
  bool getFileInfoList (QList< TFileInfo > *result) const

  Returns either a list of file names or a list of QuaZipFileInfo.
- void clearDirectoryMap ()

  Stores map of filenames and file locations for unzipping.
- void addCurrentFileToDirectoryMap (const QString &fileName)
- bool goToFirstUnmappedFile ()

Private Attributes

- QuaZip * q

  The pointer to the corresponding QuaZip instance.
- QTextCodec * fileNameCodec

  The codec for file names.
- QTextCodec * commentCodec

  The codec for comments.
- QString zipName

  The archive file name.
- QIODevice * ioDevice

  The device to access the archive.

- QString comment

  The global comment.
- QuaZip::Mode mode

  The open mode.
- union {
  unzFile **unzFile_f**
  The internal handle for UNZIP modes.
  zipFile **zipFile_f**
  The internal handle for ZIP modes.
  };

- bool hasCurrentFile_f

  Whether a current file is set.
- int zipError

  The last error.
- bool dataDescriptorWritingEnabled

  Whether the data descriptor writing mode is enabled.
- bool zip64

  The zip64 mode.
- bool autoClose

  The auto-close flag.
- QHash< QString, unz64_file_pos > directoryCaseSensitive
- QHash< QString, unz64_file_pos > directoryCaseInsensitive
- unz64_file_pos lastMappedDirectoryEntry

Static Private Attributes

- static QTextCodec * defaultFileNameCodec = NULL

Friends

- class QuaZip

12.78.1 Detailed Description

This class keeps all the private stuff for the QuaZip class so it can be changed without breaking binary compatibility, according to the Pimpl idiom.

Definition at line 39 of file quazip.cpp.

12.78.2 Constructor & Destructor Documentation

12.78.2.1 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*) [inline],[private]

Definition at line 81 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
81                                  :
82        q(q),
83        fileNameCodec(getDefaultFileNameCodec()),
84        commentCodec(QTextCodec::codecForLocale()),
85        ioDevice(NULL),
86        mode(QuaZip::mdNotOpen),
```

```
87        hasCurrentFile_f(false),
88        zipError(UNZ_OK),
89        dataDescriptorWritingEnabled(true),
90        zip64(false),
91        autoClose(true)
92      {
93          lastMappedDirectoryEntry.num_of_file = 0;
94          lastMappedDirectoryEntry.pos_in_zip_directory = 0;
95      }
```

12.78.2.2 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*, const QString & *zipName*) [inline],[private]

Definition at line 97 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
97                                                          :
98        q(q),
99        fileNameCodec(getDefaultFileNameCodec()),
100        commentCodec(QTextCodec::codecForLocale()),
101        zipName(zipName),
102        ioDevice(NULL),
103        mode(QuaZip::mdNotOpen),
104        hasCurrentFile_f(false),
105        zipError(UNZ_OK),
106        dataDescriptorWritingEnabled(true),
107        zip64(false),
108        autoClose(true)
109      {
110          lastMappedDirectoryEntry.num_of_file = 0;
111          lastMappedDirectoryEntry.pos_in_zip_directory = 0;
112      }
```

12.78.2.3 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*, QIODevice * *ioDevice*) [inline],[private]

Definition at line 114 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
114                                                          :
115          q(q),
116        fileNameCodec(getDefaultFileNameCodec()),
117        commentCodec(QTextCodec::codecForLocale()),
118        ioDevice(ioDevice),
119        mode(QuaZip::mdNotOpen),
120        hasCurrentFile_f(false),
121        zipError(UNZ_OK),
122        dataDescriptorWritingEnabled(true),
123        zip64(false),
124        autoClose(true)
125      {
126          lastMappedDirectoryEntry.num_of_file = 0;
127          lastMappedDirectoryEntry.pos_in_zip_directory = 0;
128      }
```

12.78.3 Member Function Documentation

12.78.3.1 void QuaZipPrivate::addCurrentFileToDirectoryMap (const QString & *fileName*) [inline],[private]

Definition at line 153 of file quazip.cpp.

References directoryCaseInsensitive, directoryCaseSensitive, hasCurrentFile_f, lastMappedDirectoryEntry, unz64_file_pos_s::pos_in_zip_directory, and unzGetFilePos64().

Referenced by QuaZip::getCurrentFileInfo(), and QuaZip::getCurrentFileName().

```
{
    if (!hasCurrentFile_f || fileName.isEmpty()) {
        return;
    }
    // Adds current file to filename map as fileName
    unz64_file_pos fileDirectoryPos;
    unzGetFilePos64(unzFile_f, &fileDirectoryPos);
    directoryCaseSensitive.insert(fileName, fileDirectoryPos);
    // Only add lowercase to directory map if not already there
    // ensures only map the first one seen
    QString lower = fileName.toLower();
    if (!directoryCaseInsensitive.contains(lower))
        directoryCaseInsensitive.insert(lower, fileDirectoryPos);
    // Mark last one
    if (fileDirectoryPos.pos_in_zip_directory >
  lastMappedDirectoryEntry.pos_in_zip_directory)
        lastMappedDirectoryEntry = fileDirectoryPos;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.78.3.2 void QuaZipPrivate::clearDirectoryMap ( ) [inline],[private]

Definition at line 145 of file quazip.cpp.

References directoryCaseInsensitive, directoryCaseSensitive, lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

Referenced by QuaZip::close().

```
{
    directoryCaseInsensitive.clear();
    directoryCaseSensitive.clear();
    lastMappedDirectoryEntry.num_of_file = 0;
    lastMappedDirectoryEntry.pos_in_zip_directory = 0;
}
```

Here is the caller graph for this function:

12.78.3.3 QTextCodec* QuaZipPrivate::getDefaultFileNameCodec ( ) [inline],[private]

Definition at line 72 of file quazip.cpp.

References defaultFileNameCodec.

```
73     {
74         if (defaultFileNameCodec == NULL) {
75             return QTextCodec::codecForLocale();
76         } else {
77             return defaultFileNameCodec;
78         }
79     }
```

12.78.3.4 template<typename TFileInfo > bool QuaZipPrivate::getFileInfoList (QList< TFileInfo > * *result*) const [private]

Definition at line 687 of file quazip.cpp.

References QuaZip::getCurrentFileName(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::hasCurrentFile(), QuaZip::mdUnzip, mode, q, QuaZip::setCurrentFile(), UNZ_OK, and zipError.

Referenced by QuaZip::getFileInfoList(), QuaZip::getFileInfoList64(), and QuaZip::getFileNameList().

```
688 {
689   QuaZipPrivate *fakeThis=const_cast<QuaZipPrivate*>(this);
690   fakeThis->zipError=UNZ_OK;
691   if (mode!=QuaZip::mdUnzip) {
692     qWarning("QuaZip::getFileNameList/getFileInfoList(): "
693              "ZIP is not open in mdUnzip mode");
694     return false;
695   }
696   QString currentFile;
697   if (q->hasCurrentFile()) {
698       currentFile = q->getCurrentFileName();
699   }
700   if (q->goToFirstFile()) {
701       do {
702           bool ok;
703           result->append(QuaZip_getFileInfo<TFileInfo>(q, &ok));
704           if (!ok)
705               return false;
706       } while (q->goToNextFile());
707   }
708   if (zipError != UNZ_OK)
709       return false;
```

```
  if (currentFile.isEmpty()) {
      if (!q->goToFirstFile())
          return false;
  } else {
      if (!q->setCurrentFile(currentFile))
          return false;
  }
  return true;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.78.3.5 bool QuaZipPrivate::goToFirstUnmappedFile ( ) [private]

Definition at line 172 of file quazip.cpp.

References hasCurrentFile_f, lastMappedDirectoryEntry, QuaZip::mdUnzip, mode, unz64_file_pos_s::pos_in_zip_directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), and zipError.

Referenced by QuaZip::setCurrentFile().

```
{
    zipError = UNZ_OK;
    if (mode != QuaZip::mdUnzip) {
        qWarning("QuaZipPrivate::goToNextUnmappedFile(): ZIP is not open in mdUnzip mode");
        return false;
    }
    // If not mapped anything, go to beginning
    if (lastMappedDirectoryEntry.pos_in_zip_directory == 0) {
        unzGoToFirstFile(unzFile_f);
    } else {
        // Goto the last one mapped, plus one
        unzGoToFilePos64(unzFile_f, &lastMappedDirectoryEntry);
        unzGoToNextFile(unzFile_f);
    }
```

```
    hasCurrentFile_f=zipError==UNZ_OK;
    if(zipError==UNZ_END_OF_LIST_OF_FILE)
      zipError=UNZ_OK;
    return hasCurrentFile_f;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.78.4 Friends And Related Function Documentation

12.78.4.1 friend class QuaZip [friend]

Definition at line 40 of file quazip.cpp.

12.78.5 Field Documentation

12.78.5.1 union { ... } [private]

12.78.5.2 bool QuaZipPrivate::autoClose [private]

Definition at line 71 of file quazip.cpp.

Referenced by QuaZip::isAutoClose(), QuaZip::open(), and QuaZip::setAutoClose().

12.78.5.3 QString QuaZipPrivate::comment [private]

Definition at line 53 of file quazip.cpp.

Referenced by QuaZip::close(), and QuaZip::setComment().

12.78.5.4 QTextCodec* QuaZipPrivate::commentCodec [private]

Definition at line 47 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCommentCodec(), QuaZip::getCurrentFileInfo(), and QuaZip::setCommentCodec().

12.78.5.5 bool QuaZipPrivate::dataDescriptorWritingEnabled [private]

Definition at line 67 of file quazip.cpp.

Referenced by QuaZip::isDataDescriptorWritingEnabled(), QuaZip::open(), and QuaZip::setDataDescriptorWritingEnabled().

12.78.5.6 QTextCodec * QuaZipPrivate::defaultFileNameCodec = NULL [static], [private]

Definition at line 140 of file quazip.cpp.

Referenced by getDefaultFileNameCodec(), and QuaZip::setDefaultFileNameCodec().

12.78.5.7 QHash<QString, unz64_file_pos> QuaZipPrivate::directoryCaseInsensitive [private]

Definition at line 138 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), and QuaZip::setCurrentFile().

12.78.5.8 QHash<QString, unz64_file_pos> QuaZipPrivate::directoryCaseSensitive [private]

Definition at line 137 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), and QuaZip::setCurrentFile().

12.78.5.9 QTextCodec* QuaZipPrivate::fileNameCodec [private]

Definition at line 45 of file quazip.cpp.

Referenced by QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getFileNameCodec(), and QuaZip::setFileNameCodec().

12.78.5.10 bool QuaZipPrivate::hasCurrentFile_f [private]

Definition at line 63 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::hasCurrentFile(), and QuaZip::setCurrentFile().

12.78.5.11 QIODevice* QuaZipPrivate::ioDevice [private]

Definition at line 51 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getIoDevice(), QuaZip::open(), QuaZip::setIoDevice(), and QuaZip::setZipName().

12.78.5.12 unz64_file_pos QuaZipPrivate::lastMappedDirectoryEntry [private]

Definition at line 139 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), goToFirstUnmappedFile(), and QuaZipPrivate().

12.78.5.13 QuaZip::Mode QuaZipPrivate::mode [private]

Definition at line 55 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), getFileInfoList(), QuaZip::getMode(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::isOpen(), QuaZip::open(), and QuaZip::setCurrentFile().

12.78.5.14 QuaZip* QuaZipPrivate::q [private]

Definition at line 43 of file quazip.cpp.

Referenced by getFileInfoList().

12.78.5.15 bool QuaZipPrivate::zip64 [private]

Definition at line 69 of file quazip.cpp.

Referenced by QuaZip::isZip64Enabled(), and QuaZip::setZip64Enabled().

12.78.5.16 int QuaZipPrivate::zipError [private]

Definition at line 65 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), getFileInfoList(), QuaZip::getZipError(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::open(), and QuaZip::setCurrentFile().

12.78.5.17 QString QuaZipPrivate::zipName [private]

Definition at line 49 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getIoDevice(), QuaZip::getZipName(), QuaZip::open(), QuaZip::setIoDevice(), and QuaZip::setZipName().

The documentation for this class was generated from the following file:

- src/ckb/quazip/quazip.cpp

12.79 QWidget Class Reference

Inheritance diagram for QWidget:

Collaboration diagram for QWidget:

The documentation for this class was generated from the following file:

- src/ckb/keywidget.h

12.80 Ui::RebindWidget Class Reference

```
#include <src/ckb/ui_rebindwidget.h>
```

Inheritance diagram for Ui::RebindWidget:

Collaboration diagram for Ui::RebindWidget:

Public Member Functions

- void setupUi (QWidget *RebindWidget)
- void retranslateUi (QWidget *RebindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QTabWidget * tabWidget
- QWidget * keyTab
- QGridLayout * gridLayout_2
- QComboBox * numBox
- QComboBox * typingBox
- QComboBox * fnBox
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_2
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_4
- QSpacerItem * horizontalSpacer_9
- QSpacerItem * horizontalSpacer_4
- QRadioButton * modButton
- QRadioButton * fnButton
- QComboBox * mediaBox
- QRadioButton * numButton
- QSpacerItem * horizontalSpacer_17
- QWidget * mouseTab
- QGridLayout * gridLayout
- QRadioButton * dpiButton
- QSpacerItem * verticalSpacer_2
- QSpacerItem * verticalSpacer_8
- QSpacerItem * horizontalSpacer_18
- QSpacerItem * horizontalSpacer_20
- QComboBox * mb2Box
- QComboBox * dpiBox
- QSpinBox * dpiCustYBox
- QComboBox * mbBox

- QComboBox * wheelBox
- QRadioButton * mbButton
- QSpinBox * dpiCustXBox
- QLabel * dpiWarning
- QRadioButton * wheelButton
- QSpacerItem * horizontalSpacer_22
- QRadioButton * mb2Button
- QLabel * dpiCustLabel
- QSpacerItem * horizontalSpacer_19
- QSpacerItem * horizontalSpacer_21
- QWidget * animTab
- QGridLayout * gridLayout_5
- QSpacerItem * verticalSpacer_11
- QComboBox * animBox
- QSpacerItem * horizontalSpacer_24
- QSpacerItem * horizontalSpacer_25
- QCheckBox * animKrBox
- QCheckBox * animOnceBox
- QSpacerItem * horizontalSpacer_26
- QRadioButton * animButton
- QSpacerItem * horizontalSpacer_23
- QWidget * actionTab
- QGridLayout * gridLayout_3
- QSpacerItem * horizontalSpacer_5
- QRadioButton * modeButton
- QCheckBox * modeWrapBox
- QCheckBox * lightWrapBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_6
- QRadioButton * lockButton
- QSpacerItem * verticalSpacer_5
- QComboBox * lightBox
- QComboBox * lockBox
- QRadioButton * lightButton
- QComboBox * modeBox
- QSpacerItem * horizontalSpacer_8
- QSpacerItem * horizontalSpacer_10
- QSpacerItem * horizontalSpacer_7
- QSpacerItem * horizontalSpacer_6
- QWidget * programTab
- QGridLayout * gridLayout_4
- QSpacerItem * verticalSpacer
- QSpacerItem * horizontalSpacer
- QCheckBox * programKpButton
- QLineEdit * programKpBox
- QSpacerItem * horizontalSpacer_11
- QSpacerItem * horizontalSpacer_13
- QLineEdit * programKrBox
- QCheckBox * programKrButton
- QSpacerItem * horizontalSpacer_12
- QWidget * programKpExtra
- QHBoxLayout * horizontalLayout_2
- QCheckBox * programKpSIBox
- QComboBox * programKpModeBox
- QSpacerItem * horizontalSpacer_15

- QWidget * programKrExtra
- QHBoxLayout * horizontalLayout_3
- QCheckBox * programKrSIBox
- QComboBox * programKrModeBox
- QSpacerItem * horizontalSpacer_16
- QLabel * progTipLabel
- QWidget * macroTab
- QWidget * layoutWidget1
- QGridLayout * gridLayout_8
- QGroupBox * groupBox_2
- QPlainTextEdit * pteMacroBox
- QPlainTextEdit * pteMacroComment
- QPlainTextEdit * pteMacroText
- QWidget * layoutWidget
- QVBoxLayout * verticalLayout_2
- QGroupBox * groupBox_3
- QGroupBox * groupBox_4
- QWidget * layoutWidget_2
- QGridLayout * gridLayout_10
- QPushButton * btnStopMacro
- QPushButton * btnClearMacro
- QPushButton * btnStartMacro
- QLabel * label
- QLabel * lbl_macro
- QWidget * layoutWidget2
- QHBoxLayout * delayButtons
- QRadioButton * rb_delay_no
- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_asTyped
- QLabel * txtBuffer
- QHBoxLayout * horizontalLayout
- QSpacerItem * horizontalSpacer_14
- QPushButton * unbindButton
- QPushButton * resetButton
- QPushButton * cancelButton
- QPushButton * applyButton

12.80.1 Detailed Description

Definition at line 1058 of file ui_rebindwidget.h.

12.80.2 Member Function Documentation

12.80.2.1 void Ui_RebindWidget::retranslateUi (QWidget * *RebindWidget*) [inline], [inherited]

Definition at line 897 of file ui_rebindwidget.h.

References Ui_RebindWidget::actionTab, Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, Ui_RebindWidget::animKrBox, Ui_RebindWidget::animOnceBox, Ui_RebindWidget::animTab, Ui_RebindWidget::applyButton, Ui_RebindWidget::btnClearMacro, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, Ui_RebindWidget::cancelButton, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiWarning, Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, Ui_RebindWidget::groupBox_2, Ui_RebindWidget::groupBox_3, Ui_RebindWidget::groupBox_4, Ui_RebindWidget::keyTab, Ui_RebindWidget::label, Ui_RebindWidget::lbl_macro, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton,

Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, Ui_RebindWidget::macroTab, Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, Ui_RebindWidget::mouseTab, Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::programTab, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, Ui_RebindWidget::unbindButton, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

Referenced by Ui_RebindWidget::setupUi().

```
    {
        numBox->clear();
        numBox->insertItems(0, QStringList()
         << QString()
        );
        typingBox->clear();
        typingBox->insertItems(0, QStringList()
         << QString()
        );
        fnBox->clear();
        fnBox->insertItems(0, QStringList()
         << QString()
        );
        typingButton->setText(QApplication::translate("RebindWidget", "Typing:", Q_NULLPTR));
        modBox->clear();
        modBox->insertItems(0, QStringList()
         << QString()
        );
        mediaButton->setText(QApplication::translate("RebindWidget", "Media:", Q_NULLPTR));
        modButton->setText(QApplication::translate("RebindWidget", "Modifier:", Q_NULLPTR));
        fnButton->setText(QApplication::translate("RebindWidget", "Miscellaneous:", Q_NULLPTR));
        mediaBox->clear();
        mediaBox->insertItems(0, QStringList()
         << QString()
        );
        numButton->setText(QApplication::translate("RebindWidget", "Number pad:", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(keyTab), QApplication::translate("
    RebindWidget", "Keyboard", Q_NULLPTR));
        dpiButton->setText(QApplication::translate("RebindWidget", "Change DPI:", Q_NULLPTR));
        mb2Box->clear();
        mb2Box->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "4 (Back)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "5 (Forward)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "6", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "7", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "8", Q_NULLPTR)
        );
        dpiBox->clear();
        dpiBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "(Cycle Up)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "(Cycle Down)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "(Up)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "(Down)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Sniper", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "1:", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "2:", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "3:", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "4:", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "5:", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Custom:", Q_NULLPTR)
        );
        mbBox->clear();
        mbBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "Left", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Right", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Middle", Q_NULLPTR)
        );
        wheelBox->clear();
        wheelBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
        );
```

```
        mbButton->setText(QApplication::translate("RebindWidget", "Standard button:", Q_NULLPTR));
        dpiWarning->setText(QApplication::translate("RebindWidget", "DPI is only available for mice.", Q_NULLPTR));
        wheelButton->setText(QApplication::translate("RebindWidget", "Wheel:", Q_NULLPTR));
        mb2Button->setText(QApplication::translate("RebindWidget", "Special button:", Q_NULLPTR));
        dpiCustLabel->setText(QApplication::translate("RebindWidget", "x", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(mouseTab), QApplication::translate("RebindWidget", "Mouse", Q_NULLPTR));
        animBox->clear();
        animBox->insertItems(0, QStringList()
         << QString()
        );
        animKrBox->setText(QApplication::translate("RebindWidget", "Stop on key release", Q_NULLPTR));
        animOnceBox->setText(QApplication::translate("RebindWidget", "Restart every time", Q_NULLPTR));
        animButton->setText(QApplication::translate("RebindWidget", "Start animation on keypress:", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(animTab), QApplication::translate("RebindWidget", "Animation", Q_NULLPTR));
        modeButton->setText(QApplication::translate("RebindWidget", "Switch to mode:", Q_NULLPTR));
        modeWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
        lightWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
        lockButton->setText(QApplication::translate("RebindWidget", "Windows lock:", Q_NULLPTR));
        lightBox->clear();
        lightBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
        );
        lockBox->clear();
        lockBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "Toggle", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "On", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Off", Q_NULLPTR)
        );
        lightButton->setText(QApplication::translate("RebindWidget", "Brightness:", Q_NULLPTR));
        modeBox->clear();
        modeBox->insertItems(0, QStringList()
         << QString()
         << QApplication::translate("RebindWidget", "(Previous)", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "(Next)", Q_NULLPTR)
         );
         tabWidget->setTabText(tabWidget->indexOf(actionTab), QApplication::translate("RebindWidget", "Special", Q_NULLPTR));
         programKpButton->setText(QApplication::translate("RebindWidget", "Launch program on key press:", Q_NULLPTR));
         programKrButton->setText(QApplication::translate("RebindWidget", "Launch program on key release:", Q_NULLPTR));
         programKpSIBox->setText(QApplication::translate("RebindWidget", "Single instance", Q_NULLPTR));
         programKpModeBox->clear();
         programKpModeBox->insertItems(0, QStringList()
          << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
          << QApplication::translate("RebindWidget", "Stop on release", Q_NULLPTR)
          << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
         );
         programKrSIBox->setText(QApplication::translate("RebindWidget", "Single instance", Q_NULLPTR));
         programKrModeBox->clear();
         programKrModeBox->insertItems(0, QStringList()
          << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
          << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
         );
         progTipLabel->setText(QApplication::translate("RebindWidget", "Tip", Q_NULLPTR));
         tabWidget->setTabText(tabWidget->indexOf(programTab), QApplication::translate("RebindWidget", "Program", Q_NULLPTR));
         groupBox_2->setTitle(QApplication::translate("RebindWidget", "Macro Key Actions", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
         pteMacroComment->setToolTip(QApplication::translate("RebindWidget", "What is this macro for?", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
         pteMacroComment->setDocumentTitle(QString());
         pteMacroComment->setPlainText(QString());
         pteMacroText->setDocumentTitle(QString());
         pteMacroText->setPlainText(QString());
         groupBox_3->setTitle(QApplication::translate("RebindWidget", "Macro Comment", Q_NULLPTR));
         groupBox_4->setTitle(QApplication::translate("RebindWidget", "Macro Text", Q_NULLPTR));
         btnStopMacro->setText(QApplication::translate("RebindWidget", "Stop", Q_NULLPTR));
         btnClearMacro->setText(QApplication::translate("RebindWidget", "Clear", Q_NULLPTR));
         btnStartMacro->setText(QApplication::translate("RebindWidget", "Start", Q_NULLPTR));
         label->setText(QApplication::translate("RebindWidget", "Record macro ", Q_NULLPTR));
```

```
        lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_no->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Disable delay", Q_NULLPTR));
#endif // QT_NO_WHATSTHIS
        rb_delay_no->setText(QApplication::translate("RebindWidget", "No delay", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_default->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Set delay to default values: 20us up to 15 chars, 200us above", Q_NULLPTR));
#endif // QT_NO_WHATSTHIS
        rb_delay_default->setText(QApplication::translate("RebindWidget", "default", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_asTyped->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Remember delays as they had been typed while the macro definition process", Q_NULLPTR));
#endif // QT_NO_WHATSTHIS
        rb_delay_asTyped->setText(QApplication::translate("RebindWidget", "as typed", Q_NULLPTR));
        txtBuffer->setText(QString());
        tabWidget->setTabText(tabWidget->indexOf(macroTab), QApplication::translate("RebindWidget", "Macro", Q_NULLPTR));
        unbindButton->setText(QApplication::translate("RebindWidget", "Unbind", Q_NULLPTR));
        resetButton->setText(QApplication::translate("RebindWidget", "Reset to Default", Q_NULLPTR));
        cancelButton->setText(QApplication::translate("RebindWidget", "Cancel", Q_NULLPTR));
        applyButton->setText(QApplication::translate("RebindWidget", "Apply", Q_NULLPTR));
        Q_UNUSED(RebindWidget);
    } // retranslateUi
```

Here is the caller graph for this function:

12.80.2.2 void Ui_RebindWidget::setupUi (QWidget * *RebindWidget*) [inline],[inherited]

Definition at line 163 of file ui_rebindwidget.h.

References Ui_RebindWidget::actionTab, Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, Ui_RebindWidget::animKrBox, Ui_RebindWidget::animOnceBox, Ui_RebindWidget::animTab, Ui_RebindWidget::applyButton, Ui_RebindWidget::btnClearMacro, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, Ui_RebindWidget::cancelButton, Ui_RebindWidget::delayButtons, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::dpiWarning, Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, Ui_RebindWidget::gridLayout, Ui_RebindWidget::gridLayout_10, Ui_RebindWidget::gridLayout_2, Ui_RebindWidget::gridLayout_3, Ui_RebindWidget::gridLayout_4, Ui_RebindWidget::gridLayout_5, Ui_RebindWidget::gridLayout_8, Ui_RebindWidget::groupBox_2, Ui_RebindWidget::groupBox_3, Ui_RebindWidget::groupBox_4, Ui_RebindWidget::horizontalLayout, Ui_RebindWidget::horizontalLayout_2, Ui_RebindWidget::horizontalLayout_3, Ui_RebindWidget::horizontalSpacer, Ui_RebindWidget::horizontalSpacer_10, Ui_RebindWidget::horizontalSpacer_11, Ui_RebindWidget::horizontalSpacer_12, Ui_RebindWidget::horizontalSpacer_13, Ui_RebindWidget::horizontalSpacer_14, Ui_RebindWidget::horizontalSpacer_15, Ui_RebindWidget::horizontalSpacer_16, Ui_RebindWidget::horizontalSpacer_17, Ui_RebindWidget::horizontalSpacer_18, Ui_RebindWidget::horizontalSpacer_19, Ui_RebindWidget::horizontalSpacer_2, Ui_RebindWidget::horizontalSpacer_20, Ui_RebindWidget::horizontalSpacer_21, Ui_RebindWidget::horizontalSpacer_22, Ui_RebindWidget::horizontalSpacer_23, Ui_RebindWidget::horizontalSpacer_24, Ui_RebindWidget::horizontalSpacer_25, Ui_RebindWidget::horizontalSpacer_26, Ui_RebindWidget::horizontalSpacer_3, Ui_RebindWidget::horizontalSpacer_4, Ui_RebindWidget::horizontalSpacer_5, Ui_RebindWidget::horizontalSpacer_6, Ui_RebindWidget::horizontalSpacer_7, Ui_RebindWidget::horizontalSpacer_8, Ui_RebindWidget::horizontalSpacer_9, Ui_RebindWidget::keyTab, Ui_RebindWidget::label, Ui_RebindWidget::layoutWidget, Ui_RebindWidget::layoutWidget1, Ui_RebindWidget::layoutWidget2, Ui_RebindWidget::layoutWidget_2, Ui_RebindWidget::lbl_macro, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton, Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, Ui_RebindWidget::macroTab, Ui_RebindWidget-

::mb2Box, Ui_RebindWidget::mb2Button, Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, Ui_RebindWidget::mouseTab, Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpExtra, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrExtra, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::programTab, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, Ui_RebindWidget::retranslateUi(), Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, Ui_RebindWidget::unbindButton, Ui_RebindWidget::verticalLayout, Ui_RebindWidget::verticalLayout_2, Ui_RebindWidget::verticalSpacer, Ui_RebindWidget::verticalSpacer_10, Ui_RebindWidget::verticalSpacer_11, Ui_RebindWidget::verticalSpacer_2, Ui_RebindWidget::verticalSpacer_3, Ui_RebindWidget::verticalSpacer_4, Ui_RebindWidget::verticalSpacer_5, Ui_RebindWidget::verticalSpacer_6, Ui_RebindWidget::verticalSpacer_7, Ui_RebindWidget::verticalSpacer_8, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

Referenced by RebindWidget::RebindWidget().

```
    {
        if (RebindWidget->objectName().isEmpty())
            RebindWidget->setObjectName(QStringLiteral("RebindWidget"));
        RebindWidget->resize(687, 342);
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
        RebindWidget->setSizePolicy(sizePolicy);
        RebindWidget->setStyleSheet(QStringLiteral("font-size: 12px ;"));
        verticalLayout = new QVBoxLayout(RebindWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        tabWidget = new QTabWidget(RebindWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        tabWidget->setStyleSheet(QStringLiteral(""));
        tabWidget->setUsesScrollButtons(false);
        tabWidget->setDocumentMode(false);
        keyTab = new QWidget();
        keyTab->setObjectName(QStringLiteral("keyTab"));
        sizePolicy.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
        keyTab->setSizePolicy(sizePolicy);
        gridLayout_2 = new QGridLayout(keyTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(-1, -1, -1, 0);
        numBox = new QComboBox(keyTab);
        numBox->setObjectName(QStringLiteral("numBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
        numBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(numBox, 6, 4, 1, 1);

        typingBox = new QComboBox(keyTab);
        typingBox->setObjectName(QStringLiteral("typingBox"));
        sizePolicy1.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
        typingBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);

        fnBox = new QComboBox(keyTab);
        fnBox->setObjectName(QStringLiteral("fnBox"));
        sizePolicy1.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
        fnBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(fnBox, 6, 1, 1, 1);

        verticalSpacer_10 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_2->addItem(verticalSpacer_10, 9, 1, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer_3, 15, 2, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);
```

```

        gridLayout_2->addItem(horizontalSpacer_2, 1, 3, 1, 1);

        typingButton = new QRadioButton(keyTab);
        typingButton->setObjectName(QStringLiteral("typingButton"));
        typingButton->setAutoExclusive(false);

        gridLayout_2->addWidget(typingButton, 0, 0, 1, 2);

        modBox = new QComboBox(keyTab);
        modBox->setObjectName(QStringLiteral("modBox"));
        sizePolicy1.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
        modBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(modBox, 1, 4, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 1, 0, 1, 1);

        mediaButton = new QRadioButton(keyTab);
        mediaButton->setObjectName(QStringLiteral("mediaButton"));
        mediaButton->setAutoExclusive(false);

        gridLayout_2->addWidget(mediaButton, 10, 0, 1, 2);

        verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_2->addItem(verticalSpacer_4, 2, 1, 1, 1);

        horizontalSpacer_9 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_9, 1, 5, 1, 2);

        horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);

        modButton = new QRadioButton(keyTab);
        modButton->setObjectName(QStringLiteral("modButton"));

        gridLayout_2->addWidget(modButton, 0, 3, 1, 2);

        fnButton = new QRadioButton(keyTab);
        fnButton->setObjectName(QStringLiteral("fnButton"));
        fnButton->setAutoExclusive(false);

        gridLayout_2->addWidget(fnButton, 5, 0, 1, 2);

        mediaBox = new QComboBox(keyTab);
        mediaBox->setObjectName(QStringLiteral("mediaBox"));
        sizePolicy1.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
        mediaBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(mediaBox, 11, 1, 1, 1);

        numButton = new QRadioButton(keyTab);
        numButton->setObjectName(QStringLiteral("numButton"));
        numButton->setAutoExclusive(false);

        gridLayout_2->addWidget(numButton, 5, 3, 1, 2);

        horizontalSpacer_17 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_17, 1, 7, 1, 1);

        tabWidget->addTab(keyTab, QString());
        mouseTab = new QWidget();
        mouseTab->setObjectName(QStringLiteral("mouseTab"));
        gridLayout = new QGridLayout(mouseTab);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        dpiButton = new QRadioButton(mouseTab);
        dpiButton->setObjectName(QStringLiteral("dpiButton"));
        dpiButton->setAutoExclusive(false);

        gridLayout->addWidget(dpiButton, 3, 3, 1, 5);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);

```

```
        verticalSpacer_8 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 2, 1, 1, 1);

        horizontalSpacer_18 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_18, 1, 0, 1, 1);

        horizontalSpacer_20 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_20, 1, 3, 1, 1);

        mb2Box = new QComboBox(mouseTab);
        mb2Box->setObjectName(QStringLiteral("mb2Box"));
        sizePolicy1.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
        mb2Box->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(mb2Box, 1, 4, 1, 4);

        dpiBox = new QComboBox(mouseTab);
        dpiBox->setObjectName(QStringLiteral("dpiBox"));

        gridLayout->addWidget(dpiBox, 4, 4, 1, 1);

        dpiCustYBox = new QSpinBox(mouseTab);
        dpiCustYBox->setObjectName(QStringLiteral("dpiCustYBox"));
        dpiCustYBox->setMinimum(400);
        dpiCustYBox->setMaximum(8500);
        dpiCustYBox->setSingleStep(50);

        gridLayout->addWidget(dpiCustYBox, 4, 7, 1, 1);

        mbBox = new QComboBox(mouseTab);
        mbBox->setObjectName(QStringLiteral("mbBox"));
        sizePolicy1.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
        mbBox->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(mbBox, 1, 1, 1, 1);

        wheelBox = new QComboBox(mouseTab);
        wheelBox->setObjectName(QStringLiteral("wheelBox"));

        gridLayout->addWidget(wheelBox, 4, 1, 1, 1);

        mbButton = new QRadioButton(mouseTab);
        mbButton->setObjectName(QStringLiteral("mbButton"));
        mbButton->setAutoExclusive(false);

        gridLayout->addWidget(mbButton, 0, 0, 1, 2);

        dpiCustXBox = new QSpinBox(mouseTab);
        dpiCustXBox->setObjectName(QStringLiteral("dpiCustXBox"));
        dpiCustXBox->setMinimum(400);
        dpiCustXBox->setMaximum(8500);
        dpiCustXBox->setSingleStep(50);

        gridLayout->addWidget(dpiCustXBox, 4, 5, 1, 1);

        dpiWarning = new QLabel(mouseTab);
        dpiWarning->setObjectName(QStringLiteral("dpiWarning"));
        QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
        dpiWarning->setSizePolicy(sizePolicy2);

        gridLayout->addWidget(dpiWarning, 6, 0, 1, 10);

        wheelButton = new QRadioButton(mouseTab);
        wheelButton->setObjectName(QStringLiteral("wheelButton"));

        gridLayout->addWidget(wheelButton, 3, 0, 1, 2);

        horizontalSpacer_22 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_22, 1, 8, 1, 1);

        mb2Button = new QRadioButton(mouseTab);
        mb2Button->setObjectName(QStringLiteral("mb2Button"));
        mb2Button->setAutoExclusive(false);

        gridLayout->addWidget(mb2Button, 0, 3, 1, 5);

```

```
        dpiCustLabel = new QLabel(mouseTab);
        dpiCustLabel->setObjectName(QStringLiteral("dpiCustLabel"));

        gridLayout->addWidget(dpiCustLabel, 4, 6, 1, 1);

        horizontalSpacer_19 = new QSpacerItem(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_19, 1, 2, 1, 1);

        horizontalSpacer_21 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_21, 1, 9, 1, 1);

        tabWidget->addTab(mouseTab, QString());
        animTab = new QWidget();
        animTab->setObjectName(QStringLiteral("animTab"));
        gridLayout_5 = new QGridLayout(animTab);
        gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
        verticalSpacer_11 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_5->addItem(verticalSpacer_11, 6, 2, 1, 1);

        animBox = new QComboBox(animTab);
        animBox->setObjectName(QStringLiteral("animBox"));
        sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy1);

        gridLayout_5->addWidget(animBox, 4, 2, 1, 1);

        horizontalSpacer_24 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_24, 4, 3, 1, 1);

        horizontalSpacer_25 = new QSpacerItem(438, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_25, 4, 7, 1, 1);

        animKrBox = new QCheckBox(animTab);
        animKrBox->setObjectName(QStringLiteral("animKrBox"));

        gridLayout_5->addWidget(animKrBox, 4, 6, 1, 1);

        animOnceBox = new QCheckBox(animTab);
        animOnceBox->setObjectName(QStringLiteral("animOnceBox"));

        gridLayout_5->addWidget(animOnceBox, 4, 4, 1, 1);

        horizontalSpacer_26 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_26, 4, 5, 1, 1);

        animButton = new QRadioButton(animTab);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy1.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy1);

        gridLayout_5->addWidget(animButton, 0, 1, 1, 2);

        horizontalSpacer_23 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_23, 4, 1, 1, 1);

        tabWidget->addTab(animTab, QString());
        actionTab = new QWidget();
        actionTab->setObjectName(QStringLiteral("actionTab"));
        sizePolicy.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
        actionTab->setSizePolicy(sizePolicy);
        gridLayout_3 = new QGridLayout(actionTab);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        gridLayout_3->setContentsMargins(-1, -1, -1, 0);
        horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_5, 1, 0, 1, 1);

        modeButton = new QRadioButton(actionTab);
        modeButton->setObjectName(QStringLiteral("modeButton"));
        modeButton->setAutoExclusive(false);

        gridLayout_3->addWidget(modeButton, 0, 0, 1, 2);
```

```
        modeWrapBox = new QCheckBox(actionTab);
        modeWrapBox->setObjectName(QStringLiteral("modeWrapBox"));
        modeWrapBox->setChecked(true);

        gridLayout_3->addWidget(modeWrapBox, 1, 3, 1, 1);

        lightWrapBox = new QCheckBox(actionTab);
        lightWrapBox->setObjectName(QStringLiteral("lightWrapBox"));
        lightWrapBox->setChecked(true);

        gridLayout_3->addWidget(lightWrapBox, 4, 3, 1, 1);

        verticalSpacer_7 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_3->addItem(verticalSpacer_7, 2, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_3->addItem(verticalSpacer_6, 5, 1, 1, 1);

        lockButton = new QRadioButton(actionTab);
        lockButton->setObjectName(QStringLiteral("lockButton"));
        lockButton->setAutoExclusive(false);

        gridLayout_3->addWidget(lockButton, 6, 0, 1, 2);

        verticalSpacer_5 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_3->addItem(verticalSpacer_5, 8, 1, 1, 1);

        lightBox = new QComboBox(actionTab);
        lightBox->setObjectName(QStringLiteral("lightBox"));
        sizePolicy1.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
        lightBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);

        lockBox = new QComboBox(actionTab);
        lockBox->setObjectName(QStringLiteral("lockBox"));
        sizePolicy1.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
        lockBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(lockBox, 7, 1, 1, 1);

        lightButton = new QRadioButton(actionTab);
        lightButton->setObjectName(QStringLiteral("lightButton"));
        lightButton->setAutoExclusive(false);

        gridLayout_3->addWidget(lightButton, 3, 0, 1, 2);

        modeBox = new QComboBox(actionTab);
        modeBox->setObjectName(QStringLiteral("modeBox"));
        sizePolicy1.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
        modeBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(modeBox, 1, 1, 1, 1);

        horizontalSpacer_8 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_8, 1, 2, 1, 1);

        horizontalSpacer_10 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_10, 7, 3, 1, 1);

        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_7, 1, 4, 1, 1);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_6, 1, 5, 1, 1);

        tabWidget->addTab(actionTab, QString());
        programTab = new QWidget();
        programTab->setObjectName(QStringLiteral("programTab"));
        gridLayout_4 = new QGridLayout(programTab);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        verticalSpacer = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
```

```
        gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);

        horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);

        programKpButton = new QCheckBox(programTab);
        programKpButton->setObjectName(QStringLiteral("programKpButton"));

        gridLayout_4->addWidget(programKpButton, 0, 0, 1, 2);

        programKpBox = new QLineEdit(programTab);
        programKpBox->setObjectName(QStringLiteral("programKpBox"));

        gridLayout_4->addWidget(programKpBox, 1, 1, 1, 1);

        horizontalSpacer_11 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_11, 0, 2, 1, 2);

        horizontalSpacer_13 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_13, 1, 2, 1, 1);

        programKrBox = new QLineEdit(programTab);
        programKrBox->setObjectName(QStringLiteral("programKrBox"));

        gridLayout_4->addWidget(programKrBox, 4, 1, 1, 1);

        programKrButton = new QCheckBox(programTab);
        programKrButton->setObjectName(QStringLiteral("programKrButton"));

        gridLayout_4->addWidget(programKrButton, 3, 0, 1, 2);

        horizontalSpacer_12 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_12, 0, 4, 1, 1);

        programKpExtra = new QWidget(programTab);
        programKpExtra->setObjectName(QStringLiteral("programKpExtra"));
        horizontalLayout_2 = new QHBoxLayout(programKpExtra);
        horizontalLayout_2->setSpacing(12);
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
        programKpSIBox = new QCheckBox(programKpExtra);
        programKpSIBox->setObjectName(QStringLiteral("programKpSIBox"));

        horizontalLayout_2->addWidget(programKpSIBox);

        programKpModeBox = new QComboBox(programKpExtra);
        programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));

        horizontalLayout_2->addWidget(programKpModeBox);

        horizontalSpacer_15 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_15);


        gridLayout_4->addWidget(programKpExtra, 1, 3, 1, 2);

        programKrExtra = new QWidget(programTab);
        programKrExtra->setObjectName(QStringLiteral("programKrExtra"));
        horizontalLayout_3 = new QHBoxLayout(programKrExtra);
        horizontalLayout_3->setSpacing(12);
        horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
        horizontalLayout_3->setContentsMargins(0, 0, 0, 0);
        programKrSIBox = new QCheckBox(programKrExtra);
        programKrSIBox->setObjectName(QStringLiteral("programKrSIBox"));

        horizontalLayout_3->addWidget(programKrSIBox);

        programKrModeBox = new QComboBox(programKrExtra);
        programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));

        horizontalLayout_3->addWidget(programKrModeBox);

        horizontalSpacer_16 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_3->addItem(horizontalSpacer_16);
```

```


        gridLayout_4->addWidget(programKrExtra, 4, 3, 1, 2);

        progTipLabel = new QLabel(programTab);
        progTipLabel->setObjectName(QStringLiteral("progTipLabel"));
        QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Expanding);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
        progTipLabel->setSizePolicy(sizePolicy3);
        progTipLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);

        gridLayout_4->addWidget(progTipLabel, 5, 1, 1, 4);

        tabWidget->addTab(programTab, QString());
        macroTab = new QWidget();
        macroTab->setObjectName(QStringLiteral("macroTab"));
        layoutWidget1 = new QWidget(macroTab);
        layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
        layoutWidget1->setGeometry(QRect(40, 12, 241, 161));
        gridLayout_8 = new QGridLayout(layoutWidget1);
        gridLayout_8->setObjectName(QStringLiteral("gridLayout_8"));
        gridLayout_8->setSizeConstraint(QLayout::SetNoConstraint);
        gridLayout_8->setContentsMargins(0, 0, 0, 0);
        groupBox_2 = new QGroupBox(layoutWidget1);
        groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
        pteMacroBox = new QPlainTextEdit(groupBox_2);
        pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
        pteMacroBox->setGeometry(QRect(0, 20, 241, 131));
        pteMacroBox->setFocusPolicy(Qt::WheelFocus);
        pteMacroBox->setTabChangesFocus(true);

        gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);

        pteMacroComment = new QPlainTextEdit(macroTab);
        pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
        pteMacroComment->setEnabled(true);
        pteMacroComment->setGeometry(QRect(410, 10, 311, 31));
        pteMacroComment->setFocusPolicy(Qt::WheelFocus);
        pteMacroComment->setContextMenuPolicy(Qt::NoContextMenu);
        pteMacroComment->setAcceptDrops(true);
        pteMacroComment->setToolTipDuration(1);
        pteMacroComment->setInputMethodHints(Qt::ImhNone);
        pteMacroComment->setVerticalScrollBarPolicy(Qt::ScrollBarAlwaysOff);
        pteMacroComment->setTabChangesFocus(true);
        pteMacroComment->setUndoRedoEnabled(true);
        pteMacroComment->setReadOnly(false);
        pteMacroComment->setTabStopWidth(1);
        pteMacroText = new QPlainTextEdit(macroTab);
        pteMacroText->setObjectName(QStringLiteral("pteMacroText"));
        pteMacroText->setGeometry(QRect(410, 50, 311, 66));
        pteMacroText->setFocusPolicy(Qt::StrongFocus);
        pteMacroText->setContextMenuPolicy(Qt::NoContextMenu);
        pteMacroText->setAcceptDrops(false);
        pteMacroText->setInputMethodHints(Qt::ImhNoAutoUppercase);
        pteMacroText->setUndoRedoEnabled(false);
        pteMacroText->setReadOnly(false);
        pteMacroText->setTabStopWidth(1);
        layoutWidget = new QWidget(macroTab);
        layoutWidget->setObjectName(QStringLiteral("layoutWidget"));
        layoutWidget->setGeometry(QRect(300, 10, 111, 71));
        verticalLayout_2 = new QVBoxLayout(layoutWidget);
        verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
        verticalLayout_2->setSizeConstraint(QLayout::SetNoConstraint);
        verticalLayout_2->setContentsMargins(0, 0, 0, 0);
        groupBox_3 = new QGroupBox(layoutWidget);
        groupBox_3->setObjectName(QStringLiteral("groupBox_3"));

        verticalLayout_2->addWidget(groupBox_3);

        groupBox_4 = new QGroupBox(layoutWidget);
        groupBox_4->setObjectName(QStringLiteral("groupBox_4"));

        verticalLayout_2->addWidget(groupBox_4);

        layoutWidget_2 = new QWidget(macroTab);
        layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
        layoutWidget_2->setGeometry(QRect(300, 160, 407, 36));
        gridLayout_10 = new QGridLayout(layoutWidget_2);
        gridLayout_10->setObjectName(QStringLiteral("gridLayout_10"));
        gridLayout_10->setContentsMargins(0, 0, 0, 0);
        btnStopMacro = new QPushButton(layoutWidget_2);
        btnStopMacro->setObjectName(QStringLiteral("btnStopMacro"));
        btnStopMacro->setEnabled(false);

```

```
        gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);

        btnClearMacro = new QPushButton(layoutWidget_2);
        btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));

        gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);

        btnStartMacro = new QPushButton(layoutWidget_2);
        btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));

        gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);

        label = new QLabel(layoutWidget_2);
        label->setObjectName(QStringLiteral("label"));
        label->setStyleSheet(QLatin1String("font: 75 10pt ; \n"
"));

        gridLayout_10->addWidget(label, 0, 0, 1, 1);

        lbl_macro = new QLabel(macroTab);
        lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
        lbl_macro->setGeometry(QRect(300, 130, 431, 27));
        lbl_macro->setStyleSheet(QStringLiteral("font: 75 11pt ; color: darkblue;"));
        layoutWidget2 = new QWidget(macroTab);
        layoutWidget2->setObjectName(QStringLiteral("layoutWidget2"));
        layoutWidget2->setGeometry(QRect(40, 170, 238, 28));
        delayButtons = new QHBoxLayout(layoutWidget2);
        delayButtons->setSpacing(0);
        delayButtons->setObjectName(QStringLiteral("delayButtons"));
        delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
        delayButtons->setContentsMargins(0, 0, 0, 0);
        rb_delay_no = new QRadioButton(layoutWidget2);
        rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
        rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));

        delayButtons->addWidget(rb_delay_no);

        rb_delay_default = new QRadioButton(layoutWidget2);
        rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
        rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_default->setChecked(false);
        rb_delay_default->setAutoExclusive(true);

        delayButtons->addWidget(rb_delay_default);

        rb_delay_asTyped = new QRadioButton(layoutWidget2);
        rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
        rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_asTyped->setChecked(true);

        delayButtons->addWidget(rb_delay_asTyped);

        txtBuffer = new QLabel(macroTab);
        txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
        txtBuffer->setEnabled(false);
        txtBuffer->setGeometry(QRect(300, 100, 0, 0));
        QSizePolicy sizePolicy4(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
        txtBuffer->setSizePolicy(sizePolicy4);
        txtBuffer->setMaximumSize(QSize(0, 0));
        txtBuffer->setContextMenuPolicy(Qt::NoContextMenu);
#ifndef QT_NO_TOOLTIP
        txtBuffer->setToolTip(QStringLiteral(""));
#endif // QT_NO_TOOLTIP
        txtBuffer->setToolTipDuration(0);
#ifndef QT_NO_STATUSTIP
        txtBuffer->setStatusTip(QStringLiteral(""));
#endif // QT_NO_STATUSTIP
#ifndef QT_NO_WHATSTHIS
        txtBuffer->setWhatsThis(QStringLiteral(""));
#endif // QT_NO_WHATSTHIS
        txtBuffer->setFrameShadow(QFrame::Plain);
        txtBuffer->setLineWidth(0);
        txtBuffer->setTextFormat(Qt::PlainText);
        txtBuffer->setIndent(0);
        txtBuffer->setTextInteractionFlags(Qt::NoTextInteraction);
        tabWidget->addTab(macroTab, QString());
        layoutWidget->raise();
        layoutWidget1->raise();
        layoutWidget->raise();
        pteMacroText->raise();
        layoutWidget_2->raise();
        lbl_macro->raise();
        txtBuffer->raise();

```

```
        verticalLayout->addWidget(tabWidget);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        horizontalSpacer_14 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_14);

        unbindButton = new QPushButton(RebindWidget);
        unbindButton->setObjectName(QStringLiteral("unbindButton"));

        horizontalLayout->addWidget(unbindButton);

        resetButton = new QPushButton(RebindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));

        horizontalLayout->addWidget(resetButton);

        cancelButton = new QPushButton(RebindWidget);
        cancelButton->setObjectName(QStringLiteral("cancelButton"));

        horizontalLayout->addWidget(cancelButton);

        applyButton = new QPushButton(RebindWidget);
        applyButton->setObjectName(QStringLiteral("applyButton"));

        horizontalLayout->addWidget(applyButton);


        verticalLayout->addLayout(horizontalLayout);

        QWidget::setTabOrder(tabWidget, pteMacroComment);
        QWidget::setTabOrder(pteMacroComment, pteMacroBox);
        QWidget::setTabOrder(pteMacroBox, dpiButton);
        QWidget::setTabOrder(dpiButton, mb2Box);
        QWidget::setTabOrder(mb2Box, btnStartMacro);
        QWidget::setTabOrder(btnStartMacro, fnBox);
        QWidget::setTabOrder(fnBox, dpiCustYBox);
        QWidget::setTabOrder(dpiCustYBox, dpiBox);
        QWidget::setTabOrder(dpiBox, applyButton);
        QWidget::setTabOrder(applyButton, mbBox);
        QWidget::setTabOrder(mbBox, cancelButton);
        QWidget::setTabOrder(cancelButton, wheelBox);
        QWidget::setTabOrder(wheelBox, btnStopMacro);
        QWidget::setTabOrder(btnStopMacro, mbButton);
        QWidget::setTabOrder(mbButton, dpiCustXBox);
        QWidget::setTabOrder(dpiCustXBox, btnClearMacro);
        QWidget::setTabOrder(btnClearMacro, wheelButton);
        QWidget::setTabOrder(wheelButton, mb2Button);
        QWidget::setTabOrder(mb2Button, animBox);
        QWidget::setTabOrder(animBox, animKrBox);
        QWidget::setTabOrder(animKrBox, animOnceBox);
        QWidget::setTabOrder(animOnceBox, animButton);
        QWidget::setTabOrder(animButton, modeButton);
        QWidget::setTabOrder(modeButton, modeWrapBox);
        QWidget::setTabOrder(modeWrapBox, lightWrapBox);
        QWidget::setTabOrder(lightWrapBox, lockButton);
        QWidget::setTabOrder(lockButton, lightBox);
        QWidget::setTabOrder(lightBox, resetButton);
        QWidget::setTabOrder(resetButton, lockBox);
        QWidget::setTabOrder(lockBox, lightButton);
        QWidget::setTabOrder(lightButton, modeBox);
        QWidget::setTabOrder(modeBox, unbindButton);
        QWidget::setTabOrder(unbindButton, programKpButton);
        QWidget::setTabOrder(programKpButton, programKpBox);
        QWidget::setTabOrder(programKpBox, programKrBox);
        QWidget::setTabOrder(programKrBox, programKrButton);
        QWidget::setTabOrder(programKrButton, programKpSIBox);
        QWidget::setTabOrder(programKpSIBox, programKpModeBox);
        QWidget::setTabOrder(programKpModeBox, programKrSIBox);
        QWidget::setTabOrder(programKrSIBox, programKrModeBox);
        QWidget::setTabOrder(programKrModeBox, typingBox);
        QWidget::setTabOrder(typingBox, numBox);
        QWidget::setTabOrder(numBox, pteMacroText);
        QWidget::setTabOrder(pteMacroText, typingButton);
        QWidget::setTabOrder(typingButton, mediaButton);
        QWidget::setTabOrder(mediaButton, modBox);
        QWidget::setTabOrder(modBox, modButton);
        QWidget::setTabOrder(modButton, fnButton);
        QWidget::setTabOrder(fnButton, mediaBox);
        QWidget::setTabOrder(mediaBox, numButton);

        retranslateUi(RebindWidget);
        QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroText, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()),
```

```
pteMacroComment, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()), btnStopMacro, SLOT(animateClick()));
        QObject::connect(cancelButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(btnStartMacro, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(unbindButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(resetButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));

        tabWidget->setCurrentIndex(0);
        applyButton->setDefault(true);


        QMetaObject::connectSlotsByName(RebindWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.80.3 Field Documentation

12.80.3.1 QWidget* Ui_RebindWidget::actionTab [inherited]

Definition at line 92 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.2 QComboBox* Ui_RebindWidget::animBox [inherited]

Definition at line 84 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_animBox_currentIndexChanged(), RebindWidget::on_animButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.3 QRadioButton* Ui_RebindWidget::animButton [inherited]

Definition at line 90 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_animBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.4 QCheckBox* Ui_RebindWidget::animKrBox [inherited]

Definition at line 87 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.5 QCheckBox* Ui_RebindWidget::animOnceBox [inherited]

Definition at line 88 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.6 QWidget* Ui_RebindWidget::animTab [inherited]

Definition at line 81 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.7 QPushButton* Ui_RebindWidget::applyButton [inherited]

Definition at line 161 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_-RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.8 QPushButton* Ui_RebindWidget::btnClearMacro [inherited]

Definition at line 146 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.9 QPushButton* Ui_RebindWidget::btnStartMacro [inherited]

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_-RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.10 QPushButton* Ui_RebindWidget::btnStopMacro [inherited]

Definition at line 145 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_-RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.11 QPushButton* Ui_RebindWidget::cancelButton [inherited]

Definition at line 160 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons [inherited]

Definition at line 151 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.13 QComboBox* Ui_RebindWidget::dpiBox [inherited]

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::on_dpiButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.14 QRadioButton* Ui_RebindWidget::dpiButton [inherited]

Definition at line 62 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.15 QLabel* Ui_RebindWidget::dpiCustLabel [inherited]

Definition at line 78 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.16 QSpinBox* Ui_RebindWidget::dpiCustXBox [inherited]

Definition at line 73 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.17 QSpinBox* Ui_RebindWidget::dpiCustYBox [inherited]

Definition at line 69 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.18 QLabel* Ui_RebindWidget::dpiWarning [inherited]

Definition at line 74 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.19 QComboBox* Ui_RebindWidget::fnBox [inherited]

Definition at line 44 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_fnBox_currentIndexChanged(), RebindWidget::on_fnButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.20 QRadioButton* Ui_RebindWidget::fnButton [inherited]

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_fnBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.21 QGridLayout* Ui_RebindWidget::gridLayout [inherited]

Definition at line 61 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10 [inherited]

Definition at line 144 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.23 QGridLayout* Ui_RebindWidget::gridLayout_2 [inherited]

Definition at line 41 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.24 QGridLayout* Ui_RebindWidget::gridLayout_3 [inherited]

Definition at line 93 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4 [inherited]

Definition at line 111 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5 [inherited]

Definition at line 82 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8 [inherited]

Definition at line 134 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.28 QGroupBox* Ui_RebindWidget::groupBox_2 [inherited]

Definition at line 135 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.29 QGroupBox* Ui_RebindWidget::groupBox_3 [inherited]

Definition at line 141 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.30 QGroupBox* Ui_RebindWidget::groupBox_4 [inherited]

Definition at line 142 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.31 QHBoxLayout* Ui_RebindWidget::horizontalLayout [inherited]

Definition at line 156 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2 [inherited]

Definition at line 122 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3 [inherited]

Definition at line 127 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.34 QSpacerItem* Ui_RebindWidget::horizontalSpacer [inherited]

Definition at line 113 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10 [inherited]

Definition at line 107 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11 [inherited]

Definition at line 116 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12 [inherited]

Definition at line 120 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13 [inherited]

Definition at line 117 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14 [inherited]

Definition at line 157 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15 [inherited]

Definition at line 125 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16 [inherited]

Definition at line 130 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17 [inherited]

Definition at line 59 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18 [inherited]

Definition at line 65 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19 [inherited]

Definition at line 79 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_2 [inherited]

Definition at line 47 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20 [inherited]

Definition at line 66 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21 [inherited]

Definition at line 80 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22 [inherited]

Definition at line 76 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23 [inherited]

Definition at line 91 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24 [inherited]

Definition at line 85 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25 [inherited]

Definition at line 86 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26 [inherited]

Definition at line 89 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.53 QSpacerItem* Ui_RebindWidget::horizontalSpacer_3 [inherited]

Definition at line 50 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.54 QSpacerItem* Ui_RebindWidget::horizontalSpacer_4 [inherited]

Definition at line 54 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5 [inherited]

Definition at line 94 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_6 [inherited]

Definition at line 109 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.57 QSpacerItem* Ui_RebindWidget::horizontalSpacer_7 [inherited]

Definition at line 108 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.58 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8 [inherited]

Definition at line 106 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.59 QSpacerItem* Ui_RebindWidget::horizontalSpacer_9 [inherited]

Definition at line 53 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.60 QWidget* Ui_RebindWidget::keyTab [inherited]

Definition at line 40 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.61 QLabel* Ui_RebindWidget::label [inherited]

Definition at line 148 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.62 QWidget* Ui_RebindWidget::layoutWidget [inherited]

Definition at line 139 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.63 QWidget* Ui_RebindWidget::layoutWidget1 [inherited]

Definition at line 133 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.64 QWidget* Ui_RebindWidget::layoutWidget2 [inherited]

Definition at line 150 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.65 QWidget* Ui_RebindWidget::layoutWidget_2 [inherited]

Definition at line 143 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.66 QLabel* Ui_RebindWidget::lbl_macro [inherited]

Definition at line 149 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.67 QComboBox* Ui_RebindWidget::lightBox [inherited]

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::on_lightButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.68 QRadioButton* Ui_RebindWidget::lightButton [inherited]

Definition at line 104 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.69 QCheckBox* Ui_RebindWidget::lightWrapBox [inherited]

Definition at line 97 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.70 QComboBox* Ui_RebindWidget::lockBox [inherited]

Definition at line 103 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lockBox_currentIndexChanged(), RebindWidget::on_lockButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.71 QRadioButton* Ui_RebindWidget::lockButton [inherited]

Definition at line 100 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.72 QWidget* Ui_RebindWidget::macroTab [inherited]

Definition at line 132 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.73 QComboBox* Ui_RebindWidget::mb2Box [inherited]

Definition at line 67 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mb2Box_currentIndexChanged(), RebindWidget::on_mb2Button_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.74 QRadioButton* Ui_RebindWidget::mb2Button [inherited]

Definition at line 77 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.75 QComboBox* Ui_RebindWidget::mbBox [inherited]

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), Rebind-Widget::on_mbButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::set-Selection(), and Ui_RebindWidget::setupUi().

12.80.3.76 QRadioButton* Ui_RebindWidget::mbButton [inherited]

Definition at line 72 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.77 QComboBox* Ui_RebindWidget::mediaBox [inherited]

Definition at line 57 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mediaBox_currentIndexChanged(), Rebind-Widget::on_mediaButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), Rebind-Widget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.78 QRadioButton* Ui_RebindWidget::mediaButton [inherited]

Definition at line 51 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mediaBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.79 QComboBox* Ui_RebindWidget::modBox [inherited]

Definition at line 49 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modBox_currentIndexChanged(), Rebind-Widget::on_modButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), Rebind-Widget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.80 QRadioButton* Ui_RebindWidget::modButton [inherited]

Definition at line 55 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.81 QComboBox* Ui_RebindWidget::modeBox [inherited]

Definition at line 105 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::on_modeButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.82 QRadioButton* Ui_RebindWidget::modeButton [inherited]

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.83 QCheckBox* Ui_RebindWidget::modeWrapBox [inherited]

Definition at line 96 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.84 QWidget* Ui_RebindWidget::mouseTab [inherited]

Definition at line 60 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.85 QComboBox* Ui_RebindWidget::numBox [inherited]

Definition at line 42 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_numBox_currentIndexChanged(), RebindWidget::on_numButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.86 QRadioButton* Ui_RebindWidget::numButton [inherited]

Definition at line 58 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.87 QLineEdit* Ui_RebindWidget::programKpBox [inherited]

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpBox_textChanged(), RebindWidget::on_programKpButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.88 QCheckBox* Ui_RebindWidget::programKpButton [inherited]

Definition at line 114 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.80.3.89 QWidget* Ui_RebindWidget::programKpExtra [inherited]

Definition at line 121 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.80.3.90 QComboBox* Ui_RebindWidget::programKpModeBox [inherited]

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.91 QCheckBox* Ui_RebindWidget::programKpSIBox [inherited]

Definition at line 123 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.92 QLineEdit* Ui_RebindWidget::programKrBox [inherited]

Definition at line 118 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrBox_textChanged(), RebindWidget::on_programKrButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.93 QCheckBox* Ui_RebindWidget::programKrButton [inherited]

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.80.3.94 QWidget* Ui_RebindWidget::programKrExtra [inherited]

Definition at line 126 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.80.3.95 QComboBox* Ui_RebindWidget::programKrModeBox [inherited]

Definition at line 129 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.96 QCheckBox* Ui_RebindWidget::programKrSIBox [inherited]

Definition at line 128 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.97 QWidget* Ui_RebindWidget::programTab [inherited]

Definition at line 110 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.98 QLabel* Ui_RebindWidget::progTipLabel [inherited]

Definition at line 131 of file ui_rebindwidget.h.

Referenced by RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.99 QPlainTextEdit* Ui_RebindWidget::pteMacroBox [inherited]

Definition at line 136 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_pteMacroBox_textChanged(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.100 QPlainTextEdit* Ui_RebindWidget::pteMacroComment [inherited]

Definition at line 137 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.101 QPlainTextEdit* Ui_RebindWidget::pteMacroText [inherited]

Definition at line 138 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.102 QRadioButton* Ui_RebindWidget::rb_delay_asTyped [inherited]

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.103 QRadioButton* Ui_RebindWidget::rb_delay_default [inherited]

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.104 QRadioButton* Ui_RebindWidget::rb_delay_no [inherited]

Definition at line 152 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.105 QPushButton* Ui_RebindWidget::resetButton [inherited]

Definition at line 159 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.106 QTabWidget* Ui_RebindWidget::tabWidget [inherited]

Definition at line 39 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.107 QLabel* Ui_RebindWidget::txtBuffer [inherited]

Definition at line 155 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.108 QComboBox* Ui_RebindWidget::typingBox [inherited]

Definition at line 43 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_typingBox_currentIndexChanged(), RebindWidget::on_typingButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.109 QRadioButton* Ui_RebindWidget::typingButton [inherited]

Definition at line 48 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_typingBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.110 QPushButton* Ui_RebindWidget::unbindButton [inherited]

Definition at line 158 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.111 QVBoxLayout* Ui_RebindWidget::verticalLayout [inherited]

Definition at line 38 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.112 QVBoxLayout* Ui_RebindWidget::verticalLayout_2 [inherited]

Definition at line 140 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer [inherited]

Definition at line 112 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_10 [inherited]

Definition at line 45 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_11 [inherited]

Definition at line 83 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_2 [inherited]

Definition at line 63 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_3 [inherited]

Definition at line 46 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.118 QSpacerItem* Ui_RebindWidget::verticalSpacer_4 [inherited]

Definition at line 52 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.119 QSpacerItem* Ui_RebindWidget::verticalSpacer_5 [inherited]

Definition at line 101 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.120 QSpacerItem* Ui_RebindWidget::verticalSpacer_6 [inherited]

Definition at line 99 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.121 QSpacerItem* Ui_RebindWidget::verticalSpacer_7 [inherited]

Definition at line 98 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.122 QSpacerItem* Ui_RebindWidget::verticalSpacer_8 [inherited]

Definition at line 64 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.123 QComboBox* Ui_RebindWidget::wheelBox [inherited]

Definition at line 71 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_wheelBox_currentIndexChanged(), RebindWidget::on_wheelButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.124 QRadioButton* Ui_RebindWidget::wheelButton [inherited]

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_wheelBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_rebindwidget.h

12.81 RebindWidget Class Reference

```
#include <src/ckb/rebindwidget.h>
```

Inheritance diagram for RebindWidget:

Collaboration diagram for RebindWidget:

Public Member Functions

- RebindWidget (QWidget *parent)
- ~RebindWidget ()
- void setBind (KbBind *newBind, KbProfile *newProfile)
- void setSelection (const QStringList &newSelection, bool applyPrevious=false)

Private Slots

- void applyChanges (const QStringList &keys, bool doUnbind)
- void on_applyButton_clicked ()
- void on_cancelButton_clicked ()
- void on_resetButton_clicked ()
- void on_unbindButton_clicked ()
- void on_typingBox_currentIndexChanged (int index)
- void on_modBox_currentIndexChanged (int index)
- void on_fnBox_currentIndexChanged (int index)
- void on_numBox_currentIndexChanged (int index)
- void on_mediaBox_currentIndexChanged (int index)
- void on_mbBox_currentIndexChanged (int index)
- void on_mb2Box_currentIndexChanged (int index)
- void on_wheelBox_currentIndexChanged (int index)
- void on_dpiBox_currentIndexChanged (int index)
- void on_modeBox_currentIndexChanged (int index)
- void on_lightBox_currentIndexChanged (int index)
- void on_lockBox_currentIndexChanged (int index)
- void on_programKpBox_textChanged (const QString &arg1)
- void on_programKrBox_textChanged (const QString &arg1)
- void on_animBox_currentIndexChanged (int index)
- void on_typingButton_clicked (bool checked)
- void on_modButton_clicked (bool checked)
- void on_fnButton_clicked (bool checked)
- void on_numButton_clicked (bool checked)

- void on_mediaButton_clicked (bool checked)
- void on_mbButton_clicked (bool checked)
- void on_mb2Button_clicked (bool checked)
- void on_wheelButton_clicked (bool checked)
- void on_dpiButton_clicked (bool checked)
- void on_modeButton_clicked (bool checked)
- void on_lightButton_clicked (bool checked)
- void on_lockButton_clicked (bool checked)
- void on_programKpButton_clicked (bool checked)
- void on_programKrButton_clicked (bool checked)
- void on_programKpSIBox_clicked (bool checked)
- void on_programKrSIBox_clicked (bool checked)
- void on_animButton_clicked (bool checked)
- void on_pteMacroBox_textChanged ()
- void on_btnStartMacro_clicked ()

  RebindWidget::on_btnStartMacro_clicked starts macro recording. A new notification channel and MacroReader are created to do the job.
- void on_btnStopMacro_clicked ()

  RebindWidget::on_btnStopMacro_clicked ends the macro recording. Notify channel ist closed, the ReaderThread is deleted when the notification is really down.
- void on_btnClearMacro_clicked ()

  RebindWidget::on_btnClearMacro_clicked changes the help info an the panel. The job of clearing the input panels is triggerd with signal/slot via the RebindWidget.ui file.
- void on_rb_delay_no_toggled (bool checked)

  RebindWidget::on_rb_delay_no_toggled.
- void on_rb_delay_asTyped_toggled (bool checked)

  RebindWidget::on_rb_delay_asTyped_toggled.
- void on_rb_delay_default_toggled (bool checked)

  RebindWidget::on_rb_delay_default_toggled.

Private Member Functions

- void setBox (QWidget *box)
- void convertMacroBox ()

  RebindWidget::convertMacroBox converts the macroBox content. The KB sends each keypress as "key [+|-]<keyname><newline>" This is followed by timing information (delays between keystrokes).
- void helpStatus (int status)

  RebindWidget::helpStatus shows a help line in the ui.
- void setCorrectRadioButton (QString macdef)

  RebindWidget::setCorrectRadioButton.

Private Attributes

- Ui::RebindWidget * ui
- KbBind * bind
- KbProfile * profile
- QStringList selection
- QStringList typingKeys
- QStringList modKeys
- QStringList fnKeys
- QStringList numKeys
- QStringList mediaKeys
- QStringList mouseKeys

- QStringList mouseExtKeys
- QStringList wheelKeys
- MacroReader * macReader

  macReader holds the MacroReader when macro recording starts.

Static Private Attributes

- static const int TAB_KB = 0
- static const int TAB_MOUSE = 1
- static const int TAB_ANIM = 2
- static const int TAB_SPECIAL = 3
- static const int TAB_PROGRAM = 4
- static const int TAB_MACRO = 5

12.81.1 Detailed Description

Definition at line 15 of file rebindwidget.h.

12.81.2 Constructor & Destructor Documentation

12.81.2.1 RebindWidget::RebindWidget (QWidget * *parent*) [explicit]

Definition at line 9 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, fnKeys, KeyMap::friendlyName(), Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, Ui_RebindWidget::numBox, numKeys, Ui_RebindWidget::programKpExtra, Ui_RebindWidget::programKrExtra, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::setupUi(), ui, and wheelKeys.

```
9                                                   :
10      QWidget(parent),
11      ui(new Ui::RebindWidget),
12      bind(0), profile(0), macReader(0)
13  {
14      ui->setupUi(this);
15      ui->lightWrapBox->hide();
16      ui->modeWrapBox->hide();
17      ui->programKpExtra->hide();
18      ui->programKrExtra->hide();
19
20      // Populate key lists
21      modKeys << "caps" << "lshift" << "rshift" << "lctrl" << "rctrl" << "lwin" << "rwin" << "lalt" <<
        "ralt" << "rmenu" << "fn";
22      fnKeys << "esc" << "f1" << "f2" << "f3" << "f4" << "f5" << "f6" << "f7" << "f8" << "f9" << "f10"
       << "f11" << "f12" << "prtscn" << "scroll" << "pause" << "f13" << "f14" << "f15" << "f16" << "f17" << "f18" <
       < "f19" << "f20" << "ins" << "del" << "home" << "end" << "pgup" << "pgdn" << "power" << "lightup" << "
       lightdn" << "up" << "down" << "left" << "right";
23      numKeys << "numlock" << "num0" << "num1" << "num2" << "num3" << "num4" << "num5" << "num6" << "
       num7" << "num8" << "num9" << "numslash" << "numstar" << "numminus" << "numplus" << "numdot" << "numenter";
24      mediaKeys << "stop" << "prev" << "play" << "next" << "volup" << "voldn" << "mute" << "eject";
25      mouseKeys << "mouse1" << "mouse2" << "mouse3";
26      mouseExtKeys << "mouse4" << "mouse5" << "mouse6" << "mouse7" << "mouse8";
27      wheelKeys << "wheelup" << "wheeldn";
28      // Populate boxes
29      foreach(const QString& key, modKeys)
30          ui->modBox->addItem(KeyMap::friendlyName(key));
31      foreach(const QString& key, fnKeys)
32          ui->fnBox->addItem(KeyMap::friendlyName(key).replace("\n", " / "));
33      foreach(const QString& key, numKeys)
34          ui->numBox->addItem(KeyMap::friendlyName(key).remove("NumPad "));
35      foreach(const QString& key, mediaKeys)
36          ui->mediaBox->addItem(KeyMap::friendlyName(key));
37  #ifdef Q_OS_MACX
38      // Replace some OSX keys with their actual meanings
39      ui->modBox->setItemText(modKeys.indexOf("lwin") + 1, "Left Cmd");
40      ui->modBox->setItemText(modKeys.indexOf("rwin") + 1, "Right Cmd");
41      ui->modBox->setItemText(modKeys.indexOf("lalt") + 1, "Left Option");
42      ui->modBox->setItemText(modKeys.indexOf("ralt") + 1, "Right Option");
```

```
    ui->fnBox->setItemText(fnKeys.indexOf("prtscn") + 1, "F13");
    ui->fnBox->setItemText(fnKeys.indexOf("scroll") + 1, "F14");
    ui->fnBox->setItemText(fnKeys.indexOf("pause") + 1, "F15");
    ui->fnBox->setItemText(fnKeys.indexOf("f13") + 1, "F13 (Windows/Linux)");
    ui->fnBox->setItemText(fnKeys.indexOf("f14") + 1, "F14 (Windows/Linux)");
    ui->fnBox->setItemText(fnKeys.indexOf("f15") + 1, "F15 (Windows/Linux)");
    ui->fnBox->setItemText(fnKeys.indexOf("ins") + 1, "Help");
    ui->numBox->setItemText(numKeys.indexOf("numlock") + 1, "Clear");

    // Add tip label
    ui->progTipLabel->setText("<p style=\"line-height:150%\">Tip: use the <font face=\"
    monospace\">open</font> command to launch a file, directory, or app. For instance, to start Safari:<br /><font
     face=\"monospace\">  open /Applications/Safari.app</font></p>");
#else
    ui->progTipLabel->setText("<p style=\"line-height:150%\">Tip: use <font face=\"monospace
    \">xdg-open</font> to launch a file or directory. For instance, to open your home folder:<br /><font face=\"
    monospace\">  xdg-open " + QStandardPaths::writableLocation(QStandardPaths::HomeLocation) + "
    </font></p>");
#endif
}
```

Here is the call graph for this function:

12.81.2.2 RebindWidget::~RebindWidget ( )

Definition at line 59 of file rebindwidget.cpp.

References ui.

```
                                {
    delete ui;
}
```

12.81.3 Member Function Documentation

12.81.3.1 void RebindWidget::applyChanges (const QStringList & *keys*, bool *doUnbind*) [private],[slot]

G-key macro handling: Set the macro definiton for all keys selected (indeed, it may be multiple keys). First, concat the Macro Key Definion and the Macro plain text after escaping possible colos in the parts for Macro Text and Macro Comment.

But first, there is a special condition to handle: You have recorded a macro with timing infos. Afterwards you changed manually the timing infos in the pteMacroBox and press Apply. In that case we must overwrite the txtBuffer to remember your changes.

Todo There is still a bug in the state machine: If you record a macro in asTyped-mode, switch to another mode and change the vontent of the pteMacroBox manually, then the changes are not saved in the timing buffer. But anyhow, let's do more relevant things...

Definition at line 334 of file rebindwidget.cpp.

References anim, KeyAction::animAction(), Ui_RebindWidget::animBox, Ui_RebindWidget::animKrBox, KbLight::animList(), Ui_RebindWidget::animOnceBox, bind, DPI_OFFSET, KeyAction::dpiAction(), Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::fnBox, fnKeys, KbAnim::guid(), KbBind::light(), KeyAction::lightAction(), Ui_RebindWidget::lightBox, Ui_RebindWidget::lightWrapBox, KeyAction::lockAction(), Ui_RebindWidget::lockBox, KeyAction::macroAction(), Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, KeyAction::modeAction(), Ui_RebindWidget::modeBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, KbBind::noAction(), Ui_RebindWidget::numBox, numKeys, KeyAction::PROGRAM_PR_MULTI, KeyAction::PROGRAM_RE_INDEF, KeyAction::PROGRAM_RE_KPSTOP, KeyAction::PROGRAM_RE_MULTI, KeyAction::programAction(), Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, KbBind::setAction(), Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, typingKeys, ui, Ui_RebindWidget::wheelBox, and wheelKeys.

Referenced by on_applyButton_clicked(), and setSelection().

```
334                                                                 {
335     if(ui->typingBox->currentIndex() > 0)
336         bind->setAction(keys, typingKeys[ui->typingBox->currentIndex() -
    1]);
337     else if(ui->modBox->currentIndex() > 0)
338         bind->setAction(keys, modKeys[ui->modBox->currentIndex() - 1]);
339     else if(ui->fnBox->currentIndex() > 0)
340         bind->setAction(keys, fnKeys[ui->fnBox->currentIndex() - 1]);
341     else if(ui->numBox->currentIndex() > 0)
342         bind->setAction(keys, numKeys[ui->numBox->currentIndex() - 1]);
343     else if(ui->mediaBox->currentIndex() > 0)
344         bind->setAction(keys, mediaKeys[ui->mediaBox->currentIndex() - 1]);
345     else if(ui->mbBox->currentIndex() > 0)
346         bind->setAction(keys, mouseKeys[ui->mbBox->currentIndex() - 1]);
347     else if(ui->mb2Box->currentIndex() > 0)
348         bind->setAction(keys, mouseExtKeys[ui->mb2Box->currentIndex() - 1]
    );
349     else if(ui->wheelBox->currentIndex() > 0)
350         bind->setAction(keys, wheelKeys[ui->wheelBox->currentIndex() - 1]);
351     else if(ui->dpiBox->currentIndex() > 0)
352         bind->setAction(keys, KeyAction::dpiAction(
    ui->dpiBox->currentIndex() - DPI_OFFSET, ui->dpiCustXBox->value(),
    ui->dpiCustYBox->value()));
353     else if(ui->modeBox->currentIndex() > 0)
354         bind->setAction(keys, KeyAction::modeAction(
    ui->modeBox->currentIndex() - 3 - (ui->modeWrapBox->isChecked() &&
    ui->modeBox->currentIndex() < 3 ? 2 : 0)));
355     else if(ui->lightBox->currentIndex() > 0)
356         bind->setAction(keys, KeyAction::lightAction(
    ui->lightBox->currentIndex() - 1 + (ui->lightWrapBox->isChecked() ? 2 : 0)));
357     else if(ui->lockBox->currentIndex() > 0)
358         bind->setAction(keys, KeyAction::lockAction(
    ui->lockBox->currentIndex() - 1));
359     else if(ui->animBox->currentIndex() > 0){
360         KbAnim* anim = bind->light()->animList().at(
    ui->animBox->currentIndex() - 1);
361         bind->setAction(keys, KeyAction::animAction(anim->
    guid(), !ui->animOnceBox->isChecked(), ui->animKrBox->isChecked()));
362     } else if(!ui->programKpBox->text().isEmpty() || !ui->
    programKrBox->text().isEmpty()){
363         int kpStop = 0, krStop = 0;
364         if(!ui->programKpBox->text().isEmpty()){
365             if(!ui->programKpSIBox->isChecked())
366                 kpStop = KeyAction::PROGRAM_PR_MULTI;
367             else
368                 kpStop = ui->programKpModeBox->currentIndex();
369         }
370         if(!ui->programKrBox->text().isEmpty()){
371             if(!ui->programKrSIBox->isChecked())
372                 krStop = KeyAction::PROGRAM_RE_MULTI;
373             else if(ui->programKrModeBox->currentIndex() == 0)
374                 krStop = KeyAction::PROGRAM_RE_INDEF;
375             else
376                 krStop = KeyAction::PROGRAM_RE_KPSTOP;
377         }
378         bind->setAction(keys, KeyAction::programAction(
    ui->programKpBox->text(), ui->programKrBox->text(), kpStop | krStop));
379     } else if (ui->pteMacroBox->toPlainText().length() > 0) {
384
389         if (ui->rb_delay_asTyped->isChecked()) ui->txtBuffer->setText(
    ui->pteMacroBox->toPlainText());
390
396         QString mac;
```

```
        mac = ui->txtBuffer->text();
        mac = ui->pteMacroComment->toPlainText().replace(":", "&das_IST_31N_col0n;") + ":"
    + mac;
        mac = ui->pteMacroText->toPlainText().replace(":", "&das_IST_31N_col0n;") + ":" + mac
    ;
        mac = ui->pteMacroBox->toPlainText() + ":" + mac;
        bind->setAction(keys, KeyAction::macroAction(mac));
    } else if(doUnbind)
        bind->noAction(keys);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.3.2 void RebindWidget::convertMacroBox ( ) [private]

The ckb-daemon needs a shorter format, only " [+|-]<keyname>=<delay>", multiple entries are separated by comma.

That function does the conversion.

Definition at line 808 of file rebindwidget.cpp.

References Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::txtBuffer, and ui.

Referenced by on_btnStopMacro_clicked(), on_rb_delay_asTyped_toggled(), on_rb_delay_default_toggled(), and on_rb_delay_no_toggled().

```
808                                 {
809     QString in;
810
```

```
    // Remember the original input stream before it is converted.
    // In case of new choice of delay mode we have to restore it.
    if (ui->txtBuffer->text() == "") {
        ui->txtBuffer->setText(ui->pteMacroBox->toPlainText());
        in = ui->pteMacroBox->toPlainText();
    } else in = ui->txtBuffer->text();

    in.replace (QRegExp("\n"), ",");    // first join all in one line
    in.replace (QRegExp("key "), "");   // then delete keyword "key" followed by space
    in.replace (QRegExp(",="), "=");    // at last join each keystroke with its delay parameter

    // How to deal with the delay params?
    // Because the three radio buttons are mututally exclusive,
    // we can run through the if-chain w/o conflicts.
    // If rb_delay_asTyped is checked, do nothing, because that's the standard.

    if (ui->rb_delay_default->isChecked()) {
        in.replace(QRegExp("=\\d+,"), ",");  // Delete the timing infos, use default value
        in.replace(QRegExp("=\\d+$"), "");   // The last entry is without comma
    }
    if (ui->rb_delay_no->isChecked()) {
        in.replace(QRegExp("=\\d+,"), "=0,");  // Set timing infos to zero for no delay
        in.replace(QRegExp("=\\d+$"), "=0");   // Again the last entry w/o comma
        in.replace(QRegExp("([\\+\\-]\\w+),"), "\\1=0,");  // If no delay is given, force it to zero
        in.replace(QRegExp("([\\+\\-]\\w+)$"), "\\1=0");
    }

    // Show the new format by replacing the older one.
    ui->pteMacroBox->setPlainText(in);
}
```

Here is the caller graph for this function:

12.81.3.3 void RebindWidget::helpStatus (int *status*) [private]

Parameters

status	determines what to display.

Definition at line 782 of file rebindwidget.cpp.

References Ui_RebindWidget::lbl_macro, and ui.

Referenced by on_btnClearMacro_clicked(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), and setBox().

```
782                                     {
783     switch (status) {
784     case 1:
785         ui->lbl_macro->setText("Type in a macro name in the comment box and click start.");
786         break;
787     case 2:
788         ui->lbl_macro->setText("Type your macro and click stop when finished.");
789         break;
790     case 3:
791         ui->lbl_macro->setText("Click Apply or change values in Macro Key Actions in advance.");
792         break;
```

```
    default:
        ui->lbl_macro->setText(QString("Oops: Some magic in RebindWidget::helpStatus (%1)").arg(status));
    }
}
```

Here is the caller graph for this function:

12.81.3.4 void RebindWidget::on_animBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 613 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, setBox(), and ui.

```
613                                                     {
614     if(index == 0)
615         ui->animButton->setChecked(false);
616     else {
617         ui->animButton->setChecked(true);
618         setBox(ui->animBox);
619     }
620 }
```

Here is the call graph for this function:

12.81.3.5 void RebindWidget::on_animButton_clicked (bool *checked*) [private],[slot]

Definition at line 710 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, and ui.

```
710                                                 {
711     if(checked && ui->animBox->currentIndex() == 0)
712         ui->animBox->setCurrentIndex(1);
713 }
```

12.81.3.6 void RebindWidget::on_applyButton_clicked ( ) [private],[slot]

Definition at line 406 of file rebindwidget.cpp.

References applyChanges(), on_btnStopMacro_clicked(), and selection.

```
406                                         {
407     // Normally, this should be done via signalling.
408     // Because there is no serarate thread, we have to call it directly
409     // (otherwise we could do Key char conversion step by step,
410     // but so it is more easy to change the key definition):
411     on_btnStopMacro_clicked();
412     applyChanges(selection, true);
413 }
```

Here is the call graph for this function:

12.81.3.7 void RebindWidget::on_btnClearMacro_clicked ( ) [private],[slot]

Todo I do not know what is the better solution with the delay-buttons in case of clicking clear: Reset the button to the default value or do not touch it? Not clear is ignored.

Definition at line 774 of file rebindwidget.cpp.

References helpStatus().

```
774                                         {
775     helpStatus(1);
776 }
```

Here is the call graph for this function:

12.81.3.8 void RebindWidget::on_btnStartMacro_clicked ( ) [private],[slot]

The UI is protected against false clicking (e.g. if you type start and than Apply, the channel is closed in wrong order).

At this time, all neccessary params like macroNumber, macroPath, cmdFile etc. had been cached.

Definition at line 724 of file rebindwidget.cpp.

References Ui_RebindWidget::applyButton, bind, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, KbBind::getMacroNumber(), KbBind::getMacroPath(), KbBind::handleNotificationChannel(), helpStatus(), macReader, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, ui, and Ui_RebindWidget::unbindButton.

```
724                                                 {
725     if (!macReader) {
726         bind->handleNotificationChannel(true);
727         macReader = new MacroReader(bind->getMacroNumber(),
      bind->getMacroPath(), ui->pteMacroBox, ui->
      pteMacroText);
728         // because of the second thread we need to disable three of the four bottom buttons.
729         // Clicking "Stop" will enable them again.
730         ui->applyButton->setEnabled(false);
731         ui->resetButton->setEnabled(false);
732         ui->unbindButton->setEnabled(false);
733         ui->btnStartMacro->setEnabled(false);
734         ui->btnStopMacro->setEnabled(true);
735         ui->rb_delay_asTyped->setEnabled(false);
736         ui->rb_delay_no->setEnabled(false);
737         ui->rb_delay_default->setEnabled(false);
738         helpStatus(2);
739     }
740 }
```

Here is the call graph for this function:

12.81.3.9 void RebindWidget::on_btnStopMacro_clicked ( ) [private],[slot]

Afterwards, the characters in the MacroBox are changed from KB-out format to cmd-in format. At last the UI changes to the new state.

Definition at line 749 of file rebindwidget.cpp.

References Ui_RebindWidget::applyButton, bind, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, convertMacroBox(), KbBind::handleNotificationChannel(), helpStatus(), macReader, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, ui, and Ui_RebindWidget::unbindButton.

Referenced by on_applyButton_clicked().

```
749                                         {
750     if (macReader) {
751         bind->handleNotificationChannel(false);
752         delete macReader;
753         macReader = 0;
754         convertMacroBox();
755         ui->applyButton->setEnabled(true);
756         ui->resetButton->setEnabled(true);
757         ui->unbindButton->setEnabled(true);
758         ui->btnStartMacro->setEnabled(true);
759         ui->btnStopMacro->setEnabled(false);
760         ui->rb_delay_asTyped->setEnabled(true);
761         ui->rb_delay_no->setEnabled(true);
762         ui->rb_delay_default->setEnabled(true);
763         helpStatus(3);
764     }
765 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.3.10 void RebindWidget::on_cancelButton_clicked ( ) [private],[slot]

Definition at line 415 of file rebindwidget.cpp.

References selection, and setSelection().

```
415                                         {
416     // Re-load selection
417     setSelection(selection);
418 }
```

Here is the call graph for this function:

12.81.3.11 void RebindWidget::on_dpiBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 539 of file rebindwidget.cpp.

References DPI_CUST_IDX, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, setBox(), and ui.

```
539                                                     {
540     if(index != DPI_CUST_IDX){
541         // Clear custom DPI
542         ui->dpiCustXBox->setEnabled(false);
543         ui->dpiCustYBox->setEnabled(false);
544         ui->dpiCustLabel->setEnabled(false);
545     } else {
546         ui->dpiCustXBox->setEnabled(true);
547         ui->dpiCustYBox->setEnabled(true);
548         ui->dpiCustLabel->setEnabled(true);
549     }
550     if(index == 0)
551         ui->dpiButton->setChecked(false);
552     else {
553         ui->dpiButton->setChecked(true);
554         setBox(ui->dpiBox);
555     }
556 }
```

Here is the call graph for this function:

12.81.3.12 void RebindWidget::on_dpiButton_clicked (bool *checked*) [private],[slot]

Definition at line 695 of file rebindwidget.cpp.

References Ui_RebindWidget::dpiBox, and ui.

```
695                                                 {
696     if(checked && ui->dpiBox->currentIndex() == 0)
697         ui->dpiBox->setCurrentIndex(1);
698 }
```

12.81.3.13 void RebindWidget::on_fnBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 485 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, setBox(), and ui.

```
485                                                         {
486     if(index == 0)
487         ui->fnButton->setChecked(false);
488     else {
489         ui->fnButton->setChecked(true);
490         setBox(ui->fnBox);
491     }
492 }
```

Here is the call graph for this function:

12.81.3.14 void RebindWidget::on_fnButton_clicked (bool *checked*) [private],[slot]

Definition at line 632 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, and ui.

```
632                                                 {
633     if(checked && ui->fnBox->currentIndex() == 0)
634         ui->fnBox->setCurrentIndex(1);
635 }
```

12.81.3.15 void RebindWidget::on_lightBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 571 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton, Ui_RebindWidget::lightWrapBox, setBox(), and ui.

```
571                                                         {
572     if(index == 0){
573         ui->lightButton->setChecked(false);
574         ui->lightWrapBox->hide();
575     } else {
576         ui->lightWrapBox->show();
577         ui->lightButton->setChecked(true);
578         setBox(ui->lightBox);
579     }
580 }
```

Here is the call graph for this function:

12.81.3.16 void RebindWidget::on_lightButton_clicked (bool *checked*) [private],[slot]

Definition at line 652 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, and ui.

```
652                                                 {
653     if(checked && ui->lightBox->currentIndex() == 0)
654         ui->lightBox->setCurrentIndex(1);
655 }
```

12.81.3.17 void RebindWidget::on_lockBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 582 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, setBox(), and ui.

```
582                                                         {
583     if(index == 0)
584         ui->lockButton->setChecked(false);
585     else {
586         ui->lockButton->setChecked(true);
587         setBox(ui->lockBox);
588     }
589 }
```

Here is the call graph for this function:

12.81.3.18 void RebindWidget::on_lockButton_clicked (bool *checked*) [private],[slot]

Definition at line 657 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, and ui.

```
657                                                 {
658     if(checked && ui->lockBox->currentIndex() == 0)
659         ui->lockBox->setCurrentIndex(1);
660 }
```

12.81.3.19 void RebindWidget::on_mb2Box_currentIndexChanged (int *index*) [private],[slot]

Definition at line 521 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, setBox(), and ui.

```
521                                                         {
522     if(index == 0)
523         ui->mb2Button->setChecked(false);
524     else {
525         ui->mb2Button->setChecked(true);
526         setBox(ui->mb2Box);
527     }
528 }
```

Here is the call graph for this function:

12.81.3.20 void RebindWidget::on_mb2Button_clicked (bool *checked*) [private],[slot]

Definition at line 685 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, and ui.

```
685                                                 {
686     if(checked && ui->mb2Box->currentIndex() == 0)
687         ui->mb2Box->setCurrentIndex(1);
688 }
```

12.81.3.21 void RebindWidget::on_mbBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 512 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, setBox(), and ui.

```
512                                                         {
513     if(index == 0)
514         ui->mbButton->setChecked(false);
515     else {
516         ui->mbButton->setChecked(true);
517         setBox(ui->mbBox);
518     }
519 }
```

Here is the call graph for this function:

12.81.3.22 void RebindWidget::on_mbButton_clicked (bool *checked*) [private],[slot]

Definition at line 680 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, and ui.

```
680                                                 {
681     if(checked && ui->mbBox->currentIndex() == 0)
682         ui->mbBox->setCurrentIndex(1);
683 }
```

12.81.3.23 void RebindWidget::on_mediaBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 503 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, setBox(), and ui.

```
503                                                             {
504     if(index == 0)
505         ui->mediaButton->setChecked(false);
506     else {
507         ui->mediaButton->setChecked(true);
508         setBox(ui->mediaBox);
509     }
510 }
```

Here is the call graph for this function:

12.81.3.24 void RebindWidget::on_mediaButton_clicked (bool *checked*) [private],[slot]

Definition at line 642 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, and ui.

```
642                                                 {
643     if(checked && ui->mediaBox->currentIndex() == 0)
644         ui->mediaBox->setCurrentIndex(1);
645 }
```

12.81.3.25 void RebindWidget::on_modBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 476 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, setBox(), and ui.

```
476                                                     {
477     if(index == 0)
478         ui->modButton->setChecked(false);
479     else {
480         ui->modButton->setChecked(true);
481         setBox(ui->modBox);
482     }
483 }
```

Here is the call graph for this function:

12.81.3.26 void RebindWidget::on_modButton_clicked (bool *checked*) [private],[slot]

Definition at line 627 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, and ui.

```
627                                                 {
628     if(checked && ui->modBox->currentIndex() == 0)
629         ui->modBox->setCurrentIndex(1);
630 }
```

12.81.3.27 void RebindWidget::on_modeBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 558 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, setBox(), and ui.

```
558                                                     {
559     if(index == 1 || index == 2)
560         ui->modeWrapBox->show();
561     else
562         ui->modeWrapBox->hide();
563     if(index == 0)
564         ui->modeButton->setChecked(false);
565     else {
566         ui->modeButton->setChecked(true);
567         setBox(ui->modeBox);
568     }
569 }
```

Here is the call graph for this function:

12.81.3.28 void RebindWidget::on_modeButton_clicked (bool *checked*) [private],[slot]

Definition at line 647 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, and ui.

```
647                                                 {
648     if(checked && ui->modeBox->currentIndex() == 0)
649         ui->modeBox->setCurrentIndex(1);
650 }
```

12.81.3.29 void RebindWidget::on_numBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 494 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, setBox(), and ui.

```
494                                                         {
495     if(index == 0)
496         ui->numButton->setChecked(false);
497     else {
498         ui->numButton->setChecked(true);
499         setBox(ui->numBox);
500     }
501 }
```

Here is the call graph for this function:

12.81.3.30 void RebindWidget::on_numButton_clicked (bool *checked*) [private],[slot]

Definition at line 637 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, and ui.

```
637                                                 {
638     if(checked && ui->numBox->currentIndex() == 0)
639         ui->numBox->setCurrentIndex(1);
640 }
```

12.81.3.31 void RebindWidget::on_programKpBox_textChanged (const QString & *arg1*) [private],[slot]

Definition at line 591 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpExtra, setBox(), and ui.

```
591                                                             {
592     if(arg1.isEmpty()){
593         ui->programKpButton->setChecked(false);
594         ui->programKpExtra->hide();
595     } else {
596         ui->programKpButton->setChecked(true);
597         setBox(ui->programKpBox);
598         ui->programKpExtra->show();
599     }
600 }
```

Here is the call graph for this function:

12.81.3.32 void RebindWidget::on_programKpButton_clicked (bool *checked*) [private],[slot]

Definition at line 662 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, setBox(), and ui.

```
662                                                     {
663     if(!checked){
664         ui->programKpBox->setText("");
665     } else if(ui->programKpBox->text().isEmpty()){
666         ui->programKpBox->setFocus();
667         setBox(ui->programKpBox);
668     }
669 }
```

Here is the call graph for this function:

12.81.3.33 void RebindWidget::on_programKpSlBox_clicked (bool *checked*) [private],[slot]

Definition at line 700 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpModeBox, and ui.

```
700                                                     {
701     ui->programKpModeBox->setCurrentIndex(0);
702     ui->programKpModeBox->setEnabled(checked);
703 }
```

12.81.3.34 void RebindWidget::on_programKrBox_textChanged (const QString & *arg1*) [private],[slot]

Definition at line 602 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrExtra, setBox(), and ui.

```
602                                                         {
603     if(arg1.isEmpty()){
604         ui->programKrButton->setChecked(false);
605         ui->programKrExtra->hide();
606     } else {
607         ui->programKrButton->setChecked(true);
608         setBox(ui->programKrBox);
609         ui->programKrExtra->show();
610     }
611 }
```

Here is the call graph for this function:

12.81.3.35 void RebindWidget::on_programKrButton_clicked (bool *checked*) [private],[slot]

Definition at line 671 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, setBox(), and ui.

```
671                                                     {
672     if(!checked){
673         ui->programKrBox->setText("");
674     } else if(ui->programKrBox->text().isEmpty()){
675         ui->programKrBox->setFocus();
676         setBox(ui->programKrBox);
677     }
678 }
```

Here is the call graph for this function:

12.81.3.36 void RebindWidget::on_programKrSlBox_clicked (bool *checked*) [private],[slot]

Definition at line 705 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrModeBox, and ui.

```
705                                                     {
706     ui->programKrModeBox->setCurrentIndex(0);
707     ui->programKrModeBox->setEnabled(checked);
708 }
```

12.81.3.37 void RebindWidget::on_pteMacroBox_textChanged ( ) [private],[slot]

Definition at line 470 of file rebindwidget.cpp.

References Ui_RebindWidget::pteMacroBox, setBox(), and ui.

```
470                                             {
471     if (ui->pteMacroBox->toPlainText().length() > 0) {
472         setBox(ui->pteMacroBox);
473     }
474 }
```

Here is the call graph for this function:

12.81.3.38 void RebindWidget::on_rb_delay_asTyped_toggled (bool *checked*) [private],[slot]

Parameters

checked	This button ist clicked to use the delay times, as they are recorded. Returs a warning message, if we are not in the recording phase, because then we don't have the delay times any more.

Definition at line 862 of file rebindwidget.cpp.

References convertMacroBox().

```
863 {
864     convertMacroBox();
865 }
```

Here is the call graph for this function:

12.81.3.39 void RebindWidget::on_rb_delay_default_toggled (bool *checked*) [private],[slot]

Parameters

checked	This is as easy as the no-delay-button, because this means take the default values.

Definition at line 873 of file rebindwidget.cpp.

References convertMacroBox().

```
874 {
875     convertMacroBox();
876 }
```

Here is the call graph for this function:

12.81.3.40 void RebindWidget::on_rb_delay_no_toggled (bool *checked*) [private],[slot]

Parameters

checked	The following slots are triggerd by changing the mutual exclusive radio buttons when choosing the delay. They are called, if the button ist enabled. This first one should disable all delay.

Definition at line 850 of file rebindwidget.cpp.

References convertMacroBox().

```
851 {
852     convertMacroBox();
853 }
```

Here is the call graph for this function:

12.81.3.41 void RebindWidget::on_resetButton_clicked ( ) [private],[slot]

Definition at line 420 of file rebindwidget.cpp.

References bind, KbBind::resetAction(), and selection.

```
420                                         {
421     bind->resetAction(selection);
422 }
```

Here is the call graph for this function:

12.81.3.42 void RebindWidget::on_typingBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 461 of file rebindwidget.cpp.

References setBox(), Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, and ui.

```
461                                                         {
462     if(index == 0)
463         ui->typingButton->setChecked(false);
464     else {
465         ui->typingButton->setChecked(true);
466         setBox(ui->typingBox);
467     }
468 }
```

Here is the call graph for this function:

12.81.3.43 void RebindWidget::on_typingButton_clicked (bool *checked*) [private],[slot]

Definition at line 622 of file rebindwidget.cpp.

References Ui_RebindWidget::typingBox, and ui.

```
622                                                 {
623     if(checked && ui->typingBox->currentIndex() == 0)
624         ui->typingBox->setCurrentIndex(1);
625 }
```

12.81.3.44 void RebindWidget::on_unbindButton_clicked ( ) [private],[slot]

Definition at line 424 of file rebindwidget.cpp.

References bind, KbBind::noAction(), and selection.

```
424                                         {
425     bind->noAction(selection);
426 }
```

Here is the call graph for this function:

12.81.3.45 void RebindWidget::on_wheelBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 530 of file rebindwidget.cpp.

References setBox(), ui, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

```
530                                                     {
531     if(index == 0)
532         ui->wheelButton->setChecked(false);
533     else {
534         ui->wheelButton->setChecked(true);
535         setBox(ui->wheelBox);
536     }
537 }
```

Here is the call graph for this function:

12.81.3.46 void RebindWidget::on_wheelButton_clicked (bool *checked*) [private],[slot]

Definition at line 690 of file rebindwidget.cpp.

References ui, and Ui_RebindWidget::wheelBox.

```
690                                                 {
691     if(checked && ui->wheelBox->currentIndex() == 0)
692         ui->wheelBox->setCurrentIndex(1);
693 }
```

12.81.3.47 void RebindWidget::setBind (KbBind * *newBind*, KbProfile * *newProfile*)

Definition at line 63 of file rebindwidget.cpp.

References bind, KeyMap::byPosition(), KbBind::defaultAction(), KbPerf::dpi(), KbPerf::DPI_COUNT, DPI_OFFSET, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::dpiWarning, fnKeys, Key::friendlyName(), KeyMap::isISO(), KbBind::isMouse(), KeyMap::K95, KeyMap::layout(), KbBind::map(), mediaKeys, Ui_RebindWidget::modeBox, KbProfile::modes(), modKeys, KbMode::name(), numKeys, KbBind::perf(), profile, setSelection(), Ui_RebindWidget::typingBox, typingKeys, and ui.

Referenced by KbBindWidget::newLayout(), and KbBindWidget::setBind().

```
63                                                          {
64     bind = newBind;
65     profile = newProfile;
66     setSelection(QStringList());
67
68     // Populate typing keys by position
69     ui->typingBox->clear();
70     ui->typingBox->addItem(" ");
71     typingKeys.clear();
72     // Use the K95 map as it has all keys
73     const KeyMap& map = KeyMap(KeyMap::K95, bind->map().
      layout());
74     foreach(const QString& name, map.byPosition()){
75         KeyAction action(bind->defaultAction(name));
76         if(action.isNormal() && !modKeys.contains(name) && !fnKeys.contains(name) && !
      numKeys.contains(name) && !mediaKeys.contains(name) && name != "enter" && name != "tab" &&
      name != "bspace"){
```

```
            const Key& pos = map[name];
            QString friendly = pos.friendlyName();
            ui->typingBox->addItem(friendly);
            typingKeys.append(name);
        }
    }
    typingKeys << "enter" << "tab" << "bspace";
    ui->typingBox->addItem("Enter");
    ui->typingBox->addItem("Tab");
    ui->typingBox->addItem("Backspace");
    if(!map.isISO()){
        // Add ISO backslash (aka KEY_102ND) to ANSI options
        typingKeys << "bslash_iso";
        ui->typingBox->addItem("Backslash (ISO layout)");
    }

    // Populate mode list
    ui->modeBox->clear();
    ui->modeBox->addItem(" ");
    ui->modeBox->addItem("(Previous)");
    ui->modeBox->addItem("(Next)");
    int idx = 1;
    foreach(KbMode* mode, newProfile->modes())
        ui->modeBox->addItem(QString("%1: %2").arg(idx++).arg(mode->name()));

    // Enable/disable DPI based on device
    if(bind->isMouse()){
        ui->dpiButton->setEnabled(true);
        ui->dpiBox->setEnabled(true);
        ui->dpiWarning->hide();
        // Fill DPI slots
        const KbPerf* perf = bind->perf();
        for(int i = 0; i < KbPerf::DPI_COUNT; i++){
            bool sniper = (i == 0);
            int boxIdx = i + DPI_OFFSET;
            QPoint dpi = perf->dpi(i);
            QString text = tr(sniper ? "Sniper:\t%1 x %2" : "%3:\t%1 x %2").arg(dpi.x()).arg(dpi.y());
            if(!sniper) text = text.arg(i);
            ui->dpiBox->setItemText(boxIdx, text);
        }
    } else {
        ui->dpiButton->setEnabled(false);
        ui->dpiBox->setEnabled(false);
        ui->dpiWarning->show();
    }
    // Always disable custom DPI boxes until selected
    ui->dpiCustXBox->setEnabled(false);
    ui->dpiCustYBox->setEnabled(false);
    ui->dpiCustLabel->setEnabled(false);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.3.48 void RebindWidget::setBox (QWidget * box) [private]

Definition at line 428 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, Ui_RebindWidget::dpiBox, Ui_RebindWidget::fnBox, helpStatus(), Ui_RebindWidget::lightBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, Ui_RebindWidget::modBox, Ui_RebindWidget::modeBox, Ui_RebindWidget::numBox, Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, ui, and Ui_RebindWidget::wheelBox.

Referenced by on_animBox_currentIndexChanged(), on_dpiBox_currentIndexChanged(), on_fnBox_currentIndexChanged(), on_lightBox_currentIndexChanged(), on_lockBox_currentIndexChanged(), on_mb2Box_currentIndexChanged(), on_mbBox_currentIndexChanged(), on_mediaBox_currentIndexChanged(), on_modBox_currentIndexChanged(), on_modeBox_currentIndexChanged(), on_numBox_currentIndexChanged(), on_programKpBox_textChanged(), on_programKpButton_clicked(), on_programKrBox_textChanged(), on_programKrButton_clicked(), on_pteMacroBox_textChanged(), on_typingBox_currentIndexChanged(), on_wheelBox_currentIndexChanged(), and setSelection().

```
{
    // Un-select every item except for the current one.
    // on_*_currentIndexChanged will take care of deselecting the checkbox.
    // Key
    if(box != ui->typingBox) ui->typingBox->setCurrentIndex(0);
    if(box != ui->modBox) ui->modBox->setCurrentIndex(0);
    if(box != ui->fnBox) ui->fnBox->setCurrentIndex(0);
    if(box != ui->numBox) ui->numBox->setCurrentIndex(0);
    if(box != ui->mediaBox) ui->mediaBox->setCurrentIndex(0);
    // Mouse
    if(box != ui->mbBox) ui->mbBox->setCurrentIndex(0);
    if(box != ui->mb2Box) ui->mb2Box->setCurrentIndex(0);
    if(box != ui->wheelBox) ui->wheelBox->setCurrentIndex(0);
    if(box != ui->dpiBox) ui->dpiBox->setCurrentIndex(0);
    // Anim
    if(box != ui->animBox) ui->animBox->setCurrentIndex(0);
    // Special
    if(box != ui->modeBox) ui->modeBox->setCurrentIndex(0);
    if(box != ui->lightBox) ui->lightBox->setCurrentIndex(0);
    if(box != ui->lockBox) ui->lockBox->setCurrentIndex(0);
    // Program
    if(box != ui->programKpBox && box != ui->programKrBox){
        ui->programKpButton->setChecked(false);
        ui->programKrButton->setChecked(false);
    }
    // Clear macro panel
    if (box != ui->pteMacroBox) {
        ui->pteMacroBox->setPlainText("");
        ui->txtBuffer->setText("");
        helpStatus(1);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.3.49 void RebindWidget::setCorrectRadioButton (QString *macdef*) [private]

Parameters

macdef	Set the radiobutton for timing paramters according to the context. If no "=" followed by a number and comma can be found, it is the default button. If "=" can be found and numbers with more than one digit (means: $>$ 9), it is the "asTyped" button Otherwise it is the "no" button.

Definition at line 887 of file rebindwidget.cpp.

References Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, and ui.

Referenced by setSelection().

```
887                                                     {
888     if (!macdef.contains(QRegExp("=\\d+,"))) {
889         ui->rb_delay_default->setChecked(true);
890         return;
891     }
892     if (macdef.contains(QRegExp("=\\d\\d+,"))) {
893         ui->rb_delay_asTyped->setChecked(true);
894         return;
895     }
896     ui->rb_delay_no->setChecked(true);
897 }
```

Here is the caller graph for this function:

12.81.3.50 void RebindWidget::setSelection (const QStringList & *newSelection*, bool *applyPrevious* = `false`)

Definition at line 128 of file rebindwidget.cpp.

References KbBind::action(), anim, Ui_RebindWidget::animBox, KeyAction::animInfo(), Ui_RebindWidget::animKrBox, KbLight::animList(), Ui_RebindWidget::animOnceBox, applyChanges(), bind, KeyAction::DPI_CUSTOM, DPI_OFFSET, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, KeyAction::dpiInfo(), KbLight::findAnimIdx(), Ui_RebindWidget::fnBox, fnKeys, KeyAction::isAnim(), KeyAction::isDPI(), KeyAction::isMouse(), KeyAction::isNormal(), KeyAction::isProgram(), KeyAction::isSpecial(), KeyAction::isValidMacro(), KbBind::light(), KeyAction::LIGHT_DOWN, KeyAction::LIGHT_DOWN_WRAP, KeyAction::LIGHT_UP, KeyAction::LIGHT_UP_WRAP, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, KeyAction::macroContent(), KeyAction::macroDisplay(), KeyAction::macroLine(), KeyAction::macroTiming(), Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, KeyAction::MODE_NEXT, KeyAction::MODE_NEXT_WRAP, KeyAction::MODE_PREV, KeyAction::MODE_PREV_WRAP, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, KbAnim::name(), Ui_RebindWidget::numBox, numKeys, KeyAction::PROGRAM_PR_MULTI, KeyAction::PROGRAM_RE_INDEF, KeyAction::PROGRAM_RE_KPSTOP, KeyAction::PROGRAM_RE_MULTI, KeyAction::programInfo(), Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, selection, setBox(), setCorrectRadioButton(), KeyAction::specialInfo(), TAB_ANIM, TAB_KB, TAB_MACRO, TAB_MOUSE, TAB_PROGRAM, TAB_SPECIAL, Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, typingKeys, ui, Ui_RebindWidget::wheelBox, and wheelKeys.

Referenced by KbBindWidget::newSelection(), on_cancelButton_clicked(), setBind(), and KbBindWidget::updateBind().

```
128                                                                                                    {
129     if(bind){
130         // Populate animation list
131         // FIXME: There should be a trigger to update this whenever an animation is added/removed, even if
        the key selection hasn't changed
132         ui->animBox->clear();
133         ui->animBox->addItem(" ");
134         foreach(KbAnim* anim, bind->light()->animList())
135             ui->animBox->addItem(anim->name());
136     }
137
138     // Apply changes to previous selection (if any)
139     if(!selection.isEmpty() && applyPrevious){
140         QStringList previous = selection;
141         selection = QStringList();
142         applyChanges(previous, false);
143     }
144
145     selection = newSelection;
146     if(newSelection.isEmpty()){
147         hide();
148         return;
149     } else
150         show();
151
152     bool hasAction = false;
153     QString action;
154     if(selection.count() == 1){
```

```
        // Select action from the UI
        action = bind->action(selection.first());
        if(!action.isEmpty())
            hasAction = true;
    } else {
        // Select an action from the UI if all keys are the same.
        // Select nothing if any are unbound or different
        foreach(const QString& key, selection){
            QString keyAction = bind->action(key);
            if(keyAction.isEmpty() || (hasAction && keyAction != action)){
                hasAction = false;
                break;
            } else if(action.isEmpty()){
                action = keyAction;
                hasAction = true;
            }
        }
    }

    if(!hasAction)
        action = "";
    KeyAction act(action);
    // Clear everything
    setBox(0);
    ui->dpiCustXBox->setValue(400);
    ui->dpiCustYBox->setValue(400);
    ui->animOnceBox->setChecked(false);
    ui->animKrBox->setChecked(false);
    ui->programKpBox->setText("");
    ui->programKrBox->setText("");
    ui->programKpSIBox->setChecked(false);
    ui->programKrSIBox->setChecked(false);
    ui->programKpModeBox->setCurrentIndex(0);
    ui->programKrModeBox->setCurrentIndex(0);
    ui->programKpModeBox->setEnabled(false);
    ui->programKrModeBox->setEnabled(false);
    // Clear neu UI elements in MacroTab
    ui->pteMacroBox->setPlainText("");
    ui->pteMacroText->setPlainText("");
    ui->pteMacroComment->setPlainText("");
    ui->txtBuffer->setText("");
    // Fill in field and select tab according to action type
    bool mouse = act.isMouse();
    if(mouse){
        // Mouse buttons
        ui->tabWidget->setCurrentIndex(TAB_MOUSE);
        // Set mouse buttons (indexOf returns -1 if not found, index zero is blank)
        ui->mbBox->setCurrentIndex(mouseKeys.indexOf(action) + 1);
        ui->mb2Box->setCurrentIndex(mouseExtKeys.indexOf(action) + 1);
        ui->wheelBox->setCurrentIndex(wheelKeys.indexOf(action) + 1);
        if(act.isDPI()){
            QPoint custom;
            int value = act.dpiInfo(custom);
            if(value <= -DPI_OFFSET || value > KeyAction::DPI_CUSTOM)
                return;
            ui->dpiBox->setCurrentIndex(value + DPI_OFFSET);
            if(value == KeyAction::DPI_CUSTOM){
                ui->dpiCustXBox->setValue(custom.x());
                ui->dpiCustYBox->setValue(custom.y());
            }
        }
    } else if(act.isNormal()){
        // Standard key
        ui->tabWidget->setCurrentIndex(TAB_KB);
        ui->typingBox->setCurrentIndex(typingKeys.indexOf(action) + 1);
        ui->modBox->setCurrentIndex(modKeys.indexOf(action) + 1);
        ui->fnBox->setCurrentIndex(fnKeys.indexOf(action) + 1);
        ui->numBox->setCurrentIndex(numKeys.indexOf(action) + 1);
        ui->mediaBox->setCurrentIndex(mediaKeys.indexOf(action) + 1);
    } else if(act.isProgram()){
        // Program key
        ui->tabWidget->setCurrentIndex(TAB_PROGRAM);
        QString onPress, onRelease;
        int stop = act.programInfo(onPress, onRelease);
        ui->programKpBox->setText(onPress);
        ui->programKrBox->setText(onRelease);
        switch(stop & 0x0F){
        case KeyAction::PROGRAM_PR_MULTI:
            ui->programKpSIBox->setChecked(false);
            ui->programKpModeBox->setCurrentIndex(0);
            ui->programKpModeBox->setEnabled(false);
            break;
        default:
            ui->programKpSIBox->setChecked(true);
            ui->programKpModeBox->setCurrentIndex(stop & 0x0F);
            ui->programKpModeBox->setEnabled(true);
            break;
```

```
        }
        switch(stop & 0xF0){
        case KeyAction::PROGRAM_RE_MULTI:
            ui->programKrSIBox->setChecked(false);
            ui->programKrModeBox->setCurrentIndex(0);
            ui->programKrModeBox->setEnabled(false);
            break;
        case KeyAction::PROGRAM_RE_INDEF:
            ui->programKrSIBox->setChecked(true);
            ui->programKrModeBox->setCurrentIndex(0);
            ui->programKrModeBox->setEnabled(true);
            break;
        case KeyAction::PROGRAM_RE_KPSTOP:
            ui->programKrSIBox->setChecked(true);
            ui->programKrModeBox->setCurrentIndex(1);
            ui->programKrModeBox->setEnabled(true);
            break;
        }
    } else if(act.isAnim()){
        // Animation key
        ui->tabWidget->setCurrentIndex(TAB_ANIM);
        bool onlyOnce = false, stopOnRelease = false;
        QUuid id = act.animInfo(onlyOnce, stopOnRelease);
        // Find this animation in the list. If not found, -1 will be returned, resulting in the blank space being selected
        int index = bind->light()->findAnimIdx(id);
        ui->animBox->setCurrentIndex(index + 1);
        ui->animOnceBox->setChecked(!onlyOnce);
        ui->animKrBox->setChecked(stopOnRelease);
    } else if(act.isSpecial()){
        // Other special keys
        ui->tabWidget->setCurrentIndex(TAB_SPECIAL);
        int param;
        QString sAction = act.specialInfo(param);
        // Mode selection. Check wrap-around flag
        ui->modeWrapBox->setChecked(true);
        if(sAction == "mode"){
            ui->modeWrapBox->setChecked(true);
            if(param == KeyAction::MODE_PREV_WRAP)
                param = KeyAction::MODE_PREV;
            else if(param == KeyAction::MODE_NEXT_WRAP)
                param = KeyAction::MODE_NEXT;
            else if(param < 0)
                ui->modeWrapBox->setChecked(false);
            // Set mode box to current selection, or to mode 1 if invalid
            param += 3;
            if(param >= 0 && param < ui->modeBox->count())
                ui->modeBox->setCurrentIndex(param);
            else
                // 0 -> "", 1 -> Prev, 2 -> Next, 3 -> Mode 1
                ui->modeBox->setCurrentIndex(3);
        } else if (sAction == "macro") {
            ui->tabWidget->setCurrentIndex(TAB_MACRO);
            if (act.isValidMacro()) {
                ui->pteMacroBox->setPlainText(act.macroContent());
                ui->pteMacroText->setPlainText(act.macroLine()[1].replace("&das_IST_31N_col0n;", ":"));
                ui->pteMacroComment->setPlainText(act.macroLine()[2].replace("&das_IST_31N_col0n;", ":"));
                // Set the invisible Buffer to the original timing information.
                // For convenience / Migration from older versions:
                // If the timing information is only "x", then ignore it by setting it to an empty QString.
                ui->txtBuffer->setText("");
                if (act.macroTiming() != "x") ui->txtBuffer->setText(act.macroTiming());
                setCorrectRadioButton(act.macroContent());
            } else {
                qDebug("RebindWidget::setSelection found invalid macro definition.");
                act.macroDisplay();
            }
        } else
            ui->modeBox->setCurrentIndex(0);
        // Brightness control. Also check wrap
        if(sAction == "light"){
            ui->lightWrapBox->setChecked(true);
            if(param == KeyAction::LIGHT_DOWN_WRAP)
                param = KeyAction::LIGHT_DOWN;
            else if(param == KeyAction::LIGHT_UP_WRAP)
                param = KeyAction::LIGHT_UP;
            else
                ui->lightWrapBox->setChecked(false);
            if(param < 0 || param > 1)
                param = -1;
            ui->lightBox->setCurrentIndex(param + 1);
        } else
            ui->lightBox->setCurrentIndex(0);
        // Win lock
        if(sAction == "lock"){
```

```
            if(param < 0 || param > 2)
                param = -1;
            ui->lockBox->setCurrentIndex(param + 1);
        } else
            ui->lockBox->setCurrentIndex(0);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.4 Field Documentation

12.81.4.1 KbBind* RebindWidget::bind [private]

Definition at line 94 of file rebindwidget.h.

Referenced by applyChanges(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), on_resetButton_clicked(), on_unbindButton_clicked(), setBind(), and setSelection().

12.81.4.2 QStringList RebindWidget::fnKeys [private]

Definition at line 100 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.3 MacroReader* RebindWidget::macReader [private]

Definition at line 106 of file rebindwidget.h.

Referenced by on_btnStartMacro_clicked(), and on_btnStopMacro_clicked().

12.81.4.4 QStringList RebindWidget::mediaKeys [private]

Definition at line 102 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.5 QStringList RebindWidget::modKeys [private]

Definition at line 99 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.6 QStringList RebindWidget::mouseExtKeys [private]

Definition at line 104 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.81.4.7 QStringList RebindWidget::mouseKeys [private]

Definition at line 103 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.81.4.8 QStringList RebindWidget::numKeys [private]

Definition at line 101 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.9 KbProfile* RebindWidget::profile [private]

Definition at line 95 of file rebindwidget.h.

Referenced by setBind().

12.81.4.10 QStringList RebindWidget::selection [private]

Definition at line 96 of file rebindwidget.h.

Referenced by on_applyButton_clicked(), on_cancelButton_clicked(), on_resetButton_clicked(), on_unbindButton-_clicked(), and setSelection().

12.81.4.11 const int RebindWidget::TAB_ANIM = 2 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.12 const int RebindWidget::TAB_KB = 0 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.13 const int RebindWidget::TAB_MACRO = 5 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.14 const int RebindWidget::TAB_MOUSE = 1 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.15 const int RebindWidget::TAB_PROGRAM = 4 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.16 const int RebindWidget::TAB_SPECIAL = 3 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.17 QStringList RebindWidget::typingKeys [private]

Definition at line 98 of file rebindwidget.h.

Referenced by applyChanges(), setBind(), and setSelection().

12.81.4.18 Ui::RebindWidget* RebindWidget::ui [private]

Definition at line 80 of file rebindwidget.h.

Referenced by applyChanges(), convertMacroBox(), helpStatus(), on_animBox_currentIndexChanged(), on_anim-Button_clicked(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), on_dpiBox_currentIndexChanged(),

on_dpiButton_clicked(), on_fnBox_currentIndexChanged(), on_fnButton_clicked(), on_lightBox_currentIndexChanged(), on_lightButton_clicked(), on_lockBox_currentIndexChanged(), on_lockButton_clicked(), on_mb2Box_currentIndexChanged(), on_mb2Button_clicked(), on_mbBox_currentIndexChanged(), on_mbButton_clicked(), on_mediaBox_currentIndexChanged(), on_mediaButton_clicked(), on_modBox_currentIndexChanged(), on_modButton_clicked(), on_modeBox_currentIndexChanged(), on_modeButton_clicked(), on_numBox_currentIndexChanged(), on_numButton_clicked(), on_programKpBox_textChanged(), on_programKpButton_clicked(), on_programKpSIBox_clicked(), on_programKrBox_textChanged(), on_programKrButton_clicked(), on_programKrSIBox_clicked(), on_pteMacroBox_textChanged(), on_typingBox_currentIndexChanged(), on_typingButton_clicked(), on_wheelBox_currentIndexChanged(), on_wheelButton_clicked(), RebindWidget(), setBind(), setBox(), setCorrectRadioButton(), setSelection(), and ~RebindWidget().

12.81.4.19 QStringList RebindWidget::wheelKeys [private]

Definition at line 105 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

The documentation for this class was generated from the following files:

- src/ckb/rebindwidget.h
- src/ckb/rebindwidget.cpp

12.82 RListWidget Class Reference

`#include <src/ckb/rlistwidget.h>`

Inheritance diagram for RListWidget:

Collaboration diagram for RListWidget:

Signals

- void orderChanged ()

Public Member Functions

- RListWidget (QWidget ∗parent=0)

Private Slots

- void timerTick ()
- void enter (QListWidgetItem ∗item)
- void change (QListWidgetItem ∗item)

Private Member Functions

- void rescanItems ()

Private Attributes

- QVariant currentData
- QList< QVariant > previousItems
- QVariant dragged
- QTimer reorderTimer

Static Private Attributes

- static const int DATA_ROLE = Qt::UserRole + 100

12.82.1 Detailed Description

Definition at line 9 of file rlistwidget.h.

12.82.2 Constructor & Destructor Documentation

12.82.2.1 RListWidget::RListWidget (QWidget * *parent* = 0) [explicit]

Definition at line 4 of file rlistwidget.cpp.

References change(), enter(), reorderTimer, and timerTick().

```
4                                       :
5     QListWidget(parent)
6 {
7     setDragDropMode(QAbstractItemView::InternalMove);
8     setMovement(QListView::Snap);
9
10     reorderTimer.setSingleShot(true);
11     reorderTimer.setInterval(100);
12     connect(&reorderTimer, SIGNAL(timeout()), this, SLOT(timerTick()));
13
14     connect(this, SIGNAL(itemEntered(QListWidgetItem*)), this, SLOT(enter(QListWidgetItem*)));
15     connect(this, SIGNAL(itemChanged(QListWidgetItem*)), this, SLOT(change(QListWidgetItem*)));
16 }
```

Here is the call graph for this function:

12.82.3 Member Function Documentation

12.82.3.1 void RListWidget::change (QListWidgetItem * *item*) [private],[slot]

Definition at line 54 of file rlistwidget.cpp.

References reorderTimer.

Referenced by RListWidget().

```
54                                      {
55     reorderTimer.stop();
56     reorderTimer.start();
57 }
```

Here is the caller graph for this function:

12.82.3.2 void RListWidget::enter (QListWidgetItem * *item*) [private],[slot]

Definition at line 47 of file rlistwidget.cpp.

References DATA_ROLE, dragged, and rescanItems().

Referenced by RListWidget().

```
47                                          {
48     rescanItems();
49     // Check for drag+drop setup
50     if(item)
51         dragged = item->data(DATA_ROLE);
52 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.82.3.3 void RListWidget::orderChanged ( ) [signal]

Definition at line 141 of file moc_rlistwidget.cpp.

Referenced by timerTick().

```
142 {
143     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
144 }
```

Here is the caller graph for this function:

12.82.3.4 void RListWidget::rescanItems ( ) [private]

Definition at line 59 of file rlistwidget.cpp.

References DATA_ROLE, and previousItems.

Referenced by enter().

```
59                                {
60     QList<QVariant> newItems;
61     int c = count();
62     for(int i = 0; i < c; i++){
63         QVariant data = this->item(i)->data(DATA_ROLE);
64         if(data.isNull()){
65             // Generate the ID for this item if it doesn't already exist
66             data = QUuid::createUuid();
67             this->item(i)->setData(DATA_ROLE, data);
68         }
69         newItems.append(data);
70     }
71     previousItems = newItems;
72 }
```

Here is the caller graph for this function:

12.82.3.5 void RListWidget::timerTick ( ) [private],[slot]

Definition at line 18 of file rlistwidget.cpp.

References DATA_ROLE, dragged, orderChanged(), and previousItems.

Referenced by RListWidget().

```
18                            {
19     bool reordered = false;
20     QListWidgetItem* reselect = 0;
21     QList<QVariant> newItems;
22     // Scan the item list to see if they changed
23     int c = count();
24     for(int i = 0; i < c; i++){
25         QListWidgetItem* itm = item(i);
26         QVariant data = itm->data(DATA_ROLE);
27         newItems.append(data);
28         if(i >= previousItems.count() || data != previousItems[i])
29             reordered = true;
30         // Re-select the dragged item (if any)
31         if(data == dragged)
32             reselect = itm;
33     }
34     if(previousItems.length() != newItems.length())
35         return;
36     if(reordered){
37         previousItems = newItems;
38         emit orderChanged();
39         if(reselect){
40             reselect->setSelected(true);
41             setCurrentItem(reselect);
42             dragged = QVariant();
43         }
44     }
45 }
```

Here is the caller graph for this function:

12.82.4 Field Documentation

12.82.4.1 QVariant RListWidget::currentData [private]

Definition at line 24 of file rlistwidget.h.

12.82.4.2 const int RListWidget::DATA_ROLE = Qt::UserRole + 100 [static], [private]

Definition at line 29 of file rlistwidget.h.

Referenced by enter(), rescanItems(), and timerTick().

12.82.4.3 QVariant RListWidget::dragged [private]

Definition at line 26 of file rlistwidget.h.

Referenced by enter(), and timerTick().

12.82.4.4 QList<QVariant> RListWidget::previousItems [private]

Definition at line 25 of file rlistwidget.h.

Referenced by rescanItems(), and timerTick().

12.82.4.5 QTimer RListWidget::reorderTimer [private]

Definition at line 27 of file rlistwidget.h.

Referenced by change(), and RListWidget().

The documentation for this class was generated from the following files:

- src/ckb/rlistwidget.h
- src/ckb/release/moc_rlistwidget.cpp
- src/ckb/rlistwidget.cpp

12.83 SettingsWidget Class Reference

```
#include <src/ckb/settingswidget.h>
```

Inheritance diagram for SettingsWidget:

Collaboration diagram for SettingsWidget:

Public Member Functions

- SettingsWidget (QWidget *parent=0)
- ~SettingsWidget ()
- void setVersion (const QString &version)
- void setStatus (const QString &text)
- void pollUpdates ()

Private Slots

- void on_pushButton_clicked ()
- void on_capsBox_activated (int index)
- void on_shiftBox_activated (int index)
- void on_ctrlBox_activated (int index)
- void on_altBox_activated (int index)
- void on_winBox_activated (int index)
- void on_autoFWBox_clicked (bool checked)
- void on_loginItemBox_clicked (bool checked)
- void on_layoutBox_activated (int index)
- void showLayoutDialog ()
- void on_extraButton_clicked ()

Private Member Functions

- void updateModifiers ()

Private Attributes

- Ui::SettingsWidget * ui
- ExtraSettingsWidget * extra

Friends

- class MainWindow

12.83.1 Detailed Description

Definition at line 11 of file settingswidget.h.

12.83.2 Constructor & Destructor Documentation

12.83.2.1 SettingsWidget::SettingsWidget (QWidget * *parent* = 0) [explicit]

Definition at line 15 of file settingswidget.cpp.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::autoFWBox, AutoRun::available(), Ui_SettingsWidget::capsBox, Ui_SettingsWidget::ctrlBox, AutoRun::enable(), extra, KeyMap::getLayout(), KbBind::globalRemap(), AutoRun::isEnabled(), Kb::layout(), Ui_SettingsWidget::layoutBox, KeyMap::layoutNames(), KbBind::loadGlobalRemap(), KeyMap::locale(), Ui_SettingsWidget::loginItemBox, modKeys, modNames, KeyMap::NO_LAYOUT, AutoRun::once(), CkbSettings::remove(), Ui_SettingsWidget::setupUi(), CkbSettings::setValue(), Ui_SettingsWidget::shiftBox, showLayoutDialog(), ui, updateModifiers(), CkbSettings::value(), and Ui_SettingsWidget::winBox.

```
15                                                  :
16     QWidget(parent),
17     ui(new Ui::SettingsWidget)
18 {
19     ui->setupUi(this);
20     CkbSettings settings("Program");
21
22     // Read keyboard layout
23     ui->layoutBox->addItems(KeyMap::layoutNames());
24     KeyMap::Layout layout = KeyMap::getLayout(settings.value("KbdLayout").
      toString());
25     if(layout == KeyMap::NO_LAYOUT){
26         // If the layout hasn't been set yet, show a dialog to let the user choose it
27         layout = KeyMap::locale();
28         QTimer::singleShot(1000, this, SLOT(showLayoutDialog()));   // Run the function
      after a delay as the dialog may not appear correctly otherwise
29         settings.setValue("KbdLayout", KeyMap::getLayout(layout));
30     }
31     Kb::layout(layout);
32     ui->layoutBox->setCurrentIndex((int)layout);
33
34     // Load modifier remap
35     KbBind::loadGlobalRemap();
36     if(modKeys.isEmpty()){
37         modKeys << "caps" << "lshift" << "lctrl" << "lalt" << "lwin";
38 #ifdef Q_OS_MACX
39         modNames << "Caps Lock" << "Shift" << "Control ()" << "Option ()" << "Command ()";
40 #else
41         modNames << "Caps Lock" << "Shift" << "Control" << "Alt" << "Super";
42 #endif
43     }
44     foreach(const QString& name, modNames){
45         ui->capsBox->addItem(name);
46         ui->shiftBox->addItem(name);
47         ui->ctrlBox->addItem(name);
48         ui->altBox->addItem(name);
49         ui->winBox->addItem(name);
50     }
51
52     int idx = modKeys.indexOf(KbBind::globalRemap("caps"));
53     if(idx >= 0)
54         ui->capsBox->setCurrentIndex(idx);
55     idx = modKeys.indexOf(KbBind::globalRemap("lshift"));
56     if(idx >= 0)
57         ui->shiftBox->setCurrentIndex(idx);
58     idx = modKeys.indexOf(KbBind::globalRemap("lctrl"));
59     if(idx >= 0)
60         ui->ctrlBox->setCurrentIndex(idx);
61     idx = modKeys.indexOf(KbBind::globalRemap("lwin"));
62     if(idx >= 0)
63         ui->winBox->setCurrentIndex(idx);
64     idx = modKeys.indexOf(KbBind::globalRemap("lalt"));
65     if(idx >= 0)
66         ui->altBox->setCurrentIndex(idx);
```

```
#ifdef Q_OS_MACX
    if(settings.value("osxCmdSwap").toBool()){
        // ckb <0.0.41
        settings.remove("osxCmdSwap");
        ui->ctrlBox->setCurrentIndex(modKeys.indexOf("lwin"));
        ui->winBox->setCurrentIndex(modKeys.indexOf("lctrl"));
        updateModifiers();
    }
#endif

    // Read auto update settings
    ui->autoFWBox->setChecked(!settings.value("DisableAutoFWCheck").toBool());

    // Read auto run settings
    if(!AutoRun::available())
        ui->loginItemBox->hide();
    else {
        if(!AutoRun::once())
            // If this is the first time running the app, enable auto run by default
            AutoRun::enable();
        ui->loginItemBox->setChecked(AutoRun::isEnabled());
    }

    // Prepare extra settings
    extra = new ExtraSettingsWidget(this);
}
```

Here is the call graph for this function:

12.83.2.2 SettingsWidget::~SettingsWidget ( )

Definition at line 94 of file settingswidget.cpp.

References ui.

```
94                                  {
95     delete ui;
96 }
```

12.83.3 Member Function Documentation

12.83.3.1 void SettingsWidget::on_altBox_activated (int *index*) [private],[slot]

Definition at line 155 of file settingswidget.cpp.

References updateModifiers().

```
155                                                 {
156     updateModifiers();
157 }
```

Here is the call graph for this function:

12.83.3.2 void SettingsWidget::on_autoFWBox_clicked (bool *checked*) [private],[slot]

Definition at line 163 of file settingswidget.cpp.

References CkbSettings::set().

```
163                                                 {
164     CkbSettings::set("Program/DisableAutoFWCheck", !checked);
165 }
```

Here is the call graph for this function:

12.83.3.3 void SettingsWidget::on_capsBox_activated (int *index*) [private],[slot]

Definition at line 143 of file settingswidget.cpp.

References updateModifiers().

```
143                                                 {
144     updateModifiers();
145 }
```

Here is the call graph for this function:

12.83.3.4 void SettingsWidget::on_ctrlBox_activated (int *index*) [private],[slot]

Definition at line 151 of file settingswidget.cpp.

References updateModifiers().

```
151                                                 {
152     updateModifiers();
153 }
```

Here is the call graph for this function:

12.83.3.5 void SettingsWidget::on_extraButton_clicked ( ) [private],[slot]

Definition at line 180 of file settingswidget.cpp.

References extra.

```
180                                             {
181     extra->exec();
182 }
```

12.83.3.6 void SettingsWidget::on_layoutBox_activated (int *index*) [private],[slot]

Definition at line 174 of file settingswidget.cpp.

References KeyMap::getLayout(), Kb::layout(), and CkbSettings::set().

Referenced by showLayoutDialog().

```
174                                                 {
175     KeyMap::Layout layout = (KeyMap::Layout)index;
176     CkbSettings::set("Program/KbdLayout", KeyMap::getLayout(layout));
177     Kb::layout(layout);
178 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.83.3.7 void SettingsWidget::on_loginItemBox_clicked (bool *checked*) [private],[slot]

Definition at line 167 of file settingswidget.cpp.

References AutoRun::disable(), and AutoRun::enable().

```
167                                                     {
168     if(checked)
169         AutoRun::enable();
170     else
171         AutoRun::disable();
172 }
```

Here is the call graph for this function:

12.83.3.8 void SettingsWidget::on_pushButton_clicked ( ) [private],[slot]

Definition at line 139 of file settingswidget.cpp.

```
139                                         {
140     qApp->quit();
141 }
```

12.83.3.9 void SettingsWidget::on_shiftBox_activated (int *index*) [private],[slot]

Definition at line 147 of file settingswidget.cpp.

References updateModifiers().

```
147                                                 {
148     updateModifiers();
149 }
```

Here is the call graph for this function:

12.83.3.10 void SettingsWidget::on_winBox_activated (int *index*) [private],[slot]

Definition at line 159 of file settingswidget.cpp.

References updateModifiers().

```
159                                                 {
160     updateModifiers();
161 }
```

Here is the call graph for this function:

12.83.3.11 void SettingsWidget::pollUpdates ( )

Definition at line 106 of file settingswidget.cpp.

References extra, and ExtraSettingsWidget::pollUpdates().

Referenced by MainWindow::timerTick().

```
106                                 {
107     extra->pollUpdates();
108 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.83.3.12 void SettingsWidget::setStatus (const QString & *text*)

Definition at line 110 of file settingswidget.cpp.

References Ui_SettingsWidget::devicesLabel, and ui.

Referenced by MainWindow::updateVersion().

```
110                                                 {
111     ui->devicesLabel->setText(text);
112 }
```

Here is the caller graph for this function:

12.83.3.13 void SettingsWidget::setVersion (const QString & *version*)

Definition at line 114 of file settingswidget.cpp.

References ui, and Ui_SettingsWidget::versionLabel.

Referenced by MainWindow::MainWindow().

```
114                                                 {
115     ui->versionLabel->setText(version);
116 }
```

Here is the caller graph for this function:

12.83.3.14 void SettingsWidget::showLayoutDialog ( ) [private],[slot]

Definition at line 98 of file settingswidget.cpp.

References Ui_SettingsWidget::layoutBox, on_layoutBox_activated(), LayoutDialog::selected(), and ui.

Referenced by SettingsWidget().

```
98                                  {
99     LayoutDialog dialog(this);
100     dialog.exec();
101     // Set selected layout
102     ui->layoutBox->setCurrentIndex((int)dialog.selected());
103     on_layoutBox_activated((int)dialog.selected());         // Call activated()
        signal manually to trigger save
104 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.83.3.15 void SettingsWidget::updateModifiers ( ) [private]

Definition at line 124 of file settingswidget.cpp.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::capsBox, Ui_SettingsWidget::ctrlBox, modKeys, right(), KbBind::saveGlobalRemap(), KbBind::setGlobalRemap(), Ui_SettingsWidget::shiftBox, ui, and Ui_SettingsWidget::winBox.

Referenced by on_altBox_activated(), on_capsBox_activated(), on_ctrlBox_activated(), on_shiftBox_activated(), on_winBox_activated(), and SettingsWidget().

```
124                                 {
125     QHash<QString, QString> newMods;
126     newMods["caps"] = modKeys[ui->capsBox->currentIndex()];
127     newMods["lshift"] = modKeys[ui->shiftBox->currentIndex()];
128     newMods["rshift"] = right(modKeys[ui->shiftBox->currentIndex()]);
129     newMods["lctrl"] = modKeys[ui->ctrlBox->currentIndex()];
130     newMods["rctrl"] = right(modKeys[ui->ctrlBox->currentIndex()]);
131     newMods["lalt"] = modKeys[ui->altBox->currentIndex()];
132     newMods["ralt"] = right(modKeys[ui->altBox->currentIndex()]);
133     newMods["lwin"] = modKeys[ui->winBox->currentIndex()];
134     newMods["rwin"] = right(modKeys[ui->winBox->currentIndex()]);
135     KbBind::setGlobalRemap(newMods);
136     KbBind::saveGlobalRemap();
137 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.83.4 Friends And Related Function Documentation

12.83.4.1 friend class MainWindow [friend]

Definition at line 44 of file settingswidget.h.

12.83.5 Field Documentation

12.83.5.1 ExtraSettingsWidget* SettingsWidget::extra [private]

Definition at line 46 of file settingswidget.h.

Referenced by on_extraButton_clicked(), pollUpdates(), and SettingsWidget().

12.83.5.2 Ui::SettingsWidget* SettingsWidget::ui [private]

Definition at line 43 of file settingswidget.h.

Referenced by setStatus(), SettingsWidget(), setVersion(), showLayoutDialog(), updateModifiers(), and ~SettingsWidget().

The documentation for this class was generated from the following files:

- src/ckb/settingswidget.h
- src/ckb/settingswidget.cpp

12.84 Ui::SettingsWidget Class Reference

```
#include <src/ckb/ui_settingswidget.h>
```

Inheritance diagram for Ui::SettingsWidget:

Collaboration diagram for Ui::SettingsWidget:

Public Member Functions

- void setupUi (QWidget *SettingsWidget)
- void retranslateUi (QWidget *SettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QLabel * label_2
- QLabel * label
- QLabel * label_6
- QGridLayout * gridLayout_5
- QSpacerItem * horizontalSpacer_7
- QLabel * devicesLabel
- QLabel * label_5
- QComboBox * layoutBox
- QSpacerItem * verticalSpacer_10
- QHBoxLayout * horizontalLayout_2
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QPushButton * pushButton
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_8
- QCheckBox * loginItemBox
- QSpacerItem * verticalSpacer_6
- QCheckBox * autoFWBox
- QFrame * line_2
- QLabel * label_8
- QGridLayout * gridLayout_3
- QLabel * shiftLabel
- QLabel * capsLabel

- QSpacerItem * horizontalSpacer_10
- QComboBox * capsBox
- QLabel * ctrlLabel
- QSpacerItem * horizontalSpacer_9
- QComboBox * ctrlBox
- QComboBox * shiftBox
- QLabel * winLabel
- QComboBox * winBox
- QComboBox * altBox
- QLabel * altLabel
- QFrame * line
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_5
- QFrame * line_3
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_2
- QLabel * versionLabel
- QHBoxLayout * horizontalLayout
- QPushButton * extraButton
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_7

12.84.1 Detailed Description

Definition at line 378 of file ui_settingswidget.h.

12.84.2 Member Function Documentation

12.84.2.1 void Ui_SettingsWidget::retranslateUi (QWidget * *SettingsWidget*) [inline],[inherited]

Definition at line 347 of file ui_settingswidget.h.

References Ui_SettingsWidget::altLabel, Ui_SettingsWidget::autoFWBox, Ui_SettingsWidget::capsLabel, Ui_SettingsWidget::ctrlLabel, Ui_SettingsWidget::devicesLabel, Ui_SettingsWidget::extraButton, Ui_SettingsWidget::label, Ui_SettingsWidget::label_2, Ui_SettingsWidget::label_3, Ui_SettingsWidget::label_5, Ui_SettingsWidget::label_6, Ui_SettingsWidget::label_8, Ui_SettingsWidget::loginItemBox, Ui_SettingsWidget::pushButton, Ui_SettingsWidget::shiftLabel, Ui_SettingsWidget::versionLabel, and Ui_SettingsWidget::winLabel.

Referenced by Ui_SettingsWidget::setupUi().

```
348     {
349         SettingsWidget->setWindowTitle(QApplication::translate("SettingsWidget", "Form", Q_NULLPTR));
350         label_2->setText(QApplication::translate("SettingsWidget", "\302\251 2014-2016 <a href=\"
    https://github.com/ccMSC/\" style=\"text-decoration:none;\">ccMSC</a>.<br/>\302\251 2017 <a href=\"
    https://github.com/mattanger/ckb-next/graphs/contributors\" style=\"text-decoration:none;\">The ckb-next development
     team</a>.", Q_NULLPTR));
351         label->setText(QApplication::translate("SettingsWidget", "Modifier keys", Q_NULLPTR));
352         label_6->setText(QApplication::translate("SettingsWidget", "Application", Q_NULLPTR));
353         devicesLabel->setText(QApplication::translate("SettingsWidget", "No devices connected",
     Q_NULLPTR));
354         label_5->setText(QApplication::translate("SettingsWidget", "Keyboard layout:", Q_NULLPTR));
355         label_3->setText(QApplication::translate("SettingsWidget", "<a href=\"
    https://github.com/mattanger/ckb-next\" style=\"text-decoration:none;\">https://github.com/mattanger/ckb-next</a>", Q_NU
356         pushButton->setText(QApplication::translate("SettingsWidget", "Quit", Q_NULLPTR));
357 #ifndef QT_NO_TOOLTIP
358         loginItemBox->setToolTip(QApplication::translate("SettingsWidget", "ckb-next will be
     started when you log in to your computer.", Q_NULLPTR));
359 #endif // QT_NO_TOOLTIP
360         loginItemBox->setText(QApplication::translate("SettingsWidget", "Start ckb-next at
     login", Q_NULLPTR));
361 #ifndef QT_NO_TOOLTIP
362         autoFWBox->setToolTip(QApplication::translate("SettingsWidget", "You will be notified when
     new firmware versions are available. You'll have the option to install them immediately or wait until
     later.", Q_NULLPTR));
```

```
#endif // QT_NO_TOOLTIP
        autoFWBox->setText(QApplication::translate("SettingsWidget", "Check for new firmware automatically", Q_NULLPTR));
        label_8->setText(QApplication::translate("SettingsWidget", "These will override the keyboard profile. See \"Binding\" tab for more settings.", Q_NULLPTR));
        shiftLabel->setText(QApplication::translate("SettingsWidget", "Shift:", Q_NULLPTR));
        capsLabel->setText(QApplication::translate("SettingsWidget", "Caps Lock:", Q_NULLPTR));
        ctrlLabel->setText(QApplication::translate("SettingsWidget", "Ctrl:", Q_NULLPTR));
        winLabel->setText(QApplication::translate("SettingsWidget", "Windows:", Q_NULLPTR));
        altLabel->setText(QApplication::translate("SettingsWidget", "Alt:", Q_NULLPTR));
        versionLabel->setText(QApplication::translate("SettingsWidget", "ckb-next", Q_NULLPTR));
        extraButton->setText(QApplication::translate("SettingsWidget", "More settings", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.84.2.2 void Ui_SettingsWidget::setupUi (QWidget * *SettingsWidget*) [inline],[inherited]

Definition at line 78 of file ui_settingswidget.h.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::altLabel, Ui_SettingsWidget::autoFWBox, Ui_SettingsWidget::capsBox, Ui_SettingsWidget::capsLabel, Ui_SettingsWidget::ctrlBox, Ui_SettingsWidget::ctrlLabel, Ui_SettingsWidget::devicesLabel, Ui_SettingsWidget::extraButton, Ui_SettingsWidget::gridLayout, Ui_SettingsWidget::gridLayout_3, Ui_SettingsWidget::gridLayout_5, Ui_SettingsWidget::horizontalLayout, Ui_SettingsWidget::horizontalLayout_2, Ui_SettingsWidget::horizontalSpacer, Ui_SettingsWidget::horizontalSpacer_10, Ui_SettingsWidget::horizontalSpacer_2, Ui_SettingsWidget::horizontalSpacer_7, Ui_SettingsWidget::horizontalSpacer_9, Ui_SettingsWidget::label, Ui_SettingsWidget::label_2, Ui_SettingsWidget::label_3, Ui_SettingsWidget::label_5, Ui_SettingsWidget::label_6, Ui_SettingsWidget::label_8, Ui_SettingsWidget::layoutBox, Ui_SettingsWidget::line, Ui_SettingsWidget::line_2, Ui_SettingsWidget::line_3, Ui_SettingsWidget::loginItemBox, Ui_SettingsWidget::pushButton, Ui_SettingsWidget::retranslateUi(), Ui_SettingsWidget::shiftBox, Ui_SettingsWidget::shiftLabel, Ui_SettingsWidget::versionLabel, Ui_SettingsWidget::verticalSpacer, Ui_SettingsWidget::verticalSpacer_10, Ui_SettingsWidget::verticalSpacer_2, Ui_SettingsWidget::verticalSpacer_3, Ui_SettingsWidget::verticalSpacer_4, Ui_SettingsWidget::verticalSpacer_5, Ui_SettingsWidget::verticalSpacer_6, Ui_SettingsWidget::verticalSpacer_7, Ui_SettingsWidget::verticalSpacer_8, Ui_SettingsWidget::winBox, and Ui_SettingsWidget::winLabel.

Referenced by SettingsWidget::SettingsWidget().

```
    {
        if (SettingsWidget->objectName().isEmpty())
            SettingsWidget->setObjectName(QStringLiteral("SettingsWidget"));
        SettingsWidget->resize(827, 654);
        gridLayout = new QGridLayout(SettingsWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        label_2 = new QLabel(SettingsWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setOpenExternalLinks(true);
        label_2->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignVCenter);

        gridLayout->addWidget(label_2, 20, 0, 1, 2);

        label = new QLabel(SettingsWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        gridLayout->addWidget(label, 6, 0, 1, 2);

```

```
        label_6 = new QLabel(SettingsWidget);
        label_6->setObjectName(QStringLiteral("label_6"));
        label_6->setFont(font);

        gridLayout->addWidget(label_6, 12, 0, 1, 2);

        gridLayout_5 = new QGridLayout();
        gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_7, 2, 2, 1, 1);

        devicesLabel = new QLabel(SettingsWidget);
        devicesLabel->setObjectName(QStringLiteral("devicesLabel"));

        gridLayout_5->addWidget(devicesLabel, 0, 0, 1, 3);

        label_5 = new QLabel(SettingsWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout_5->addWidget(label_5, 2, 0, 1, 1);

        layoutBox = new QComboBox(SettingsWidget);
        layoutBox->setObjectName(QStringLiteral("layoutBox"));

        gridLayout_5->addWidget(layoutBox, 2, 1, 1, 1);

        verticalSpacer_10 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_5->addItem(verticalSpacer_10, 1, 0, 1, 1);


        gridLayout->addLayout(gridLayout_5, 4, 1, 1, 1);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        label_3 = new QLabel(SettingsWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        label_3->setOpenExternalLinks(true);

        horizontalLayout_2->addWidget(label_3);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer);

        pushButton = new QPushButton(SettingsWidget);
        pushButton->setObjectName(QStringLiteral("pushButton"));
        pushButton->setFlat(false);

        horizontalLayout_2->addWidget(pushButton);


        gridLayout->addLayout(horizontalLayout_2, 21, 0, 1, 2);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer, 19, 0, 1, 2);

        verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 16, 0, 1, 1);

        loginItemBox = new QCheckBox(SettingsWidget);
        loginItemBox->setObjectName(QStringLiteral("loginItemBox"));

        gridLayout->addWidget(loginItemBox, 16, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_6, 15, 0, 1, 1);

        autoFWBox = new QCheckBox(SettingsWidget);
        autoFWBox->setObjectName(QStringLiteral("autoFWBox"));
        autoFWBox->setChecked(true);

        gridLayout->addWidget(autoFWBox, 15, 1, 1, 1);

        line_2 = new QFrame(SettingsWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
```

```
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 13, 0, 1, 2);

        label_8 = new QLabel(SettingsWidget);
        label_8->setObjectName(QStringLiteral("label_8"));
        QFont font1;
        font1.setItalic(true);
        label_8->setFont(font1);

        gridLayout->addWidget(label_8, 8, 1, 1, 1);

        gridLayout_3 = new QGridLayout();
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        shiftLabel = new QLabel(SettingsWidget);
        shiftLabel->setObjectName(QStringLiteral("shiftLabel"));
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(shiftLabel->sizePolicy().hasHeightForWidth());
        shiftLabel->setSizePolicy(sizePolicy);
        shiftLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(shiftLabel, 0, 3, 1, 1);

        capsLabel = new QLabel(SettingsWidget);
        capsLabel->setObjectName(QStringLiteral("capsLabel"));
        capsLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(capsLabel, 0, 1, 1, 1);

        horizontalSpacer_10 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_10, 0, 0, 1, 1);

        capsBox = new QComboBox(SettingsWidget);
        capsBox->setObjectName(QStringLiteral("capsBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(capsBox->sizePolicy().hasHeightForWidth());
        capsBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(capsBox, 0, 2, 1, 1);

        ctrlLabel = new QLabel(SettingsWidget);
        ctrlLabel->setObjectName(QStringLiteral("ctrlLabel"));
        ctrlLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(ctrlLabel, 1, 1, 1, 1);

        horizontalSpacer_9 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_9, 1, 7, 1, 1);

        ctrlBox = new QComboBox(SettingsWidget);
        ctrlBox->setObjectName(QStringLiteral("ctrlBox"));

        gridLayout_3->addWidget(ctrlBox, 1, 2, 1, 1);

        shiftBox = new QComboBox(SettingsWidget);
        shiftBox->setObjectName(QStringLiteral("shiftBox"));
        sizePolicy1.setHeightForWidth(shiftBox->sizePolicy().hasHeightForWidth());
        shiftBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(shiftBox, 0, 4, 1, 1);

        winLabel = new QLabel(SettingsWidget);
        winLabel->setObjectName(QStringLiteral("winLabel"));
        sizePolicy.setHeightForWidth(winLabel->sizePolicy().hasHeightForWidth());
        winLabel->setSizePolicy(sizePolicy);
        winLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(winLabel, 1, 3, 1, 1);

        winBox = new QComboBox(SettingsWidget);
        winBox->setObjectName(QStringLiteral("winBox"));
        sizePolicy1.setHeightForWidth(winBox->sizePolicy().hasHeightForWidth());
        winBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(winBox, 1, 4, 1, 1);

        altBox = new QComboBox(SettingsWidget);
        altBox->setObjectName(QStringLiteral("altBox"));
        sizePolicy1.setHeightForWidth(altBox->sizePolicy().hasHeightForWidth());
```

```
        altBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(altBox, 1, 6, 1, 1);

        altLabel = new QLabel(SettingsWidget);
        altLabel->setObjectName(QStringLiteral("altLabel"));
        sizePolicy.setHeightForWidth(altLabel->sizePolicy().hasHeightForWidth());
        altLabel->setSizePolicy(sizePolicy);
        altLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(altLabel, 1, 5, 1, 1);


        gridLayout->addLayout(gridLayout_3, 10, 1, 1, 1);

        line = new QFrame(SettingsWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 1, 0, 1, 2);

        verticalSpacer_3 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_3, 2, 1, 1, 1);

        verticalSpacer_5 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_5, 11, 1, 1, 1);

        line_3 = new QFrame(SettingsWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(line_3->sizePolicy().hasHeightForWidth());
        line_3->setSizePolicy(sizePolicy2);
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 7, 0, 1, 2);

        verticalSpacer_4 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_4, 9, 1, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);

        versionLabel = new QLabel(SettingsWidget);
        versionLabel->setObjectName(QStringLiteral("versionLabel"));
        versionLabel->setFont(font);

        gridLayout->addWidget(versionLabel, 0, 0, 1, 2);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        extraButton = new QPushButton(SettingsWidget);
        extraButton->setObjectName(QStringLiteral("extraButton"));

        horizontalLayout->addWidget(extraButton);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_2);


        gridLayout->addLayout(horizontalLayout, 17, 1, 1, 1);

        verticalSpacer_7 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_7, 17, 0, 1, 1);


        retranslateUi(SettingsWidget);

        QMetaObject::connectSlotsByName(SettingsWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.84.3 Field Documentation

12.84.3.1 QComboBox* Ui_SettingsWidget::altBox [inherited]

Definition at line 64 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.2 QLabel* Ui_SettingsWidget::altLabel [inherited]

Definition at line 65 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.3 QCheckBox* Ui_SettingsWidget::autoFWBox [inherited]

Definition at line 50 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::SettingsWidget(), and Ui_SettingsWidget::setupUi().

12.84.3.4 QComboBox* Ui_SettingsWidget::capsBox [inherited]

Definition at line 57 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.5 QLabel* Ui_SettingsWidget::capsLabel [inherited]

Definition at line 55 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.6 QComboBox* Ui_SettingsWidget::ctrlBox [inherited]

Definition at line 60 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.7 QLabel* Ui_SettingsWidget::ctrlLabel [inherited]

Definition at line 58 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.8 QLabel* Ui_SettingsWidget::devicesLabel [inherited]

Definition at line 38 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::setStatus(), and Ui_SettingsWidget::setupUi().

12.84.3.9 QPushButton* Ui_SettingsWidget::extraButton [inherited]

Definition at line 74 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.10 QGridLayout* Ui_SettingsWidget::gridLayout [inherited]

Definition at line 32 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.11 QGridLayout* Ui_SettingsWidget::gridLayout_3 [inherited]

Definition at line 53 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.12 QGridLayout* Ui_SettingsWidget::gridLayout_5 [inherited]

Definition at line 36 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.13 QHBoxLayout* Ui_SettingsWidget::horizontalLayout [inherited]

Definition at line 73 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.14 QHBoxLayout* Ui_SettingsWidget::horizontalLayout_2 [inherited]

Definition at line 42 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.15 QSpacerItem* Ui_SettingsWidget::horizontalSpacer [inherited]

Definition at line 44 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.16 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_10 [inherited]

Definition at line 56 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.17 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_2 [inherited]

Definition at line 75 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.18 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_7 [inherited]

Definition at line 37 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.19 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_9 [inherited]

Definition at line 59 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.20 QLabel* Ui_SettingsWidget::label [inherited]

Definition at line 34 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.21 QLabel* Ui_SettingsWidget::label_2 [inherited]

Definition at line 33 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.22 QLabel* Ui_SettingsWidget::label_3 [inherited]

Definition at line 43 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.23 QLabel* Ui_SettingsWidget::label_5 [inherited]

Definition at line 39 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.24 QLabel* Ui_SettingsWidget::label_6 [inherited]

Definition at line 35 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.25 QLabel* Ui_SettingsWidget::label_8 [inherited]

Definition at line 52 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.26 QComboBox* Ui_SettingsWidget::layoutBox [inherited]

Definition at line 40 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::showLayout-Dialog().

12.84.3.27 QFrame* Ui_SettingsWidget::line [inherited]

Definition at line 66 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.28 QFrame* Ui_SettingsWidget::line_2 [inherited]

Definition at line 51 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.29 QFrame* Ui_SettingsWidget::line_3 [inherited]

Definition at line 69 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.30 QCheckBox* Ui_SettingsWidget::loginItemBox [inherited]

Definition at line 48 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::SettingsWidget(), and Ui_SettingsWidget-::setupUi().

12.84.3.31 QPushButton* Ui_SettingsWidget::pushButton [inherited]

Definition at line 45 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.32 QComboBox* Ui_SettingsWidget::shiftBox [inherited]

Definition at line 61 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.33 QLabel* Ui_SettingsWidget::shiftLabel [inherited]

Definition at line 54 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.34 QLabel* Ui_SettingsWidget::versionLabel [inherited]

Definition at line 72 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), Ui_SettingsWidget::setupUi(), and SettingsWidget::setVersion().

12.84.3.35 QSpacerItem* Ui_SettingsWidget::verticalSpacer [inherited]

Definition at line 46 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.36 QSpacerItem* Ui_SettingsWidget::verticalSpacer_10 [inherited]

Definition at line 41 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.37 QSpacerItem* Ui_SettingsWidget::verticalSpacer_2 [inherited]

Definition at line 71 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.38 QSpacerItem* Ui_SettingsWidget::verticalSpacer_3 [inherited]

Definition at line 67 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.39 QSpacerItem* Ui_SettingsWidget::verticalSpacer_4 [inherited]

Definition at line 70 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.40 QSpacerItem* Ui_SettingsWidget::verticalSpacer_5 [inherited]

Definition at line 68 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.41 QSpacerItem* Ui_SettingsWidget::verticalSpacer_6 [inherited]

Definition at line 49 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.42 QSpacerItem* Ui_SettingsWidget::verticalSpacer_7 [inherited]

Definition at line 76 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.43 QSpacerItem* Ui_SettingsWidget::verticalSpacer_8 [inherited]

Definition at line 47 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.44 QComboBox* Ui_SettingsWidget::winBox [inherited]

Definition at line 63 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.45 QLabel* Ui_SettingsWidget::winLabel [inherited]

Definition at line 62 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_settingswidget.h

12.85 SGroup Class Reference

```
#include <src/ckb/ckbsettings.h>
```

Collaboration diagram for SGroup:

Public Member Functions

- SGroup (CkbSettings &settings, const QString &prefix)
- ~SGroup ()

Private Attributes

- CkbSettings & _settings

12.85.1 Detailed Description

Definition at line 57 of file ckbsettings.h.

12.85.2 Constructor & Destructor Documentation

12.85.2.1 SGroup::SGroup (CkbSettings & *settings*, const QString & *prefix*) [inline]

Definition at line 60 of file ckbsettings.h.

References CkbSettings::beginGroup().

```
60 : _settings(settings) { settings.beginGroup(prefix); }
```

Here is the call graph for this function:

12.85.2.2 SGroup::~SGroup ( ) [inline]

Definition at line 61 of file ckbsettings.h.

References _settings, and CkbSettings::endGroup().

```
61 { _settings.endGroup(); }
```

Here is the call graph for this function:

12.85.3 Field Documentation

12.85.3.1 CkbSettings& SGroup::_settings [private]

Definition at line 64 of file ckbsettings.h.

Referenced by ~SGroup().

The documentation for this class was generated from the following file:

- src/ckb/ckbsettings.h

12.86 Ui_AnimAddDialog Class Reference

```
#include <src/ckb/ui_animadddialog.h>
```

Inheritance diagram for Ui_AnimAddDialog:

Collaboration diagram for Ui_AnimAddDialog:

Public Member Functions

- void setupUi (QDialog *AnimAddDialog)
- void retranslateUi (QDialog *AnimAddDialog)

Data Fields

- QGridLayout * gridLayout
- QHBoxLayout * horizontalLayout
- QDialogButtonBox * buttonBox
- QSpacerItem * horizontalSpacer_2
- QComboBox * animBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_2
- QLabel * label
- QSpacerItem * verticalSpacer_3
- QComboBox * presetBox
- QSpacerItem * horizontalSpacer
- QCheckBox * previewBox

12.86.1 Detailed Description

Definition at line 28 of file ui_animadddialog.h.

12.86.2 Member Function Documentation

12.86.2.1 void Ui_AnimAddDialog::retranslateUi (QDialog * *AnimAddDialog*) [inline]

Definition at line 135 of file ui_animadddialog.h.

References label, label_2, and previewBox.

Referenced by setupUi().

```
    {
        AnimAddDialog->setWindowTitle(QApplication::translate("AnimAddDialog", "Add Animation", Q_NULLPTR))
;
        label_2->setText(QApplication::translate("AnimAddDialog", "Preset:", Q_NULLPTR));
        label->setText(QApplication::translate("AnimAddDialog", "Animation:", Q_NULLPTR));
        previewBox->setText(QApplication::translate("AnimAddDialog", "Show preview", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.86.2.2 void Ui_AnimAddDialog::setupUi (QDialog * *AnimAddDialog*) [inline]

Definition at line 44 of file ui_animadddialog.h.

References animBox, buttonBox, gridLayout, horizontalLayout, horizontalSpacer, horizontalSpacer_2, label, label_2, presetBox, previewBox, retranslateUi(), verticalSpacer_2, and verticalSpacer_3.

Referenced by AnimAddDialog::AnimAddDialog().

```
    {
        if (AnimAddDialog->objectName().isEmpty())
            AnimAddDialog->setObjectName(QStringLiteral("AnimAddDialog"));
        AnimAddDialog->resize(350, 205);
```

```
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(AnimAddDialog->sizePolicy().hasHeightForWidth());
        AnimAddDialog->setSizePolicy(sizePolicy);
        gridLayout = new QGridLayout(AnimAddDialog);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        buttonBox = new QDialogButtonBox(AnimAddDialog);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Horizontal);
        buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
        buttonBox->setCenterButtons(false);

        horizontalLayout->addWidget(buttonBox);


        gridLayout->addLayout(horizontalLayout, 5, 0, 1, 4);

        horizontalSpacer_2 = new QSpacerItem(50, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);

        animBox = new QComboBox(AnimAddDialog);
        animBox->setObjectName(QStringLiteral("animBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(animBox, 1, 2, 1, 1);

        label_2 = new QLabel(AnimAddDialog);
        label_2->setObjectName(QStringLiteral("label_2"));
        QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Preferred);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
        label_2->setSizePolicy(sizePolicy2);
        label_2->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout->addWidget(label_2, 2, 1, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer_2, 4, 2, 1, 1);

        label = new QLabel(AnimAddDialog);
        label->setObjectName(QStringLiteral("label"));
         sizePolicy2.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
         label->setSizePolicy(sizePolicy2);
         label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

         gridLayout->addWidget(label, 1, 1, 1, 1);

         verticalSpacer_3 = new QSpacerItem(20, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);

         gridLayout->addItem(verticalSpacer_3, 0, 2, 1, 1);

         presetBox = new QComboBox(AnimAddDialog);
         presetBox->setObjectName(QStringLiteral("presetBox"));
         sizePolicy1.setHeightForWidth(presetBox->sizePolicy().hasHeightForWidth());
         presetBox->setSizePolicy(sizePolicy1);

         gridLayout->addWidget(presetBox, 2, 2, 1, 1);

         horizontalSpacer = new QSpacerItem(50, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

         gridLayout->addItem(horizontalSpacer, 1, 0, 1, 1);

         previewBox = new QCheckBox(AnimAddDialog);
         previewBox->setObjectName(QStringLiteral("previewBox"));
         previewBox->setChecked(true);

         gridLayout->addWidget(previewBox, 3, 2, 1, 1);


         retranslateUi(AnimAddDialog);
         QObject::connect(buttonBox, SIGNAL(accepted()), AnimAddDialog, SLOT(accept()));
         QObject::connect(buttonBox, SIGNAL(rejected()), AnimAddDialog, SLOT(reject()));

```

```
        QMetaObject::connectSlotsByName(AnimAddDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.86.3 Field Documentation

12.86.3.1 QComboBox* Ui_AnimAddDialog::animBox

Definition at line 35 of file ui_animadddialog.h.

Referenced by AnimAddDialog::AnimAddDialog(), AnimAddDialog::chosenScript(), and setupUi().

12.86.3.2 QDialogButtonBox* Ui_AnimAddDialog::buttonBox

Definition at line 33 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.3 QGridLayout* Ui_AnimAddDialog::gridLayout

Definition at line 31 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.4 QHBoxLayout* Ui_AnimAddDialog::horizontalLayout

Definition at line 32 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.5 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer

Definition at line 41 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.6 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer_2

Definition at line 34 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.7 QLabel* Ui_AnimAddDialog::label

Definition at line 38 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.8 QLabel* Ui_AnimAddDialog::label_2

Definition at line 36 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.9 QComboBox* Ui_AnimAddDialog::presetBox

Definition at line 40 of file ui_animadddialog.h.

Referenced by AnimAddDialog::chosenPreset(), AnimAddDialog::on_animBox_activated(), AnimAddDialog::on_previewBox_clicked(), and setupUi().

12.86.3.10 QCheckBox* Ui_AnimAddDialog::previewBox

Definition at line 42 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.11 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_2

Definition at line 37 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.12 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_3

Definition at line 39 of file ui_animadddialog.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_animadddialog.h

12.87 Ui_AnimSettingDialog Class Reference

```
#include <src/ckb/ui_animsettingdialog.h>
```

Inheritance diagram for Ui_AnimSettingDialog:

Collaboration diagram for Ui_AnimSettingDialog:

Public Member Functions

- void setupUi (QDialog *AnimSettingDialog)
- void retranslateUi (QDialog *AnimSettingDialog)

Data Fields

- QGridLayout * gridLayout
- QDialogButtonBox * buttonBox
- QTabWidget * tabWidget
- QWidget * settingTab
- QGridLayout * settingsGrid
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QLineEdit * animName
- QWidget * timeTab
- QGridLayout * timeGrid
- QSpacerItem * horizontalSpacer_5
- QLabel * kpRepeatLabel
- QLabel * repeatLabel
- QDoubleSpinBox * repeatBox
- QLabel * repeatLabel_2
- QFrame * line
- QLabel * kpRepeatLabel_2
- QLabel * label_4
- QLabel * label_8
- QDoubleSpinBox * kpDelayBox
- QLabel * label_13
- QLabel * label_12
- QDoubleSpinBox * delayBox
- QCheckBox * kpModeStopBox
- QLabel * label_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QCheckBox * kpReleaseBox
- QLabel * label_6
- QDoubleSpinBox * kpRepeatBox
- QSpacerItem * verticalSpacer_2
- QFrame * line_2
- QSpacerItem * horizontalSpacer_6
- QWidget * infoTab
- QGridLayout * gridLayout_2
- QLabel * sNameLabel
- QLabel * label_7
- QLabel * label_11
- QLabel * sAuthorLabel
- QLabel * label_9
- QLabel * label_5
- QLabel * sYearLabel
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- QLabel * sVerLabel
- QLabel * sLicenseLabel
- QLabel * label
- QSpacerItem * verticalSpacer
- QLabel * sDescLabel

12.87.1 Detailed Description

Definition at line 31 of file ui_animsettingdialog.h.

12.87.2 Member Function Documentation

12.87.2.1 void Ui_AnimSettingDialog::retranslateUi (QDialog * *AnimSettingDialog*) [inline]

Definition at line 349 of file ui_animsettingdialog.h.

References infoTab, kpModeStopBox, kpReleaseBox, kpRepeatLabel, kpRepeatLabel_2, label, label_10, label_11, label_12, label_13, label_2, label_3, label_4, label_5, label_6, label_7, label_8, label_9, repeatLabel, repeatLabel_2, sAuthorLabel, sDescLabel, settingTab, sLicenseLabel, sNameLabel, sVerLabel, sYearLabel, tabWidget, and timeTab.

Referenced by setupUi().

```
350     {
351         AnimSettingDialog->setWindowTitle(QApplication::translate("AnimSettingDialog", "Dialog", Q_NULLPTR)
    );
352         label_2->setText(QApplication::translate("AnimSettingDialog", "Name:", Q_NULLPTR));
353         tabWidget->setTabText(tabWidget->indexOf(settingTab),
    QApplication::translate("AnimSettingDialog", "Settings", Q_NULLPTR));
354         kpRepeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
355         repeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
356         repeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
    Q_NULLPTR));
357         kpRepeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
    Q_NULLPTR));
358         label_4->setText(QApplication::translate("AnimSettingDialog", "<b>On mode start</b>",
    Q_NULLPTR));
359         label_8->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
360         label_13->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
361         label_12->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
362         kpModeStopBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key press
    ", Q_NULLPTR));
363         label_10->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
364         kpReleaseBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key release
    ", Q_NULLPTR));
365         label_6->setText(QApplication::translate("AnimSettingDialog", "<b>On key press</b>",
    Q_NULLPTR));
366         tabWidget->setTabText(tabWidget->indexOf(timeTab), QApplication::translate
    ("AnimSettingDialog", "Timing", Q_NULLPTR));
367         sNameLabel->setText(QApplication::translate("AnimSettingDialog", "Name", Q_NULLPTR));
368         label_7->setText(QApplication::translate("AnimSettingDialog", "Year:", Q_NULLPTR));
369         label_11->setText(QApplication::translate("AnimSettingDialog", "Description:", Q_NULLPTR));
370         sAuthorLabel->setText(QApplication::translate("AnimSettingDialog", "Author", Q_NULLPTR)
    );
371         label_9->setText(QApplication::translate("AnimSettingDialog", "License:", Q_NULLPTR));
372         label_5->setText(QApplication::translate("AnimSettingDialog", "Version:", Q_NULLPTR));
373         sYearLabel->setText(QApplication::translate("AnimSettingDialog", "Year", Q_NULLPTR));
374         label_3->setText(QApplication::translate("AnimSettingDialog", "Author:", Q_NULLPTR));
375         sVerLabel->setText(QApplication::translate("AnimSettingDialog", "Version", Q_NULLPTR));
376         sLicenseLabel->setText(QApplication::translate("AnimSettingDialog", "License",
    Q_NULLPTR));
377         label->setText(QApplication::translate("AnimSettingDialog", "Script name:", Q_NULLPTR));
378         sDescLabel->setText(QApplication::translate("AnimSettingDialog", "Description", Q_NULLPTR
    ));
379         tabWidget->setTabText(tabWidget->indexOf(infoTab), QApplication::translate
    ("AnimSettingDialog", "About", Q_NULLPTR));
380     } // retranslateUi
```

Here is the caller graph for this function:

12.87.2.2 void Ui_AnimSettingDialog::setupUi (QDialog * *AnimSettingDialog*) [inline]

Definition at line 85 of file ui_animsettingdialog.h.

References animName, buttonBox, delayBox, gridLayout, gridLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, infoTab, kpDelayBox, kpModeStopBox, kpReleaseBox, kpRepeatBox, kpRepeatLabel, kpRepeatLabel_2, label, label_10, label_11, label_12, label_13, label_2, label_3, label_4, label_5, label_6, label_7, label_8, label_9, line, line_2, repeatBox, repeatLabel, repeatLabel_2, retranslateUi(), sAuthorLabel, sDescLabel, settingsGrid, settingTab, sLicenseLabel, sNameLabel, sVerLabel, sYearLabel, tabWidget, timeGrid, timeTab, verticalSpacer, verticalSpacer_2, and verticalSpacer_3.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
86     {
87         if (AnimSettingDialog->objectName().isEmpty())
88             AnimSettingDialog->setObjectName(QStringLiteral("AnimSettingDialog"));
89         AnimSettingDialog->resize(480, 457);
90         AnimSettingDialog->setMinimumSize(QSize(480, 0));
91         AnimSettingDialog->setFocusPolicy(Qt::ClickFocus);
92         gridLayout = new QGridLayout(AnimSettingDialog);
93         gridLayout->setObjectName(QStringLiteral("gridLayout"));
94         buttonBox = new QDialogButtonBox(AnimSettingDialog);
95         buttonBox->setObjectName(QStringLiteral("buttonBox"));
96         buttonBox->setOrientation(Qt::Horizontal);
97         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
98
99         gridLayout->addWidget(buttonBox, 2, 0, 1, 1);
100
101         tabWidget = new QTabWidget(AnimSettingDialog);
102         tabWidget->setObjectName(QStringLiteral("tabWidget"));
103         settingTab = new QWidget();
104         settingTab->setObjectName(QStringLiteral("settingTab"));
105         settingsGrid = new QGridLayout(settingTab);
106         settingsGrid->setSpacing(12);
107         settingsGrid->setObjectName(QStringLiteral("settingsGrid"));
108         settingsGrid->setContentsMargins(12, 12, 12, 12);
109         label_2 = new QLabel(settingTab);
110         label_2->setObjectName(QStringLiteral("label_2"));
111
112         settingsGrid->addWidget(label_2, 0, 1, 1, 1);
113
114         horizontalSpacer_3 = new QSpacerItem(5, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
115
116         settingsGrid->addItem(horizontalSpacer_3, 0, 2, 1, 1);
117
118         animName = new QLineEdit(settingTab);
119         animName->setObjectName(QStringLiteral("animName"));
120
121         settingsGrid->addWidget(animName, 0, 3, 1, 3);
122
123         tabWidget->addTab(settingTab, QString());
124         timeTab = new QWidget();
125         timeTab->setObjectName(QStringLiteral("timeTab"));
126         timeGrid = new QGridLayout(timeTab);
127         timeGrid->setSpacing(12);
128         timeGrid->setObjectName(QStringLiteral("timeGrid"));
129         timeGrid->setContentsMargins(12, 12, 12, 12);
130         horizontalSpacer_5 = new QSpacerItem(15, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
131
132         timeGrid->addItem(horizontalSpacer_5, 3, 2, 1, 1);
133
134         kpRepeatLabel = new QLabel(timeTab);
135         kpRepeatLabel->setObjectName(QStringLiteral("kpRepeatLabel"));
136
137         timeGrid->addWidget(kpRepeatLabel, 11, 1, 1, 1);
138
139         repeatLabel = new QLabel(timeTab);
140         repeatLabel->setObjectName(QStringLiteral("repeatLabel"));
141
142         timeGrid->addWidget(repeatLabel, 3, 1, 1, 1);
143
144         repeatBox = new QDoubleSpinBox(timeTab);
145         repeatBox->setObjectName(QStringLiteral("repeatBox"));
146         repeatBox->setDecimals(1);
147         repeatBox->setMinimum(0.1);
148         repeatBox->setMaximum(86400);
149
150         timeGrid->addWidget(repeatBox, 3, 3, 1, 1);
151
152         repeatLabel_2 = new QLabel(timeTab);
153         repeatLabel_2->setObjectName(QStringLiteral("repeatLabel_2"));
```

```
        timeGrid->addWidget(repeatLabel_2, 3, 4, 1, 1);

        line = new QFrame(timeTab);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        timeGrid->addWidget(line, 1, 0, 1, 6);

        kpRepeatLabel_2 = new QLabel(timeTab);
        kpRepeatLabel_2->setObjectName(QStringLiteral("kpRepeatLabel_2"));

        timeGrid->addWidget(kpRepeatLabel_2, 11, 4, 1, 1);

        label_4 = new QLabel(timeTab);
        label_4->setObjectName(QStringLiteral("label_4"));

        timeGrid->addWidget(label_4, 0, 0, 1, 6);

        label_8 = new QLabel(timeTab);
        label_8->setObjectName(QStringLiteral("label_8"));

        timeGrid->addWidget(label_8, 2, 4, 1, 1);

        kpDelayBox = new QDoubleSpinBox(timeTab);
        kpDelayBox->setObjectName(QStringLiteral("kpDelayBox"));
        kpDelayBox->setDecimals(1);
        kpDelayBox->setMaximum(86400);

        timeGrid->addWidget(kpDelayBox, 10, 3, 1, 1);

        label_13 = new QLabel(timeTab);
        label_13->setObjectName(QStringLiteral("label_13"));

        timeGrid->addWidget(label_13, 10, 4, 1, 1);

        label_12 = new QLabel(timeTab);
        label_12->setObjectName(QStringLiteral("label_12"));

        timeGrid->addWidget(label_12, 10, 1, 1, 1);

        delayBox = new QDoubleSpinBox(timeTab);
        delayBox->setObjectName(QStringLiteral("delayBox"));
        delayBox->setDecimals(1);
        delayBox->setMaximum(86400);

        timeGrid->addWidget(delayBox, 2, 3, 1, 1);

        kpModeStopBox = new QCheckBox(timeTab);
        kpModeStopBox->setObjectName(QStringLiteral("kpModeStopBox"));

        timeGrid->addWidget(kpModeStopBox, 5, 1, 1, 3);

        label_10 = new QLabel(timeTab);
        label_10->setObjectName(QStringLiteral("label_10"));

        timeGrid->addWidget(label_10, 2, 1, 1, 1);

        verticalSpacer_3 = new QSpacerItem(0, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        timeGrid->addItem(verticalSpacer_3, 7, 1, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        timeGrid->addItem(horizontalSpacer_4, 2, 5, 1, 1);

        kpReleaseBox = new QCheckBox(timeTab);
        kpReleaseBox->setObjectName(QStringLiteral("kpReleaseBox"));

        timeGrid->addWidget(kpReleaseBox, 14, 1, 1, 3);

        label_6 = new QLabel(timeTab);
        label_6->setObjectName(QStringLiteral("label_6"));

        timeGrid->addWidget(label_6, 8, 0, 1, 6);

        kpRepeatBox = new QDoubleSpinBox(timeTab);
        kpRepeatBox->setObjectName(QStringLiteral("kpRepeatBox"));
        kpRepeatBox->setDecimals(1);
        kpRepeatBox->setMinimum(0.1);
        kpRepeatBox->setMaximum(86400);

        timeGrid->addWidget(kpRepeatBox, 11, 3, 1, 1);

```

```
        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        timeGrid->addItem(verticalSpacer_2, 15, 1, 1, 1);

        line_2 = new QFrame(timeTab);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        timeGrid->addWidget(line_2, 9, 0, 1, 6);

        horizontalSpacer_6 = new QSpacerItem(0, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

        timeGrid->addItem(horizontalSpacer_6, 12, 2, 1, 1);

        tabWidget->addTab(timeTab, QString());
        infoTab = new QWidget();
        infoTab->setObjectName(QStringLiteral("infoTab"));
        gridLayout_2 = new QGridLayout(infoTab);
        gridLayout_2->setSpacing(12);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(12, 12, 12, 12);
        sNameLabel = new QLabel(infoTab);
        sNameLabel->setObjectName(QStringLiteral("sNameLabel"));

        gridLayout_2->addWidget(sNameLabel, 0, 2, 1, 1);

        label_7 = new QLabel(infoTab);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout_2->addWidget(label_7, 3, 0, 1, 1);

        label_11 = new QLabel(infoTab);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout_2->addWidget(label_11, 5, 0, 1, 1);

        sAuthorLabel = new QLabel(infoTab);
        sAuthorLabel->setObjectName(QStringLiteral("sAuthorLabel"));

        gridLayout_2->addWidget(sAuthorLabel, 2, 2, 1, 1);

        label_9 = new QLabel(infoTab);
        label_9->setObjectName(QStringLiteral("label_9"));

        gridLayout_2->addWidget(label_9, 4, 0, 1, 1);

        label_5 = new QLabel(infoTab);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout_2->addWidget(label_5, 1, 0, 1, 1);

        sYearLabel = new QLabel(infoTab);
        sYearLabel->setObjectName(QStringLiteral("sYearLabel"));

        gridLayout_2->addWidget(sYearLabel, 3, 2, 1, 1);

        label_3 = new QLabel(infoTab);
        label_3->setObjectName(QStringLiteral("label_3"));

        gridLayout_2->addWidget(label_3, 2, 0, 1, 1);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer, 0, 3, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_2, 0, 1, 1, 1);

        sVerLabel = new QLabel(infoTab);
        sVerLabel->setObjectName(QStringLiteral("sVerLabel"));

        gridLayout_2->addWidget(sVerLabel, 1, 2, 1, 1);

        sLicenseLabel = new QLabel(infoTab);
        sLicenseLabel->setObjectName(QStringLiteral("sLicenseLabel"));

        gridLayout_2->addWidget(sLicenseLabel, 4, 2, 1, 1);

        label = new QLabel(infoTab);
        label->setObjectName(QStringLiteral("label"));

```

```
        gridLayout_2->addWidget(label, 0, 0, 1, 1);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

        gridLayout_2->addItem(verticalSpacer, 6, 0, 1, 1);

        sDescLabel = new QLabel(infoTab);
        sDescLabel->setObjectName(QStringLiteral("sDescLabel"));
        sDescLabel->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);

        gridLayout_2->addWidget(sDescLabel, 5, 2, 2, 2);

        tabWidget->addTab(infoTab, QString());

        gridLayout->addWidget(tabWidget, 0, 0, 1, 1);


        retranslateUi(AnimSettingDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), AnimSettingDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), AnimSettingDialog, SLOT(reject()));

        tabWidget->setCurrentIndex(0);


        QMetaObject::connectSlotsByName(AnimSettingDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.87.3 Field Documentation

12.87.3.1 QLineEdit* Ui_AnimSettingDialog::animName

Definition at line 41 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), AnimSettingDialog::name(), and setupUi().

12.87.3.2 QDialogButtonBox* Ui_AnimSettingDialog::buttonBox

Definition at line 35 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.3 QDoubleSpinBox* Ui_AnimSettingDialog::delayBox

Definition at line 56 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.4 QGridLayout* Ui_AnimSettingDialog::gridLayout

Definition at line 34 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.5 QGridLayout* Ui_AnimSettingDialog::gridLayout_2

Definition at line 68 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.6 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer

Definition at line 77 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.7 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_2

Definition at line 78 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.8 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_3

Definition at line 40 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.9 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_4

Definition at line 60 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.10 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_5

Definition at line 44 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.11 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_6

Definition at line 66 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.12 QWidget* Ui_AnimSettingDialog::infoTab

Definition at line 67 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.13 QDoubleSpinBox* Ui_AnimSettingDialog::kpDelayBox

Definition at line 53 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.14 QCheckBox* Ui_AnimSettingDialog::kpModeStopBox

Definition at line 57 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.15 QCheckBox* Ui_AnimSettingDialog::kpReleaseBox

Definition at line 61 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.16 QDoubleSpinBox* Ui_AnimSettingDialog::kpRepeatBox

Definition at line 63 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.17 QLabel* Ui_AnimSettingDialog::kpRepeatLabel

Definition at line 45 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.18 QLabel* Ui_AnimSettingDialog::kpRepeatLabel_2

Definition at line 50 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.19 QLabel* Ui_AnimSettingDialog::label

Definition at line 81 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.20 QLabel* Ui_AnimSettingDialog::label_10

Definition at line 58 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.21 QLabel* Ui_AnimSettingDialog::label_11

Definition at line 71 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.22 QLabel* Ui_AnimSettingDialog::label_12

Definition at line 55 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.23 QLabel* Ui_AnimSettingDialog::label_13

Definition at line 54 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.24 QLabel* Ui_AnimSettingDialog::label_2

Definition at line 39 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.25 QLabel* Ui_AnimSettingDialog::label_3

Definition at line 76 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.26 QLabel* Ui_AnimSettingDialog::label_4

Definition at line 51 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.27 QLabel* Ui_AnimSettingDialog::label_5

Definition at line 74 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.28 QLabel* Ui_AnimSettingDialog::label_6

Definition at line 62 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.29 QLabel* Ui_AnimSettingDialog::label_7

Definition at line 70 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.30 QLabel* Ui_AnimSettingDialog::label_8

Definition at line 52 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.31 QLabel* Ui_AnimSettingDialog::label_9

Definition at line 73 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.32 QFrame* Ui_AnimSettingDialog::line

Definition at line 49 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.33 QFrame* Ui_AnimSettingDialog::line_2

Definition at line 65 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.34 QDoubleSpinBox* Ui_AnimSettingDialog::repeatBox

Definition at line 47 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.35 QLabel* Ui_AnimSettingDialog::repeatLabel

Definition at line 46 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.36 QLabel* Ui_AnimSettingDialog::repeatLabel_2

Definition at line 48 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.37 QLabel* Ui_AnimSettingDialog::sAuthorLabel

Definition at line 72 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.38 QLabel* Ui_AnimSettingDialog::sDescLabel

Definition at line 83 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.39 QGridLayout* Ui_AnimSettingDialog::settingsGrid

Definition at line 38 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.40 QWidget* Ui_AnimSettingDialog::settingTab

Definition at line 37 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.41 QLabel* Ui_AnimSettingDialog::sLicenseLabel

Definition at line 80 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.42 QLabel* Ui_AnimSettingDialog::sNameLabel

Definition at line 69 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.43 QLabel* Ui_AnimSettingDialog::sVerLabel

Definition at line 79 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.44 QLabel* Ui_AnimSettingDialog::sYearLabel

Definition at line 75 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.45 QTabWidget* Ui_AnimSettingDialog::tabWidget

Definition at line 36 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.46 QGridLayout* Ui_AnimSettingDialog::timeGrid

Definition at line 43 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.47 QWidget* Ui_AnimSettingDialog::timeTab

Definition at line 42 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.48 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer

Definition at line 82 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.49 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_2

Definition at line 64 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.50 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_3

Definition at line 59 of file ui_animsettingdialog.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_animsettingdialog.h

12.88 Ui_ExtraSettingsWidget Class Reference

```
#include <src/ckb/ui_extrasettingswidget.h>
```

Inheritance diagram for Ui_ExtraSettingsWidget:

Collaboration diagram for Ui_ExtraSettingsWidget:

Public Member Functions

- void setupUi (QDialog *ExtraSettingsWidget)
- void retranslateUi (QDialog *ExtraSettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_2
- QLabel * fpsWarnLabel
- QSpacerItem * horizontalSpacer_3
- QLabel * label_3
- QSpinBox * fpsBox
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_9
- QLabel * label_6
- QSpacerItem * verticalSpacer_6
- QSpacerItem * verticalSpacer_5
- QCheckBox * sAccelBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_8
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_11
- QSpacerItem * horizontalSpacer
- QFrame * line_2
- QHBoxLayout * horizontalLayout
- QLabel * animPathLabel
- QLabel * animCountLabel
- QPushButton * animScanButton
- QCheckBox * brightnessBox
- QCheckBox * trayBox
- QLabel * label
- QFrame * line
- QLabel * label_5
- QFrame * line_3
- QLabel * label_2
- QCheckBox * ditherBox
- QCheckBox * delayBox
- QLabel * osxLabel
- QFrame * osxLine
- QCheckBox * mAccelBox
- QWidget * sSpeedWidget
- QHBoxLayout * horizontalLayout_2
- QLabel * label_10
- QSpinBox * sSpeedBox
- QLabel * label_11
- QDialogButtonBox * buttonBox

12.88.1 Detailed Description

Definition at line 31 of file ui_extrasettingswidget.h.

12.88.2 Member Function Documentation

12.88.2.1 void Ui_ExtraSettingsWidget::retranslateUi (QDialog * *ExtraSettingsWidget*) [inline]

Definition at line 322 of file ui_extrasettingswidget.h.

References animCountLabel, animPathLabel, animScanButton, brightnessBox, delayBox, ditherBox, fpsWarnLabel, label, label_10, label_11, label_2, label_3, label_5, label_6, mAccelBox, osxLabel, sAccelBox, and trayBox.

Referenced by setupUi().

```
    {
        ExtraSettingsWidget->setWindowTitle(QApplication::translate("ExtraSettingsWidget", "Application Settings", Q_NULLPTR));
        fpsWarnLabel->setText(QApplication::translate("ExtraSettingsWidget", "Warning: high frame rates may cause stability issues", Q_NULLPTR));
        label_3->setText(QApplication::translate("ExtraSettingsWidget", "Frame rate (FPS):", Q_NULLPTR));
        label_6->setText(QApplication::translate("ExtraSettingsWidget", "Location:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        sAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're having problems with the scroll wheel.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        sAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable scroll acceleration", Q_NULLPTR));
        animPathLabel->setText(QApplication::translate("ExtraSettingsWidget", "/path/to/animations", Q_NULLPTR));
        animCountLabel->setText(QApplication::translate("ExtraSettingsWidget", "0 animations found", Q_NULLPTR));
        animScanButton->setText(QApplication::translate("ExtraSettingsWidget", "Re-scan", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        brightnessBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "By default, the same brightness level will be applied to all profiles and all devices. Enable this to store it with the lighting mode instead.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        brightnessBox->setText(QApplication::translate("ExtraSettingsWidget", "Set brightness per-mode", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        trayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "The tray icon will not be displayed. The application will still run in the background; re-launch the app to see the GUI again.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        trayBox->setText(QApplication::translate("ExtraSettingsWidget", "Hide tray icon", Q_NULLPTR));
        label->setText(QApplication::translate("ExtraSettingsWidget", "Behavior", Q_NULLPTR));
        label_5->setText(QApplication::translate("ExtraSettingsWidget", "Animation scripts", Q_NULLPTR));
        label_2->setText(QApplication::translate("ExtraSettingsWidget", "Hardware", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        ditherBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "May improve appearance on some keyboards.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        ditherBox->setText(QApplication::translate("ExtraSettingsWidget", "Use spatial dithering to simulate extra color resolution", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        delayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "When using macros with strings longer than 25 chars, some OS may lose characters (e.g. Mint 17.2). Select to prevent that bug.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        delayBox->setText(QApplication::translate("ExtraSettingsWidget", "Use delay for very long macros", Q_NULLPTR));
        osxLabel->setText(QApplication::translate("ExtraSettingsWidget", "OS X tweaks", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        mAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're having problems with mouse movement.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        mAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable mouse acceleration", Q_NULLPTR));
        label_10->setText(QApplication::translate("ExtraSettingsWidget", "Scroll", Q_NULLPTR));
        label_11->setText(QApplication::translate("ExtraSettingsWidget", "line(s) at a time", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.88.2.2 void Ui_ExtraSettingsWidget::setupUi (QDialog * *ExtraSettingsWidget*) [inline]

Definition at line 78 of file ui_extrasettingswidget.h.

References animCountLabel, animPathLabel, animScanButton, brightnessBox, buttonBox, delayBox, ditherBox, fpsBox, fpsWarnLabel, gridLayout, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, label, label_10, label_11, label_2, label_3, label_5, label_6, line, line_2, line_3, mAccelBox, osxLabel, osxLine, retranslateUi(), sAccelBox, sSpeedBox, sSpeedWidget, trayBox, verticalSpacer, verticalSpacer_10, verticalSpacer_11, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, and verticalSpacer_9.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget().

```
79     {
80         if (ExtraSettingsWidget->objectName().isEmpty())
81             ExtraSettingsWidget->setObjectName(QStringLiteral("ExtraSettingsWidget"));
82         ExtraSettingsWidget->resize(650, 515);
83         gridLayout = new QGridLayout(ExtraSettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
86
87         gridLayout->addItem(horizontalSpacer_2, 12, 2, 1, 1);
88
89         verticalSpacer = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);
90
91         gridLayout->addItem(verticalSpacer, 2, 0, 1, 1);
92
93         verticalSpacer_3 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
94
95         gridLayout->addItem(verticalSpacer_3, 3, 0, 1, 1);
96
97         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
98
99         gridLayout->addItem(verticalSpacer_2, 19, 5, 1, 1);
100
101         fpsWarnLabel = new QLabel(ExtraSettingsWidget);
102         fpsWarnLabel->setObjectName(QStringLiteral("fpsWarnLabel"));
103         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
104         sizePolicy.setHorizontalStretch(0);
105         sizePolicy.setVerticalStretch(0);
106         sizePolicy.setHeightForWidth(fpsWarnLabel->sizePolicy().hasHeightForWidth());
107         fpsWarnLabel->setSizePolicy(sizePolicy);
108
109         gridLayout->addWidget(fpsWarnLabel, 12, 5, 1, 1);
110
111         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
112
113         gridLayout->addItem(horizontalSpacer_3, 12, 4, 1, 1);
114
115         label_3 = new QLabel(ExtraSettingsWidget);
116         label_3->setObjectName(QStringLiteral("label_3"));
117
118         gridLayout->addWidget(label_3, 12, 1, 1, 1);
119
120         fpsBox = new QSpinBox(ExtraSettingsWidget);
121         fpsBox->setObjectName(QStringLiteral("fpsBox"));
122         fpsBox->setMinimum(5);
123         fpsBox->setMaximum(60);
124         fpsBox->setValue(30);
125
```

```
        gridLayout->addWidget(fpsBox, 12, 3, 1, 1);

        verticalSpacer_4 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_4, 7, 0, 1, 1);

        verticalSpacer_9 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_9, 12, 0, 1, 1);

        label_6 = new QLabel(ExtraSettingsWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 7, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_6, 8, 1, 1, 1);

        verticalSpacer_5 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_5, 4, 1, 1, 1);

        sAccelBox = new QCheckBox(ExtraSettingsWidget);
        sAccelBox->setObjectName(QStringLiteral("sAccelBox"));

        gridLayout->addWidget(sAccelBox, 18, 1, 1, 4);

        verticalSpacer_7 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_7, 14, 1, 1, 1);

        verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 13, 0, 1, 1);

        verticalSpacer_10 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_10, 17, 0, 1, 1);

        verticalSpacer_11 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_11, 18, 0, 1, 1);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 12, 6, 1, 1);

        line_2 = new QFrame(ExtraSettingsWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 10, 0, 1, 7);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        animPathLabel = new QLabel(ExtraSettingsWidget);
        animPathLabel->setObjectName(QStringLiteral("animPathLabel"));

        horizontalLayout->addWidget(animPathLabel);

        animCountLabel = new QLabel(ExtraSettingsWidget);
        animCountLabel->setObjectName(QStringLiteral("animCountLabel"));
        sizePolicy.setHeightForWidth(animCountLabel->sizePolicy().hasHeightForWidth());
        animCountLabel->setSizePolicy(sizePolicy);
        animCountLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        horizontalLayout->addWidget(animCountLabel);

        animScanButton = new QPushButton(ExtraSettingsWidget);
        animScanButton->setObjectName(QStringLiteral("animScanButton"));

        horizontalLayout->addWidget(animScanButton);


        gridLayout->addLayout(horizontalLayout, 7, 3, 1, 4);

```

```
        brightnessBox = new QCheckBox(ExtraSettingsWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));

        gridLayout->addWidget(brightnessBox, 3, 1, 1, 6);

        trayBox = new QCheckBox(ExtraSettingsWidget);
        trayBox->setObjectName(QStringLiteral("trayBox"));

        gridLayout->addWidget(trayBox, 2, 1, 1, 6);

        label = new QLabel(ExtraSettingsWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        gridLayout->addWidget(label, 0, 0, 1, 7);

        line = new QFrame(ExtraSettingsWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 1, 0, 1, 7);

        label_5 = new QLabel(ExtraSettingsWidget);
        label_5->setObjectName(QStringLiteral("label_5"));
        label_5->setFont(font);

        gridLayout->addWidget(label_5, 5, 0, 1, 7);

        line_3 = new QFrame(ExtraSettingsWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 6, 0, 1, 7);

        label_2 = new QLabel(ExtraSettingsWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        gridLayout->addWidget(label_2, 9, 0, 1, 7);

        ditherBox = new QCheckBox(ExtraSettingsWidget);
        ditherBox->setObjectName(QStringLiteral("ditherBox"));

        gridLayout->addWidget(ditherBox, 13, 1, 1, 6);

        delayBox = new QCheckBox(ExtraSettingsWidget);
        delayBox->setObjectName(QStringLiteral("delayBox"));

        gridLayout->addWidget(delayBox, 14, 1, 1, 6);

        osxLabel = new QLabel(ExtraSettingsWidget);
        osxLabel->setObjectName(QStringLiteral("osxLabel"));
        osxLabel->setFont(font);

        gridLayout->addWidget(osxLabel, 15, 0, 1, 7);

        osxLine = new QFrame(ExtraSettingsWidget);
        osxLine->setObjectName(QStringLiteral("osxLine"));
        osxLine->setFrameShape(QFrame::HLine);
        osxLine->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(osxLine, 16, 0, 1, 7);

        mAccelBox = new QCheckBox(ExtraSettingsWidget);
        mAccelBox->setObjectName(QStringLiteral("mAccelBox"));

        gridLayout->addWidget(mAccelBox, 17, 1, 1, 6);

        sSpeedWidget = new QWidget(ExtraSettingsWidget);
        sSpeedWidget->setObjectName(QStringLiteral("sSpeedWidget"));
        sizePolicy.setHeightForWidth(sSpeedWidget->sizePolicy().hasHeightForWidth());
        sSpeedWidget->setSizePolicy(sizePolicy);
        horizontalLayout_2 = new QHBoxLayout(sSpeedWidget);
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
        label_10 = new QLabel(sSpeedWidget);
        label_10->setObjectName(QStringLiteral("label_10"));

        horizontalLayout_2->addWidget(label_10);

        sSpeedBox = new QSpinBox(sSpeedWidget);
        sSpeedBox->setObjectName(QStringLiteral("sSpeedBox"));
```

```
        sSpeedBox->setMinimum(1);
        sSpeedBox->setMaximum(10);
        sSpeedBox->setValue(3);

        horizontalLayout_2->addWidget(sSpeedBox);

        label_11 = new QLabel(sSpeedWidget);
        label_11->setObjectName(QStringLiteral("label_11"));
        sizePolicy.setHeightForWidth(label_11->sizePolicy().hasHeightForWidth());
        label_11->setSizePolicy(sizePolicy);

        horizontalLayout_2->addWidget(label_11);


        gridLayout->addWidget(sSpeedWidget, 18, 5, 1, 2);

        buttonBox = new QDialogButtonBox(ExtraSettingsWidget);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Horizontal);
        buttonBox->setStandardButtons(QDialogButtonBox::Ok);

        gridLayout->addWidget(buttonBox, 20, 0, 1, 7);


        retranslateUi(ExtraSettingsWidget);
        QObject::connect(buttonBox, SIGNAL(accepted()), ExtraSettingsWidget, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), ExtraSettingsWidget, SLOT(reject()));

        QMetaObject::connectSlotsByName(ExtraSettingsWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.88.3 Field Documentation

12.88.3.1 QLabel* Ui_ExtraSettingsWidget::animCountLabel

Definition at line 57 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked(), retranslateUi(), and setupUi().

12.88.3.2 QLabel* Ui_ExtraSettingsWidget::animPathLabel

Definition at line 56 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.3 QPushButton* Ui_ExtraSettingsWidget::animScanButton

Definition at line 58 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.4 QCheckBox* Ui_ExtraSettingsWidget::brightnessBox

Definition at line 59 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.5 QDialogButtonBox* Ui_ExtraSettingsWidget::buttonBox

Definition at line 76 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.6 QCheckBox* Ui_ExtraSettingsWidget::delayBox

Definition at line 67 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.7 QCheckBox* Ui_ExtraSettingsWidget::ditherBox

Definition at line 66 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.8 QSpinBox* Ui_ExtraSettingsWidget::fpsBox

Definition at line 42 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and setupUi().

12.88.3.9 QLabel* Ui_ExtraSettingsWidget::fpsWarnLabel

Definition at line 39 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_fpsBox_valueChanged(), retranslateUi(), and setupUi().

12.88.3.10 QGridLayout* Ui_ExtraSettingsWidget::gridLayout

Definition at line 34 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.11 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout

Definition at line 55 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.12 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout_2

Definition at line 72 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.13 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer

Definition at line 53 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.14 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_2

Definition at line 35 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.15 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_3

Definition at line 40 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.16 QLabel* Ui_ExtraSettingsWidget::label

Definition at line 61 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.17 QLabel* Ui_ExtraSettingsWidget::label_10

Definition at line 73 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.18 QLabel* Ui_ExtraSettingsWidget::label_11

Definition at line 75 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.19 QLabel* Ui_ExtraSettingsWidget::label_2

Definition at line 65 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.20 QLabel∗ Ui_ExtraSettingsWidget::label_3

Definition at line 41 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.21 QLabel∗ Ui_ExtraSettingsWidget::label_5

Definition at line 63 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.22 QLabel∗ Ui_ExtraSettingsWidget::label_6

Definition at line 45 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.23 QFrame∗ Ui_ExtraSettingsWidget::line

Definition at line 62 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.24 QFrame∗ Ui_ExtraSettingsWidget::line_2

Definition at line 54 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.25 QFrame∗ Ui_ExtraSettingsWidget::line_3

Definition at line 64 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.26 QCheckBox∗ Ui_ExtraSettingsWidget::mAccelBox

Definition at line 70 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.27 QLabel∗ Ui_ExtraSettingsWidget::osxLabel

Definition at line 68 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.28 QFrame∗ Ui_ExtraSettingsWidget::osxLine

Definition at line 69 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and setupUi().

12.88.3.29 QCheckBox* Ui_ExtraSettingsWidget::sAccelBox

Definition at line 48 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), retranslateUi(), and setupUi().

12.88.3.30 QSpinBox* Ui_ExtraSettingsWidget::sSpeedBox

Definition at line 74 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and setupUi().

12.88.3.31 QWidget* Ui_ExtraSettingsWidget::sSpeedWidget

Definition at line 71 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and setupUi().

12.88.3.32 QCheckBox* Ui_ExtraSettingsWidget::trayBox

Definition at line 60 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.33 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer

Definition at line 36 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.34 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_10

Definition at line 51 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.35 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_11

Definition at line 52 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.36 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_2

Definition at line 38 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.37 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_3

Definition at line 37 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.38 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_4

Definition at line 43 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.39 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_5

Definition at line 47 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.40 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_6

Definition at line 46 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.41 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_7

Definition at line 49 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.42 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_8

Definition at line 50 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.43 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_9

Definition at line 44 of file ui_extrasettingswidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_extrasettingswidget.h

12.89 Ui_FwUpgradeDialog Class Reference

```
#include <src/ckb/ui_fwupgradedialog.h>
```

Inheritance diagram for Ui_FwUpgradeDialog:

Collaboration diagram for Ui_FwUpgradeDialog:

Public Member Functions

- void setupUi (QDialog *FwUpgradeDialog)
- void retranslateUi (QDialog *FwUpgradeDialog)

Data Fields

- QGridLayout * gridLayout_2
- QSpacerItem * horizontalSpacer
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_3
- QLabel * label_4
- QSpacerItem * horizontalSpacer_4
- QLabel * label_2
- QLabel * curLabel
- QLabel * newLabel
- QLabel * statusLabel
- QSpacerItem * horizontalSpacer_2
- QLabel * devLabel
- QProgressBar * progressBar
- QPushButton * actionButton
- QPushButton * cancelButton

12.89.1 Detailed Description

Definition at line 26 of file ui_fwupgradedialog.h.

12.89.2 Member Function Documentation

12.89.2.1 void Ui_FwUpgradeDialog::retranslateUi (QDialog * *FwUpgradeDialog*) [inline]

Definition at line 155 of file ui_fwupgradedialog.h.

References actionButton, cancelButton, curLabel, devLabel, label_2, label_4, newLabel, and statusLabel.

Referenced by setupUi().

```
    {
        FwUpgradeDialog->setWindowTitle(QApplication::translate("FwUpgradeDialog", "Firmware update", Q_NULLPTR));
        label_4->setText(QApplication::translate("FwUpgradeDialog", "New:", Q_NULLPTR));
        label_2->setText(QApplication::translate("FwUpgradeDialog", "Current:", Q_NULLPTR));
        curLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
        newLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
        statusLabel->setText(QApplication::translate("FwUpgradeDialog", "Downloading new firmware, please wait...", Q_NULLPTR));
        devLabel->setText(QApplication::translate("FwUpgradeDialog", "Device", Q_NULLPTR));
        actionButton->setText(QApplication::translate("FwUpgradeDialog", "Start", Q_NULLPTR));
        cancelButton->setText(QApplication::translate("FwUpgradeDialog", "Cancel", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.89.2.2 void Ui_FwUpgradeDialog::setupUi (QDialog * *FwUpgradeDialog*) [inline]

Definition at line 45 of file ui_fwupgradedialog.h.

References actionButton, cancelButton, curLabel, devLabel, gridLayout, gridLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, label_2, label_4, newLabel, progressBar, retranslateUi(), and statusLabel.

Referenced by FwUpgradeDialog::FwUpgradeDialog().

```
46     {
47         if (FwUpgradeDialog->objectName().isEmpty())
48             FwUpgradeDialog->setObjectName(QStringLiteral("FwUpgradeDialog"));
49         FwUpgradeDialog->resize(420, 240);
50         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
51         sizePolicy.setHorizontalStretch(0);
52         sizePolicy.setVerticalStretch(0);
53         sizePolicy.setHeightForWidth(FwUpgradeDialog->sizePolicy().hasHeightForWidth());
54         FwUpgradeDialog->setSizePolicy(sizePolicy);
55         gridLayout_2 = new QGridLayout(FwUpgradeDialog);
56         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
57         horizontalSpacer = new QSpacerItem(127, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
58
59         gridLayout_2->addItem(horizontalSpacer, 1, 0, 1, 1);
60
61         gridLayout = new QGridLayout();
62         gridLayout->setObjectName(QStringLiteral("gridLayout"));
63         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
64
65         gridLayout->addItem(horizontalSpacer_3, 1, 0, 1, 1);
66
67         label_4 = new QLabel(FwUpgradeDialog);
68         label_4->setObjectName(QStringLiteral("label_4"));
69         QFont font;
70         font.setBold(true);
71         font.setWeight(75);
72         label_4->setFont(font);
73
74         gridLayout->addWidget(label_4, 1, 4, 1, 1);
75
76         horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
77
78         gridLayout->addItem(horizontalSpacer_4, 1, 6, 1, 1);
79
80         label_2 = new QLabel(FwUpgradeDialog);
81         label_2->setObjectName(QStringLiteral("label_2"));
82         label_2->setFont(font);
83
84         gridLayout->addWidget(label_2, 1, 1, 1, 1);
85
86         curLabel = new QLabel(FwUpgradeDialog);
87         curLabel->setObjectName(QStringLiteral("curLabel"));
88
89         gridLayout->addWidget(curLabel, 1, 2, 1, 1);
90
91         newLabel = new QLabel(FwUpgradeDialog);
92         newLabel->setObjectName(QStringLiteral("newLabel"));
93
94         gridLayout->addWidget(newLabel, 1, 5, 1, 1);
95
96         statusLabel = new QLabel(FwUpgradeDialog);
97         statusLabel->setObjectName(QStringLiteral("statusLabel"));
98         QSizePolicy sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Expanding);
99         sizePolicy1.setHorizontalStretch(0);
100         sizePolicy1.setVerticalStretch(0);
101         sizePolicy1.setHeightForWidth(statusLabel->sizePolicy().hasHeightForWidth());
102         statusLabel->setSizePolicy(sizePolicy1);
103         statusLabel->setAlignment(Qt::AlignCenter);
104         statusLabel->setWordWrap(true);
105
106         gridLayout->addWidget(statusLabel, 2, 0, 1, 7);
107
108         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
109
110         gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);
111
112         devLabel = new QLabel(FwUpgradeDialog);
113         devLabel->setObjectName(QStringLiteral("devLabel"));
114         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Minimum);
115         sizePolicy2.setHorizontalStretch(0);
```

```
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(devLabel->sizePolicy().hasHeightForWidth());
        devLabel->setSizePolicy(sizePolicy2);
        devLabel->setFont(font);
        devLabel->setAlignment(Qt::AlignCenter);

        gridLayout->addWidget(devLabel, 0, 0, 1, 7);

        progressBar = new QProgressBar(FwUpgradeDialog);
        progressBar->setObjectName(QStringLiteral("progressBar"));
        progressBar->setMaximum(0);
        progressBar->setValue(0);

        gridLayout->addWidget(progressBar, 3, 0, 1, 7);


        gridLayout_2->addLayout(gridLayout, 0, 0, 1, 3);

        actionButton = new QPushButton(FwUpgradeDialog);
        actionButton->setObjectName(QStringLiteral("actionButton"));
        actionButton->setEnabled(false);

        gridLayout_2->addWidget(actionButton, 1, 2, 1, 1);

        cancelButton = new QPushButton(FwUpgradeDialog);
        cancelButton->setObjectName(QStringLiteral("cancelButton"));
        cancelButton->setEnabled(false);

        gridLayout_2->addWidget(cancelButton, 1, 1, 1, 1);


        retranslateUi(FwUpgradeDialog);

        actionButton->setDefault(true);


        QMetaObject::connectSlotsByName(FwUpgradeDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.89.3 Field Documentation

12.89.3.1 QPushButton* Ui_FwUpgradeDialog::actionButton

Definition at line 42 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

12.89.3.2 QPushButton* Ui_FwUpgradeDialog::cancelButton

Definition at line 43 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

12.89.3.3 QLabel* Ui_FwUpgradeDialog::curLabel

Definition at line 36 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.4 QLabel* Ui_FwUpgradeDialog::devLabel

Definition at line 40 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.5 QGridLayout* Ui_FwUpgradeDialog::gridLayout

Definition at line 31 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.6 QGridLayout* Ui_FwUpgradeDialog::gridLayout_2

Definition at line 29 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.7 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer

Definition at line 30 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.8 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_2

Definition at line 39 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.9 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_3

Definition at line 32 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.10 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_4

Definition at line 34 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.11 QLabel* Ui_FwUpgradeDialog::label_2

Definition at line 35 of file ui_fwupgradedialog.h.

Referenced by retranslateUi(), and setupUi().

12.89.3.12 QLabel* Ui_FwUpgradeDialog::label_4

Definition at line 33 of file ui_fwupgradedialog.h.

Referenced by retranslateUi(), and setupUi().

12.89.3.13 QLabel* Ui_FwUpgradeDialog::newLabel

Definition at line 37 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.14 QProgressBar* Ui_FwUpgradeDialog::progressBar

Definition at line 41 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::fwUpdateProgress(), FwUpgradeDialog::on_actionButton_clicked(), and setupUi().

12.89.3.15 QLabel* Ui_FwUpgradeDialog::statusLabel

Definition at line 38 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_fwupgradedialog.h

12.90 Ui_GradientDialog Class Reference

```
#include <src/ckb/ui_gradientdialog.h>
```

Inheritance diagram for Ui_GradientDialog:

Collaboration diagram for Ui_GradientDialog:

Public Member Functions

- void setupUi (QDialog *GradientDialog)
- void retranslateUi (QDialog *GradientDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_2
- GradientDialogWidget * widget
- QDialogButtonBox * buttonBox
- QGroupBox * stopBox
- QGridLayout * gridLayout_2
- QHBoxLayout * horizontalLayout_2
- ColorButton * stopColor
- QSpinBox * stopOpacity
- QSpacerItem * horizontalSpacer_2
- QLabel * label
- QHBoxLayout * horizontalLayout
- QSpinBox * stopPos
- QSpacerItem * horizontalSpacer
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QGroupBox * groupBox_2
- QGridLayout * gridLayout_3
- QListWidget * presetList
- QLineEdit * presetName
- QPushButton * presetSave
- QPushButton * presetDelete

12.90.1 Detailed Description

Definition at line 33 of file ui_gradientdialog.h.

12.90.2 Member Function Documentation

12.90.2.1 void Ui_GradientDialog::retranslateUi (QDialog * *GradientDialog*) [inline]

Definition at line 207 of file ui_gradientdialog.h.

References groupBox_2, label, label_2, presetDelete, presetName, presetSave, stopBox, stopColor, stopOpacity, and stopPos.

Referenced by setupUi().

```
    {
        GradientDialog->setWindowTitle(QApplication::translate("GradientDialog", "Pick Gradient", Q_NULLPTR
    ));
        stopBox->setTitle(QApplication::translate("GradientDialog", "Point X of Y", Q_NULLPTR));
        stopColor->setText(QApplication::translate("GradientDialog", "Pick Color...", Q_NULLPTR));
        stopOpacity->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
        label->setText(QApplication::translate("GradientDialog", "Position:", Q_NULLPTR));
        stopPos->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
        label_2->setText(QApplication::translate("GradientDialog", "Color:", Q_NULLPTR));
        groupBox_2->setTitle(QApplication::translate("GradientDialog", "Presets", Q_NULLPTR));
        presetName->setPlaceholderText(QApplication::translate("GradientDialog", "Name",
    Q_NULLPTR));
        presetSave->setText(QApplication::translate("GradientDialog", "Save", Q_NULLPTR));
        presetDelete->setText(QApplication::translate("GradientDialog", "Delete", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.90.2.2 void Ui_GradientDialog::setupUi (QDialog * *GradientDialog*) [inline]

Definition at line 60 of file ui_gradientdialog.h.

References buttonBox, gridLayout, gridLayout_2, gridLayout_3, groupBox_2, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, label, label_2, presetDelete, presetList, presetName, presetSave, retranslateUi(), stopBox, stopColor, stopOpacity, stopPos, verticalSpacer, verticalSpacer_2, and widget.

Referenced by GradientDialog::GradientDialog().

```
61     {
62         if (GradientDialog->objectName().isEmpty())
63             GradientDialog->setObjectName(QStringLiteral("GradientDialog"));
64         GradientDialog->resize(400, 440);
65         GradientDialog->setMinimumSize(QSize(400, 440));
66         GradientDialog->setMaximumSize(QSize(400, 440));
67         GradientDialog->setFocusPolicy(Qt::ClickFocus);
68         gridLayout = new QGridLayout(GradientDialog);
69         gridLayout->setObjectName(QStringLiteral("gridLayout"));
70         verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);
71
72         gridLayout->addItem(verticalSpacer, 1, 0, 1, 1);
73
74         verticalSpacer_2 = new QSpacerItem(0, 15, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
75
76         gridLayout->addItem(verticalSpacer_2, 3, 0, 1, 1);
77
78         widget = new GradientDialogWidget(GradientDialog);
79         widget->setObjectName(QStringLiteral("widget"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(0);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
84         widget->setSizePolicy(sizePolicy);
85         widget->setMinimumSize(QSize(0, 74));
86         widget->setMaximumSize(QSize(16777215, 74));
87
88         gridLayout->addWidget(widget, 2, 0, 1, 1);
89
90         buttonBox = new QDialogButtonBox(GradientDialog);
91         buttonBox->setObjectName(QStringLiteral("buttonBox"));
92         buttonBox->setOrientation(Qt::Horizontal);
93         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
94
95         gridLayout->addWidget(buttonBox, 5, 0, 1, 1);
96
97         stopBox = new QGroupBox(GradientDialog);
98         stopBox->setObjectName(QStringLiteral("stopBox"));
99         sizePolicy.setHeightForWidth(stopBox->sizePolicy().hasHeightForWidth());
100         stopBox->setSizePolicy(sizePolicy);
101         gridLayout_2 = new QGridLayout(stopBox);
102         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
103         horizontalLayout_2 = new QHBoxLayout();
104         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
105         stopColor = new ColorButton(stopBox);
106         stopColor->setObjectName(QStringLiteral("stopColor"));
107
108         horizontalLayout_2->addWidget(stopColor);
109
110         stopOpacity = new QSpinBox(stopBox);
111         stopOpacity->setObjectName(QStringLiteral("stopOpacity"));
112         stopOpacity->setMaximum(100);
113
```

```
        horizontalLayout_2->addWidget(stopOpacity);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_2);


        gridLayout_2->addLayout(horizontalLayout_2, 1, 2, 1, 1);

        label = new QLabel(stopBox);
        label->setObjectName(QStringLiteral("label"));

        gridLayout_2->addWidget(label, 0, 0, 1, 1);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        stopPos = new QSpinBox(stopBox);
        stopPos->setObjectName(QStringLiteral("stopPos"));
        stopPos->setMaximum(100);

        horizontalLayout->addWidget(stopPos);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer);


        gridLayout_2->addLayout(horizontalLayout, 0, 2, 1, 1);

        label_2 = new QLabel(stopBox);
        label_2->setObjectName(QStringLiteral("label_2"));

        gridLayout_2->addWidget(label_2, 1, 0, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 0, 1, 1, 1);


        gridLayout->addWidget(stopBox, 4, 0, 1, 1);

        groupBox_2 = new QGroupBox(GradientDialog);
        groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
        sizePolicy.setHeightForWidth(groupBox_2->sizePolicy().hasHeightForWidth());
        groupBox_2->setSizePolicy(sizePolicy);
        gridLayout_3 = new QGridLayout(groupBox_2);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        presetList = new QListWidget(groupBox_2);
        presetList->setObjectName(QStringLiteral("presetList"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(presetList->sizePolicy().hasHeightForWidth());
        presetList->setSizePolicy(sizePolicy1);
        presetList->setFrameShadow(QFrame::Plain);
        presetList->setHorizontalScrollBarPolicy(Qt::ScrollBarAlwaysOn);
        presetList->setIconSize(QSize(64, 64));
        presetList->setHorizontalScrollMode(QAbstractItemView::ScrollPerPixel);
        presetList->setFlow(QListView::TopToBottom);
        presetList->setViewMode(QListView::IconMode);
        presetList->setUniformItemSizes(true);

        gridLayout_3->addWidget(presetList, 0, 0, 3, 1);

        presetName = new QLineEdit(groupBox_2);
        presetName->setObjectName(QStringLiteral("presetName"));
        presetName->setMaxLength(30);

        gridLayout_3->addWidget(presetName, 0, 1, 1, 1);

        presetSave = new QPushButton(groupBox_2);
        presetSave->setObjectName(QStringLiteral("presetSave"));
        presetSave->setAutoDefault(false);

        gridLayout_3->addWidget(presetSave, 1, 1, 1, 1);

        presetDelete = new QPushButton(groupBox_2);
        presetDelete->setObjectName(QStringLiteral("presetDelete"));
        presetDelete->setAutoDefault(false);

        gridLayout_3->addWidget(presetDelete, 2, 1, 1, 1);


        gridLayout->addWidget(groupBox_2, 0, 0, 1, 1);
```

```


        retranslateUi(GradientDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), GradientDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), GradientDialog, SLOT(reject()));

        QMetaObject::connectSlotsByName(GradientDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.90.3 Field Documentation

12.90.3.1 QDialogButtonBox* Ui_GradientDialog::buttonBox

Definition at line 40 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.2 QGridLayout* Ui_GradientDialog::gridLayout

Definition at line 36 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.3 QGridLayout* Ui_GradientDialog::gridLayout_2

Definition at line 42 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.4 QGridLayout* Ui_GradientDialog::gridLayout_3

Definition at line 54 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.5 QGroupBox* Ui_GradientDialog::groupBox_2

Definition at line 53 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.6 QHBoxLayout* Ui_GradientDialog::horizontalLayout

Definition at line 48 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.7 QHBoxLayout* Ui_GradientDialog::horizontalLayout_2

Definition at line 43 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.8 QSpacerItem* Ui_GradientDialog::horizontalSpacer

Definition at line 50 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.9 QSpacerItem* Ui_GradientDialog::horizontalSpacer_2

Definition at line 46 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.10 QSpacerItem* Ui_GradientDialog::horizontalSpacer_3

Definition at line 52 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.11 QLabel* Ui_GradientDialog::label

Definition at line 47 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.12 QLabel* Ui_GradientDialog::label_2

Definition at line 51 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.13 QPushButton* Ui_GradientDialog::presetDelete

Definition at line 58 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.14 QListWidget* Ui_GradientDialog::presetList

Definition at line 55 of file ui_gradientdialog.h.

Referenced by GradientDialog::setPreset(), setupUi(), and GradientDialog::updatePresets().

12.90.3.15 QLineEdit* Ui_GradientDialog::presetName

Definition at line 56 of file ui_gradientdialog.h.

Referenced by GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.16 QPushButton* Ui_GradientDialog::presetSave

Definition at line 57 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.17 QGroupBox* Ui_GradientDialog::stopBox

Definition at line 41 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), retranslateUi(), and setupUi().

12.90.3.18 ColorButton* Ui_GradientDialog::stopColor

Definition at line 44 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::GradientDialog(), GradientDialog::on_stopOpacity_valueChanged(), retranslateUi(), and setupUi().

12.90.3.19 QSpinBox* Ui_GradientDialog::stopOpacity

Definition at line 45 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), retranslateUi(), and setupUi().

12.90.3.20 QSpinBox* Ui_GradientDialog::stopPos

Definition at line 49 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::on_stopPos_valueChanged(), retranslateUi(), and setupUi().

12.90.3.21 QSpacerItem* Ui_GradientDialog::verticalSpacer

Definition at line 37 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.22 QSpacerItem* Ui_GradientDialog::verticalSpacer_2

Definition at line 38 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.23 GradientDialogWidget* Ui_GradientDialog::widget

Definition at line 39 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), GradientDialog::getGradient(), GradientDialog::GradientDialog(), GradientDialog::on_presetSave_clicked(), GradientDialog::on_stopPos_valueChanged(), GradientDialog::setPreset(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_gradientdialog.h

12.91 Ui_KbAnimWidget Class Reference

```
#include <src/ckb/ui_kbanimwidget.h>
```

Inheritance diagram for Ui_KbAnimWidget:

Collaboration diagram for Ui_KbAnimWidget:

Public Member Functions

- void setupUi (QWidget ∗KbAnimWidget)
- void retranslateUi (QWidget ∗KbAnimWidget)

Data Fields

- QGridLayout ∗ gridLayout
- QStackedWidget ∗ selectionStack
- QWidget ∗ noSelPage
- QGridLayout ∗ gridLayout_2
- QLabel ∗ noAnimLabel
- QSpacerItem ∗ verticalSpacer
- QWidget ∗ animPage
- QVBoxLayout ∗ verticalLayout
- QHBoxLayout ∗ horizontalLayout
- QLabel ∗ aNameLabel
- QLabel ∗ aVerLabel
- QSpacerItem ∗ horizontalSpacer
- QLabel ∗ aCopyLabel
- QSpacerItem ∗ verticalSpacer_3
- QGridLayout ∗ gridLayout_3
- QLineEdit ∗ nameBox
- QDoubleSpinBox ∗ opacityBox
- QComboBox ∗ blendBox
- QLabel ∗ label_6
- QSpacerItem ∗ horizontalSpacer_4
- QSpacerItem ∗ horizontalSpacer_2
- QLabel ∗ label_5
- QSpacerItem ∗ horizontalSpacer_3
- QLabel ∗ label_7
- QPushButton ∗ keyButton
- QPushButton ∗ deleteButton
- QPushButton ∗ propertyButton
- QSpacerItem ∗ horizontalSpacer_5
- QSpacerItem ∗ verticalSpacer_2
- QWidget ∗ aMissingPage
- QGridLayout ∗ gridLayout_4
- QLabel ∗ aMissingLabel
- RListWidget ∗ animList

12.91.1 Detailed Description

Definition at line 32 of file ui_kbanimwidget.h.

12.91.2 Member Function Documentation

12.91.2.1 void Ui_KbAnimWidget::retranslateUi (QWidget * *KbAnimWidget*) [inline]

Definition at line 241 of file ui_kbanimwidget.h.

References aCopyLabel, aMissingLabel, aNameLabel, aVerLabel, blendBox, deleteButton, keyButton, label_5, label_6, label_7, noAnimLabel, opacityBox, and propertyButton.

Referenced by setupUi().

```
242     {
243         KbAnimWidget->setWindowTitle(QApplication::translate("KbAnimWidget", "Form", Q_NULLPTR));
244         noAnimLabel->setText(QApplication::translate("KbAnimWidget", "No animations in this mode
    ", Q_NULLPTR));
245         aNameLabel->setText(QApplication::translate("KbAnimWidget", "Animation name", Q_NULLPTR))
    ;
246         aVerLabel->setText(QApplication::translate("KbAnimWidget", "v0.0", Q_NULLPTR));
247         aCopyLabel->setText(QApplication::translate("KbAnimWidget", "Copyright \302\251",
    Q_NULLPTR));
248         opacityBox->setSuffix(QApplication::translate("KbAnimWidget", "%", Q_NULLPTR));
249         blendBox->clear();
250         blendBox->insertItems(0, QStringList()
251          << QApplication::translate("KbAnimWidget", "Normal", Q_NULLPTR)
252          << QApplication::translate("KbAnimWidget", "Add", Q_NULLPTR)
253          << QApplication::translate("KbAnimWidget", "Subtract", Q_NULLPTR)
254          << QApplication::translate("KbAnimWidget", "Multiply", Q_NULLPTR)
255          << QApplication::translate("KbAnimWidget", "Divide", Q_NULLPTR)
256         );
257         label_6->setText(QApplication::translate("KbAnimWidget", "Blend mode:", Q_NULLPTR));
258         label_5->setText(QApplication::translate("KbAnimWidget", "Opacity:", Q_NULLPTR));
259         label_7->setText(QApplication::translate("KbAnimWidget", "Name:", Q_NULLPTR));
260         keyButton->setText(QApplication::translate("KbAnimWidget", "Set keys", Q_NULLPTR));
261         deleteButton->setText(QApplication::translate("KbAnimWidget", "Delete animation",
    Q_NULLPTR));
262         propertyButton->setText(QApplication::translate("KbAnimWidget", "Edit properties",
    Q_NULLPTR));
263         aMissingLabel->setText(QApplication::translate("KbAnimWidget", "Mising animation",
    Q_NULLPTR));
264     } // retranslateUi
```

Here is the caller graph for this function:

12.91.2.2 void Ui_KbAnimWidget::setupUi (QWidget * *KbAnimWidget*) [inline]

Definition at line 69 of file ui_kbanimwidget.h.

References aCopyLabel, aMissingLabel, aMissingPage, aNameLabel, animList, animPage, aVerLabel, blendBox, deleteButton, gridLayout, gridLayout_2, gridLayout_3, gridLayout_4, horizontalLayout, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, keyButton, label_5, label_6, label_7, nameBox, noAnimLabel, noSelPage, opacityBox, propertyButton, retranslateUi(), selectionStack, verticalLayout, verticalSpacer, verticalSpacer_2, and verticalSpacer_3.

Referenced by KbAnimWidget::KbAnimWidget().

```
70     {
```

```
        if (KbAnimWidget->objectName().isEmpty())
            KbAnimWidget->setObjectName(QStringLiteral("KbAnimWidget"));
        KbAnimWidget->resize(613, 300);
        gridLayout = new QGridLayout(KbAnimWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        gridLayout->setContentsMargins(0, 0, 0, 0);
        selectionStack = new QStackedWidget(KbAnimWidget);
        selectionStack->setObjectName(QStringLiteral("selectionStack"));
        noSelPage = new QWidget();
        noSelPage->setObjectName(QStringLiteral("noSelPage"));
        gridLayout_2 = new QGridLayout(noSelPage);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(6, 6, 6, 6);
        noAnimLabel = new QLabel(noSelPage);
        noAnimLabel->setObjectName(QStringLiteral("noAnimLabel"));

        gridLayout_2->addWidget(noAnimLabel, 0, 0, 1, 1);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer, 1, 0, 1, 1);

        selectionStack->addWidget(noSelPage);
        animPage = new QWidget();
        animPage->setObjectName(QStringLiteral("animPage"));
        verticalLayout = new QVBoxLayout(animPage);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        verticalLayout->setContentsMargins(6, 0, 0, 0);
        horizontalLayout = new QHBoxLayout();
         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
         aNameLabel = new QLabel(animPage);
         aNameLabel->setObjectName(QStringLiteral("aNameLabel"));
         QFont font;
         font.setBold(true);
         font.setWeight(75);
         aNameLabel->setFont(font);

         horizontalLayout->addWidget(aNameLabel);

         aVerLabel = new QLabel(animPage);
         aVerLabel->setObjectName(QStringLiteral("aVerLabel"));

         horizontalLayout->addWidget(aVerLabel);

         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

         horizontalLayout->addItem(horizontalSpacer);

         aCopyLabel = new QLabel(animPage);
         aCopyLabel->setObjectName(QStringLiteral("aCopyLabel"));

         horizontalLayout->addWidget(aCopyLabel);


         verticalLayout->addLayout(horizontalLayout);

         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

         verticalLayout->addItem(verticalSpacer_3);

         gridLayout_3 = new QGridLayout();
         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
         nameBox = new QLineEdit(animPage);
         nameBox->setObjectName(QStringLiteral("nameBox"));
         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
         sizePolicy.setHorizontalStretch(0);
         sizePolicy.setVerticalStretch(0);
         sizePolicy.setHeightForWidth(nameBox->sizePolicy().hasHeightForWidth());
         nameBox->setSizePolicy(sizePolicy);
         nameBox->setMinimumSize(QSize(150, 0));
         nameBox->setMaximumSize(QSize(150, 16777215));

         gridLayout_3->addWidget(nameBox, 0, 3, 1, 2);

         opacityBox = new QDoubleSpinBox(animPage);
         opacityBox->setObjectName(QStringLiteral("opacityBox"));
         opacityBox->setDecimals(1);
         opacityBox->setValue(100);

         gridLayout_3->addWidget(opacityBox, 1, 3, 1, 1);

         blendBox = new QComboBox(animPage);
         blendBox->setObjectName(QStringLiteral("blendBox"));

```

```
        gridLayout_3->addWidget(blendBox, 2, 3, 1, 2);

        label_6 = new QLabel(animPage);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout_3->addWidget(label_6, 2, 1, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_4, 0, 0, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_2, 0, 2, 1, 1);

        label_5 = new QLabel(animPage);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout_3->addWidget(label_5, 1, 1, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_3, 0, 5, 1, 1);

        label_7 = new QLabel(animPage);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout_3->addWidget(label_7, 0, 1, 1, 1);

        keyButton = new QPushButton(animPage);
        keyButton->setObjectName(QStringLiteral("keyButton"));

        gridLayout_3->addWidget(keyButton, 1, 6, 1, 1);

        deleteButton = new QPushButton(animPage);
        deleteButton->setObjectName(QStringLiteral("deleteButton"));

        gridLayout_3->addWidget(deleteButton, 2, 6, 1, 1);

        propertyButton = new QPushButton(animPage);
        propertyButton->setObjectName(QStringLiteral("propertyButton"));

        gridLayout_3->addWidget(propertyButton, 0, 6, 1, 1);

        horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_5, 1, 4, 1, 1);


        verticalLayout->addLayout(gridLayout_3);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        selectionStack->addWidget(animPage);
        aMissingPage = new QWidget();
        aMissingPage->setObjectName(QStringLiteral("aMissingPage"));
        gridLayout_4 = new QGridLayout(aMissingPage);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        aMissingLabel = new QLabel(aMissingPage);
        aMissingLabel->setObjectName(QStringLiteral("aMissingLabel"));
        aMissingLabel->setFont(font);

        gridLayout_4->addWidget(aMissingLabel, 0, 0, 1, 1);

        selectionStack->addWidget(aMissingPage);

        gridLayout->addWidget(selectionStack, 0, 2, 2, 1);

        animList = new RListWidget(KbAnimWidget);
        animList->setObjectName(QStringLiteral("animList"));
        animList->setMaximumSize(QSize(130, 16777215));
        animList->setContextMenuPolicy(Qt::CustomContextMenu);
        animList->setFrameShadow(QFrame::Plain);
        animList->setDragDropMode(QAbstractItemView::InternalMove);
        animList->setMovement(QListView::Snap);

        gridLayout->addWidget(animList, 0, 0, 2, 1);


        retranslateUi(KbAnimWidget);
```

```
237
238         QMetaObject::connectSlotsByName(KbAnimWidget);
239     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.91.3 Field Documentation

12.91.3.1 QLabel* Ui_KbAnimWidget::aCopyLabel

Definition at line 47 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.2 QLabel* Ui_KbAnimWidget::aMissingLabel

Definition at line 66 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.3 QWidget* Ui_KbAnimWidget::aMissingPage

Definition at line 64 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.4 QLabel* Ui_KbAnimWidget::aNameLabel

Definition at line 44 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.5 RListWidget* Ui_KbAnimWidget::animList

Definition at line 67 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::clearSelection(), KbAnimWidget::duplicateAnim(), KbAnimWidget::KbAnimWidget(), KbAnimWidget::on_animList_customContextMenuRequested(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_nameBox_textEdited(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and setupUi().

12.91.3.6 QWidget* Ui_KbAnimWidget::animPage

Definition at line 41 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.7 QLabel* Ui_KbAnimWidget::aVerLabel

Definition at line 45 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.8 QComboBox* Ui_KbAnimWidget::blendBox

Definition at line 52 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.9 QPushButton* Ui_KbAnimWidget::deleteButton

Definition at line 60 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.10 QGridLayout* Ui_KbAnimWidget::gridLayout

Definition at line 35 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.11 QGridLayout* Ui_KbAnimWidget::gridLayout_2

Definition at line 38 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.12 QGridLayout* Ui_KbAnimWidget::gridLayout_3

Definition at line 49 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.13 QGridLayout* Ui_KbAnimWidget::gridLayout_4

Definition at line 65 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.14 QHBoxLayout* Ui_KbAnimWidget::horizontalLayout

Definition at line 43 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.15 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer

Definition at line 46 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.16 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_2

Definition at line 55 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.17 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_3

Definition at line 57 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.18 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_4

Definition at line 54 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.19 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_5

Definition at line 62 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.20 QPushButton* Ui_KbAnimWidget::keyButton

Definition at line 59 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setSelectedKeys(), and setupUi().

12.91.3.21 QLabel* Ui_KbAnimWidget::label_5

Definition at line 56 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.22 QLabel* Ui_KbAnimWidget::label_6

Definition at line 53 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.23 QLabel* Ui_KbAnimWidget::label_7

Definition at line 58 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.24 QLineEdit* Ui_KbAnimWidget::nameBox

Definition at line 50 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_propertyButton_clicked(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.25 QLabel* Ui_KbAnimWidget::noAnimLabel

Definition at line 39 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::duplicateAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), retranslateUi(), and setupUi().

12.91.3.26 QWidget* Ui_KbAnimWidget::noSelPage

Definition at line 37 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.27 QDoubleSpinBox* Ui_KbAnimWidget::opacityBox

Definition at line 51 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.28 QPushButton* Ui_KbAnimWidget::propertyButton

Definition at line 61 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.29 QStackedWidget* Ui_KbAnimWidget::selectionStack

Definition at line 36 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::setCurrent(), and setupUi().

12.91.3.30 QVBoxLayout* Ui_KbAnimWidget::verticalLayout

Definition at line 42 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.31 QSpacerItem* Ui_KbAnimWidget::verticalSpacer

Definition at line 40 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.32 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_2

Definition at line 63 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.33 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_3

Definition at line 48 of file ui_kbanimwidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbanimwidget.h

12.92 Ui_KbBindWidget Class Reference

```
#include <src/ckb/ui_kbbindwidget.h>
```

Inheritance diagram for Ui_KbBindWidget:

Collaboration diagram for Ui_KbBindWidget:

Public Member Functions

- void setupUi (QWidget *KbBindWidget)
- void retranslateUi (QWidget *KbBindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- KeyWidget * keyWidget
- QSpacerItem * horizontalSpacer
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QLabel * selectLabel
- QPushButton * resetButton
- QSpacerItem * verticalSpacer
- QLabel * label_2
- QFrame * line_2
- QWidget * widget
- QGridLayout * gridLayout_2
- RebindWidget * rbWidget

12.92.1 Detailed Description

Definition at line 30 of file ui_kbbindwidget.h.

12.92.2 Member Function Documentation

12.92.2.1 void Ui_KbBindWidget::retranslateUi (QWidget * *KbBindWidget*) [inline]

Definition at line 193 of file ui_kbbindwidget.h.

References copyButton, label, label_2, resetButton, and selectLabel.

Referenced by setupUi().

```
194     {
195         KbBindWidget->setWindowTitle(QApplication::translate("KbBindWidget", "Form", Q_NULLPTR));
196         label->setText(QApplication::translate("KbBindWidget", "Keys", Q_NULLPTR));
197         copyButton->setText(QApplication::translate("KbBindWidget", "Copy to mode...", Q_NULLPTR)
    );
198         selectLabel->setText(QApplication::translate("KbBindWidget", "Click to select keys",
    Q_NULLPTR));
199         resetButton->setText(QApplication::translate("KbBindWidget", "Reset", Q_NULLPTR));
200         label_2->setText(QApplication::translate("KbBindWidget", "Binding", Q_NULLPTR));
201     } // retranslateUi
```

Here is the caller graph for this function:

12.92.2.2 void Ui_KbBindWidget::setupUi (QWidget * *KbBindWidget*) [inline]

Definition at line 51 of file ui_kbbindwidget.h.

References copyButton, gridLayout, gridLayout_2, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, keyWidget, label, label_2, line, line_2, rbWidget, resetButton, retranslateUi(), selectLabel, verticalLayout, verticalSpacer, and widget.

Referenced by KbBindWidget::KbBindWidget().

```
52     {
53         if (KbBindWidget->objectName().isEmpty())
54             KbBindWidget->setObjectName(QStringLiteral("KbBindWidget"));
55         KbBindWidget->resize(581, 473);
56         verticalLayout = new QVBoxLayout(KbBindWidget);
57         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
58         verticalLayout->setContentsMargins(0, 0, 0, -1);
59         label = new QLabel(KbBindWidget);
60         label->setObjectName(QStringLiteral("label"));
61         QFont font;
62         font.setBold(true);
63         font.setWeight(75);
64         label->setFont(font);
65
66         verticalLayout->addWidget(label);
67
68         line = new QFrame(KbBindWidget);
69         line->setObjectName(QStringLiteral("line"));
70         line->setFrameShape(QFrame::HLine);
71         line->setFrameShadow(QFrame::Sunken);
72
73         verticalLayout->addWidget(line);
74
75         gridLayout = new QGridLayout();
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79         gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);
80
81         keyWidget = new KeyWidget(KbBindWidget);
82         keyWidget->setObjectName(QStringLiteral("keyWidget"));
```

```
        QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
        keyWidget->setSizePolicy(sizePolicy);

        gridLayout->addWidget(keyWidget, 0, 1, 1, 3);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setSpacing(0);
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        copyButton = new QPushButton(KbBindWidget);
        copyButton->setObjectName(QStringLiteral("copyButton"));
         QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
         sizePolicy1.setHorizontalStretch(0);
         sizePolicy1.setVerticalStretch(0);
         sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
         copyButton->setSizePolicy(sizePolicy1);
         copyButton->setMinimumSize(QSize(140, 0));
         copyButton->setMaximumSize(QSize(140, 16777215));

         horizontalLayout_2->addWidget(copyButton);

         selectLabel = new QLabel(KbBindWidget);
         selectLabel->setObjectName(QStringLiteral("selectLabel"));
         QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Preferred);
         sizePolicy2.setHorizontalStretch(0);
         sizePolicy2.setVerticalStretch(0);
         sizePolicy2.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
         selectLabel->setSizePolicy(sizePolicy2);
         selectLabel->setAlignment(Qt::AlignCenter);

         horizontalLayout_2->addWidget(selectLabel);

         resetButton = new QPushButton(KbBindWidget);
         resetButton->setObjectName(QStringLiteral("resetButton"));
         QSizePolicy sizePolicy3(QSizePolicy::Expanding, QSizePolicy::Fixed);
         sizePolicy3.setHorizontalStretch(0);
         sizePolicy3.setVerticalStretch(0);
         sizePolicy3.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
         resetButton->setSizePolicy(sizePolicy3);
         resetButton->setMinimumSize(QSize(140, 0));
         resetButton->setMaximumSize(QSize(140, 16777215));

         horizontalLayout_2->addWidget(resetButton);


         gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);


         verticalLayout->addLayout(gridLayout);

         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

         verticalLayout->addItem(verticalSpacer);

         label_2 = new QLabel(KbBindWidget);
         label_2->setObjectName(QStringLiteral("label_2"));
         label_2->setFont(font);

         verticalLayout->addWidget(label_2);

         line_2 = new QFrame(KbBindWidget);
         line_2->setObjectName(QStringLiteral("line_2"));
         line_2->setFrameShape(QFrame::HLine);
         line_2->setFrameShadow(QFrame::Sunken);

         verticalLayout->addWidget(line_2);

         widget = new QWidget(KbBindWidget);
         widget->setObjectName(QStringLiteral("widget"));
         QSizePolicy sizePolicy4(QSizePolicy::Preferred, QSizePolicy::Fixed);
         sizePolicy4.setHorizontalStretch(0);
         sizePolicy4.setVerticalStretch(0);
         sizePolicy4.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
         widget->setSizePolicy(sizePolicy4);
         widget->setMinimumSize(QSize(0, 280));
         widget->setMaximumSize(QSize(16777215, 280));
         gridLayout_2 = new QGridLayout(widget);
         gridLayout_2->setSpacing(0);
         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
```

```
        gridLayout_2->setContentsMargins(0, 0, 0, 0);
        rbWidget = new RebindWidget(widget);
        rbWidget->setObjectName(QStringLiteral("rbWidget"));
        QSizePolicy sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy5.setHorizontalStretch(0);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
        rbWidget->setSizePolicy(sizePolicy5);

        gridLayout_2->addWidget(rbWidget, 0, 0, 1, 1);


        verticalLayout->addWidget(widget);

        label->raise();
        line->raise();
        label_2->raise();
        line_2->raise();
        widget->raise();

        retranslateUi(KbBindWidget);

        QMetaObject::connectSlotsByName(KbBindWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.92.3 Field Documentation

12.92.3.1 QPushButton* Ui_KbBindWidget::copyButton

Definition at line 41 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.2 QGridLayout* Ui_KbBindWidget::gridLayout

Definition at line 36 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.3 QGridLayout* Ui_KbBindWidget::gridLayout_2

Definition at line 48 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.4 QHBoxLayout* Ui_KbBindWidget::horizontalLayout_2

Definition at line 40 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.5 QSpacerItem* Ui_KbBindWidget::horizontalSpacer

Definition at line 39 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.6 QSpacerItem* Ui_KbBindWidget::horizontalSpacer_2

Definition at line 37 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.7 KeyWidget* Ui_KbBindWidget::keyWidget

Definition at line 38 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::KbBindWidget(), KbBindWidget::newLayout(), KbBindWidget::setBind(), setupUi(), and KbBindWidget::updateBind().

12.92.3.8 QLabel* Ui_KbBindWidget::label

Definition at line 34 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.9 QLabel* Ui_KbBindWidget::label_2

Definition at line 45 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.10 QFrame* Ui_KbBindWidget::line

Definition at line 35 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.11 QFrame* Ui_KbBindWidget::line_2

Definition at line 46 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.12 RebindWidget* Ui_KbBindWidget::rbWidget

Definition at line 49 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::newLayout(), KbBindWidget::newSelection(), KbBindWidget::setBind(), setupUi(), and KbBindWidget::updateBind().

12.92.3.13 QPushButton* Ui_KbBindWidget::resetButton

Definition at line 43 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.14 QLabel* Ui_KbBindWidget::selectLabel

Definition at line 42 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), setupUi(), and KbBindWidget::updateSelDisplay().

12.92.3.15 QVBoxLayout* Ui_KbBindWidget::verticalLayout

Definition at line 33 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.16 QSpacerItem* Ui_KbBindWidget::verticalSpacer

Definition at line 44 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.17 QWidget* Ui_KbBindWidget::widget

Definition at line 47 of file ui_kbbindwidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbbindwidget.h

12.93 Ui_KbLightWidget Class Reference

```
#include <src/ckb/ui_kblightwidget.h>
```

Inheritance diagram for Ui_KbLightWidget:

Collaboration diagram for Ui_KbLightWidget:

Public Member Functions

- void setupUi (QWidget *KbLightWidget)
- void retranslateUi (QWidget *KbLightWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout_3
- QLabel * label_3
- QCheckBox * showAnimBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_2
- QSpacerItem * horizontalSpacer_5
- QGridLayout * gridLayout
- KeyWidget * keyWidget
- QHBoxLayout * horizontalLayout
- ColorButton * bgButton
- QLabel * selLabel
- QPushButton * animButton
- QSpacerItem * horizontalSpacer_6
- QSpacerItem * verticalSpacer_2
- QGridLayout * gridLayout_2
- QComboBox * brightnessBox
- QLabel * label
- QSpacerItem * horizontalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QLabel * label_2
- QFrame * line
- QWidget * widget
- QGridLayout * gridLayout_4
- KbAnimWidget * animWidget

12.93.1 Detailed Description

Definition at line 33 of file ui_kblightwidget.h.

12.93.2 Member Function Documentation

12.93.2.1 void Ui_KbLightWidget::retranslateUi (QWidget * *KbLightWidget*) [inline]

Definition at line 238 of file ui_kblightwidget.h.

References animButton, bgButton, brightnessBox, label, label_2, label_3, selLabel, and showAnimBox.

Referenced by setupUi().

```
    {
        KbLightWidget->setWindowTitle(QApplication::translate("KbLightWidget", "Form", Q_NULLPTR));
        label_3->setText(QApplication::translate("KbLightWidget", "Colors", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        showAnimBox->setToolTip(QApplication::translate("KbLightWidget", "If enabled, the same colors will be displayed here as on the keyboard. If disabled, the base colors will be shown.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        showAnimBox->setText(QApplication::translate("KbLightWidget", "Show animated", Q_NULLPTR));
        bgButton->setText(QApplication::translate("KbLightWidget", "Change color...", Q_NULLPTR));
        selLabel->setText(QApplication::translate("KbLightWidget", "Click to select", Q_NULLPTR));
        animButton->setText(QApplication::translate("KbLightWidget", "New animation...", Q_NULLPTR));
        brightnessBox->clear();
        brightnessBox->insertItems(0, QStringList()
         << QApplication::translate("KbLightWidget", "100%", Q_NULLPTR)
         << QApplication::translate("KbLightWidget", "67%", Q_NULLPTR)
         << QApplication::translate("KbLightWidget", "33%", Q_NULLPTR)
         << QApplication::translate("KbLightWidget", "Off", Q_NULLPTR)
```

```
        );
        label->setText(QApplication::translate("KbLightWidget", "\342\230\274", Q_NULLPTR));
        label_2->setText(QApplication::translate("KbLightWidget", "Animations", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.93.2.2 void Ui_KbLightWidget::setupUi (QWidget * *KbLightWidget*) [inline]

Definition at line 63 of file ui_kblightwidget.h.

References animButton, animWidget, bgButton, brightnessBox, gridLayout, gridLayout_2, gridLayout_4, horizontalLayout, horizontalLayout_2, horizontalLayout_3, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, keyWidget, label, label_2, label_3, line, line_2, retranslateUi(), selLabel, showAnimBox, verticalLayout, verticalSpacer_2, verticalSpacer_3, and widget.

Referenced by KbLightWidget::KbLightWidget().

```
    {
        if (KbLightWidget->objectName().isEmpty())
            KbLightWidget->setObjectName(QStringLiteral("KbLightWidget"));
        KbLightWidget->resize(632, 540);
        KbLightWidget->setFocusPolicy(Qt::ClickFocus);
        verticalLayout = new QVBoxLayout(KbLightWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        verticalLayout->setContentsMargins(0, 0, 0, -1);
        horizontalLayout_3 = new QHBoxLayout();
        horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
        label_3 = new QLabel(KbLightWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
        label_3->setSizePolicy(sizePolicy);
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label_3->setFont(font);

        horizontalLayout_3->addWidget(label_3);

        showAnimBox = new QCheckBox(KbLightWidget);
        showAnimBox->setObjectName(QStringLiteral("showAnimBox"));
        showAnimBox->setChecked(true);

        horizontalLayout_3->addWidget(showAnimBox);


        verticalLayout->addLayout(horizontalLayout_3);

        line_2 = new QFrame(KbLightWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
         line_2->setFrameShadow(QFrame::Sunken);

         verticalLayout->addWidget(line_2);

         horizontalLayout_2 = new QHBoxLayout();
         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
         horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
QSizePolicy::Minimum);

         horizontalLayout_2->addItem(horizontalSpacer_5);

         gridLayout = new QGridLayout();
         gridLayout->setObjectName(QStringLiteral("gridLayout"));
         keyWidget = new KeyWidget(KbLightWidget);
```

```
        keyWidget->setObjectName(QStringLiteral("keyWidget"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
        keyWidget->setSizePolicy(sizePolicy1);
        keyWidget->setMinimumSize(QSize(100, 100));
        keyWidget->setFocusPolicy(Qt::ClickFocus);

        gridLayout->addWidget(keyWidget, 0, 0, 1, 3);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        bgButton = new ColorButton(KbLightWidget);
        bgButton->setObjectName(QStringLiteral("bgButton"));
        QSizePolicy sizePolicy2(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
        bgButton->setSizePolicy(sizePolicy2);
        bgButton->setMinimumSize(QSize(140, 0));
        bgButton->setMaximumSize(QSize(140, 16777215));

        horizontalLayout->addWidget(bgButton);

        selLabel = new QLabel(KbLightWidget);
        selLabel->setObjectName(QStringLiteral("selLabel"));
        sizePolicy.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
        selLabel->setSizePolicy(sizePolicy);
        selLabel->setAlignment(Qt::AlignCenter);

        horizontalLayout->addWidget(selLabel);

        animButton = new QPushButton(KbLightWidget);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);
        animButton->setMinimumSize(QSize(140, 0));
        animButton->setMaximumSize(QSize(140, 16777215));

        horizontalLayout->addWidget(animButton);


        gridLayout->addLayout(horizontalLayout, 1, 0, 1, 3);


        horizontalLayout_2->addLayout(gridLayout);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout_2);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        gridLayout_2 = new QGridLayout();
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        brightnessBox = new QComboBox(KbLightWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
        sizePolicy2.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
        brightnessBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);

        label = new QLabel(KbLightWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font1;
        font1.setPointSize(20);
        label->setFont(font1);
        label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_2->addWidget(label, 1, 2, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 0, 4, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

```

```
        gridLayout_2->addItem(horizontalSpacer_4, 0, 2, 1, 1);


        verticalLayout->addLayout(gridLayout_2);

        verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_3);

        label_2 = new QLabel(KbLightWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);

        verticalLayout->addWidget(label_2);

        line = new QFrame(KbLightWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        verticalLayout->addWidget(line);

        widget = new QWidget(KbLightWidget);
        widget->setObjectName(QStringLiteral("widget"));
        widget->setMinimumSize(QSize(0, 170));
        gridLayout_4 = new QGridLayout(widget);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        gridLayout_4->setContentsMargins(-1, 0, -1, 0);
        animWidget = new KbAnimWidget(widget);
        animWidget->setObjectName(QStringLiteral("animWidget"));

        gridLayout_4->addWidget(animWidget, 0, 0, 1, 1);


        verticalLayout->addWidget(widget);


        retranslateUi(KbLightWidget);

        QMetaObject::connectSlotsByName(KbLightWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.93.3 Field Documentation

12.93.3.1 QPushButton* Ui_KbLightWidget::animButton

Definition at line 48 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), retranslateUi(), and setupUi().

12.93.3.2 KbAnimWidget* Ui_KbLightWidget::animWidget

Definition at line 61 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), KbLightWidget::on_animButton_-clicked(), KbLightWidget::setLight(), and setupUi().

12.93.3.3 ColorButton* Ui_KbLightWidget::bgButton

Definition at line 46 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), retranslateUi(), and setupUi().

12.93.3.4 QComboBox* Ui_KbLightWidget::brightnessBox

Definition at line 52 of file ui_kblightwidget.h.

Referenced by retranslateUi(), setupUi(), and KbLightWidget::updateLight().

12.93.3.5 QGridLayout* Ui_KbLightWidget::gridLayout

Definition at line 43 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.6 QGridLayout* Ui_KbLightWidget::gridLayout_2

Definition at line 51 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4

Definition at line 60 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.8 QHBoxLayout* Ui_KbLightWidget::horizontalLayout

Definition at line 45 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.9 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_2

Definition at line 41 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.10 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_3

Definition at line 37 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.11 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_3

Definition at line 54 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4

Definition at line 55 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.13 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_5

Definition at line 42 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.14 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_6

Definition at line 49 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.15 KeyWidget* Ui_KbLightWidget::keyWidget

Definition at line 44 of file ui_kblightwidget.h.

Referenced by KbLightWidget::changeAnim(), KbLightWidget::changeAnimKeys(), KbLightWidget::changeColor(), KbLightWidget::KbLightWidget(), KbLightWidget::on_animButton_clicked(), KbLightWidget::on_bgButton_clicked(), KbLightWidget::on_showAnimBox_clicked(), KbLightWidget::setLight(), KbLightWidget::setMonochrome(), setupUi(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

12.93.3.16 QLabel* Ui_KbLightWidget::label

Definition at line 53 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.17 QLabel* Ui_KbLightWidget::label_2

Definition at line 57 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.18 QLabel* Ui_KbLightWidget::label_3

Definition at line 38 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.19 QFrame* Ui_KbLightWidget::line

Definition at line 58 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.20 QFrame* Ui_KbLightWidget::line_2

Definition at line 40 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.21 QLabel* Ui_KbLightWidget::selLabel

Definition at line 47 of file ui_kblightwidget.h.

Referenced by KbLightWidget::newSelection(), retranslateUi(), and setupUi().

12.93.3.22 QCheckBox* Ui_KbLightWidget::showAnimBox

Definition at line 39 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), retranslateUi(), KbLightWidget::setLight(), and setupUi().

12.93.3.23 QVBoxLayout* Ui_KbLightWidget::verticalLayout

Definition at line 36 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.24 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2

Definition at line 50 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3

Definition at line 56 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.26 QWidget* Ui_KbLightWidget::widget

Definition at line 59 of file ui_kblightwidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kblightwidget.h

12.94 Ui_KbProfileDialog Class Reference

```
#include <src/ckb/ui_kbprofiledialog.h>
```

Inheritance diagram for Ui_KbProfileDialog:

Collaboration diagram for Ui_KbProfileDialog:

Public Member Functions

- void setupUi (QDialog *KbProfileDialog)
- void retranslateUi (QDialog *KbProfileDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- RListWidget * profileList
- QDialogButtonBox * buttonBox

12.94.1 Detailed Description

Definition at line 25 of file ui_kbprofiledialog.h.

12.94.2 Member Function Documentation

12.94.2.1 void Ui_KbProfileDialog::retranslateUi (QDialog * *KbProfileDialog*) [inline]

Definition at line 73 of file ui_kbprofiledialog.h.

Referenced by setupUi().

```
74     {
75         KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles",
    Q_NULLPTR));
76     } // retranslateUi
```

Here is the caller graph for this function:

12.94.2.2 void Ui_KbProfileDialog::setupUi (QDialog * *KbProfileDialog*) [inline]

Definition at line 34 of file ui_kbprofiledialog.h.

References buttonBox, gridLayout, horizontalSpacer, horizontalSpacer_2, profileList, and retranslateUi().

Referenced by KbProfileDialog::KbProfileDialog().

```
35     {
36         if (KbProfileDialog->objectName().isEmpty())
37             KbProfileDialog->setObjectName(QStringLiteral("KbProfileDialog"));
38         KbProfileDialog->resize(400, 300);
39         KbProfileDialog->setFocusPolicy(Qt::ClickFocus);
40         gridLayout = new QGridLayout(KbProfileDialog);
41         gridLayout->setObjectName(QStringLiteral("gridLayout"));
42         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
43
44         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
```

```

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);

        profileList = new RListWidget(KbProfileDialog);
        profileList->setObjectName(QStringLiteral("profileList"));
        profileList->setContextMenuPolicy(Qt::CustomContextMenu);
        profileList->setFrameShadow(QFrame::Plain);
        profileList->setIconSize(QSize(24, 24));

        gridLayout->addWidget(profileList, 0, 1, 1, 1);

        buttonBox = new QDialogButtonBox(KbProfileDialog);
        buttonBox->setObjectName(QStringLiteral("buttonBox"));
        buttonBox->setOrientation(Qt::Horizontal);
        buttonBox->setStandardButtons(QDialogButtonBox::Ok);

        gridLayout->addWidget(buttonBox, 1, 0, 1, 3);


        retranslateUi(KbProfileDialog);
        QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
        QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));

        QMetaObject::connectSlotsByName(KbProfileDialog);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.94.3 Field Documentation

12.94.3.1 QDialogButtonBox* Ui_KbProfileDialog::buttonBox

Definition at line 32 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.2 QGridLayout* Ui_KbProfileDialog::gridLayout

Definition at line 28 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.3 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer

Definition at line 29 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.4 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer_2

Definition at line 30 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.5 RListWidget* Ui_KbProfileDialog::profileList

Definition at line 31 of file ui_kbprofiledialog.h.

Referenced by KbProfileDialog::addNewProfileItem(), KbProfileDialog::KbProfileDialog(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbprofiledialog.h

12.95 Ui_KbWidget Class Reference

```
#include <src/ckb/ui_kbwidget.h>
```

Inheritance diagram for Ui_KbWidget:

Collaboration diagram for Ui_KbWidget:

Public Member Functions

- void setupUi (QWidget *KbWidget)
- void retranslateUi (QWidget *KbWidget)

Data Fields

- QGridLayout * gridLayout
- QComboBox * profileBox
- QTabWidget * tabWidget
- QWidget * lightTab
- QGridLayout * gridLayout_2
- KbLightWidget * lightWidget
- QLabel * label_3
- QWidget * bindTab
- QGridLayout * gridLayout_5
- KbBindWidget * bindWidget
- QWidget * kPerfTab
- QGridLayout * gridLayout_4
- KPerfWidget * kPerfWidget
- QWidget * mPerfTab
- QGridLayout * gridLayout_7
- MPerfWidget * mPerfWidget
- QWidget * devTab
- QGridLayout * gridLayout_3
- QLabel * fwUpdLabel
- QSpacerItem * verticalSpacer
- QLabel * fwLabel
- QLabel * label_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_9
- QLabel * serialLabel
- QHBoxLayout * fwUpdLayout
- QPushButton * fwUpdButton
- QSpacerItem * horizontalSpacer_3
- QLabel * pollLabel2
- QLabel * pollLabel
- RListWidget * modesList
- QPushButton * hwSaveButton

12.95.1 Detailed Description

Definition at line 33 of file ui_kbwidget.h.

12.95.2 Member Function Documentation

12.95.2.1 void Ui_KbWidget::retranslateUi (QWidget * *KbWidget*) [inline]

Definition at line 268 of file ui_kbwidget.h.

References bindTab, devTab, fwLabel, fwUpdButton, fwUpdLabel, hwSaveButton, kPerfTab, label_3, label_4, label_9, lightTab, mPerfTab, pollLabel, pollLabel2, serialLabel, and tabWidget.

Referenced by setupUi().

```
    {
        KbWidget->setWindowTitle(QApplication::translate("KbWidget", "Form", Q_NULLPTR));
        label_3->setText(QApplication::translate("KbWidget", "Tip: Drag+drop items to reorder. Right-click for menu.", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(lightTab), QApplication::translate("KbWidget", "Lighting", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(bindTab), QApplication::translate("KbWidget", "Binding", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(kPerfTab), QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(mPerfTab), QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
        fwUpdLabel->setText(QApplication::translate("KbWidget", "Status:", Q_NULLPTR));
        fwLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        label_4->setText(QApplication::translate("KbWidget", "USB device ID:", Q_NULLPTR));
        label_9->setText(QApplication::translate("KbWidget", "Firmware version:", Q_NULLPTR));
        serialLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        fwUpdButton->setText(QApplication::translate("KbWidget", "Check for updates", Q_NULLPTR));
        pollLabel2->setText(QApplication::translate("KbWidget", "Poll rate:", Q_NULLPTR));
        pollLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(devTab), QApplication::translate("KbWidget", "Device", Q_NULLPTR));
        hwSaveButton->setText(QApplication::translate("KbWidget", "Save to hardware", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.95.2.2 void Ui_KbWidget::setupUi (QWidget * *KbWidget*) [inline]

Definition at line 69 of file ui_kbwidget.h.

References bindTab, bindWidget, devTab, fwLabel, fwUpdButton, fwUpdLabel, fwUpdLayout, gridLayout, gridLayout_2, gridLayout_3, gridLayout_4, gridLayout_5, gridLayout_7, horizontalSpacer_2, horizontalSpacer_3, hwSaveButton, kPerfTab, kPerfWidget, label_3, label_4, label_9, lightTab, lightWidget, modesList, mPerfTab, mPerfWidget, pollLabel, pollLabel2, profileBox, retranslateUi(), serialLabel, tabWidget, and verticalSpacer.

Referenced by KbWidget::KbWidget().

```
    {
        if (KbWidget->objectName().isEmpty())
            KbWidget->setObjectName(QStringLiteral("KbWidget"));
        KbWidget->resize(773, 539);
        gridLayout = new QGridLayout(KbWidget);
        gridLayout->setSpacing(9);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        gridLayout->setContentsMargins(9, -1, 9, 9);
        profileBox = new QComboBox(KbWidget);
        profileBox->setObjectName(QStringLiteral("profileBox"));
        QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(18);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
        profileBox->setSizePolicy(sizePolicy);
        profileBox->setIconSize(QSize(24, 24));

        gridLayout->addWidget(profileBox, 0, 0, 1, 1);

        tabWidget = new QTabWidget(KbWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(82);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy1);
        lightTab = new QWidget();
```

```
        lightTab->setObjectName(QStringLiteral("lightTab"));
        gridLayout_2 = new QGridLayout(lightTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
         gridLayout_2->setHorizontalSpacing(0);
         gridLayout_2->setVerticalSpacing(6);
         gridLayout_2->setContentsMargins(6, 6, 6, 6);
         lightWidget = new KbLightWidget(lightTab);
         lightWidget->setObjectName(QStringLiteral("lightWidget"));
         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Expanding);
         sizePolicy2.setHorizontalStretch(0);
         sizePolicy2.setVerticalStretch(0);
         sizePolicy2.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
         lightWidget->setSizePolicy(sizePolicy2);

         gridLayout_2->addWidget(lightWidget, 0, 0, 1, 1);

         label_3 = new QLabel(lightTab);
         label_3->setObjectName(QStringLiteral("label_3"));
         QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Minimum);
         sizePolicy3.setHorizontalStretch(0);
         sizePolicy3.setVerticalStretch(0);
         sizePolicy3.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
         label_3->setSizePolicy(sizePolicy3);

         gridLayout_2->addWidget(label_3, 1, 0, 1, 1);

         tabWidget->addTab(lightTab, QString());
         bindTab = new QWidget();
         bindTab->setObjectName(QStringLiteral("bindTab"));
         gridLayout_5 = new QGridLayout(bindTab);
         gridLayout_5->setSpacing(0);
         gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
         gridLayout_5->setContentsMargins(6, 6, 6, 6);
         bindWidget = new KbBindWidget(bindTab);
         bindWidget->setObjectName(QStringLiteral("bindWidget"));
         sizePolicy2.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
         bindWidget->setSizePolicy(sizePolicy2);

         gridLayout_5->addWidget(bindWidget, 0, 0, 1, 1);

         tabWidget->addTab(bindTab, QString());
         kPerfTab = new QWidget();
         kPerfTab->setObjectName(QStringLiteral("kPerfTab"));
         gridLayout_4 = new QGridLayout(kPerfTab);
         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
         gridLayout_4->setContentsMargins(6, 6, 6, 6);
         kPerfWidget = new KPerfWidget(kPerfTab);
         kPerfWidget->setObjectName(QStringLiteral("kPerfWidget"));

         gridLayout_4->addWidget(kPerfWidget, 0, 0, 1, 1);

         tabWidget->addTab(kPerfTab, QString());
         mPerfTab = new QWidget();
         mPerfTab->setObjectName(QStringLiteral("mPerfTab"));
         gridLayout_7 = new QGridLayout(mPerfTab);
         gridLayout_7->setObjectName(QStringLiteral("gridLayout_7"));
         gridLayout_7->setContentsMargins(6, 6, 6, 6);
         mPerfWidget = new MPerfWidget(mPerfTab);
         mPerfWidget->setObjectName(QStringLiteral("mPerfWidget"));

         gridLayout_7->addWidget(mPerfWidget, 0, 0, 1, 1);

         tabWidget->addTab(mPerfTab, QString());
         devTab = new QWidget();
         devTab->setObjectName(QStringLiteral("devTab"));
         gridLayout_3 = new QGridLayout(devTab);
         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
         gridLayout_3->setContentsMargins(6, 6, 6, 6);
         fwUpdLabel = new QLabel(devTab);
         fwUpdLabel->setObjectName(QStringLiteral("fwUpdLabel"));
         fwUpdLabel->setMinimumSize(QSize(0, 34));

         gridLayout_3->addWidget(fwUpdLabel, 4, 0, 1, 1);

         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

         gridLayout_3->addItem(verticalSpacer, 6, 2, 1, 1);

         fwLabel = new QLabel(devTab);
         fwLabel->setObjectName(QStringLiteral("fwLabel"));
         fwLabel->setCursor(QCursor(Qt::IBeamCursor));
         fwLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|Qt::TextSelectableByMouse);

         gridLayout_3->addWidget(fwLabel, 2, 2, 1, 1);

         label_4 = new QLabel(devTab);
```

```
        label_4->setObjectName(QStringLiteral("label_4"));
        label_4->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(label_4, 0, 0, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(40, 1, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_2, 2, 1, 1, 1);

        label_9 = new QLabel(devTab);
        label_9->setObjectName(QStringLiteral("label_9"));
        label_9->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(label_9, 2, 0, 1, 1);

        serialLabel = new QLabel(devTab);
        serialLabel->setObjectName(QStringLiteral("serialLabel"));
        serialLabel->setCursor(QCursor(Qt::IBeamCursor));
        serialLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|Qt::TextSelectableByMouse);

        gridLayout_3->addWidget(serialLabel, 0, 2, 1, 1);

        fwUpdLayout = new QHBoxLayout();
        fwUpdLayout->setObjectName(QStringLiteral("fwUpdLayout"));
        fwUpdButton = new QPushButton(devTab);
        fwUpdButton->setObjectName(QStringLiteral("fwUpdButton"));

        fwUpdLayout->addWidget(fwUpdButton);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        fwUpdLayout->addItem(horizontalSpacer_3);


        gridLayout_3->addLayout(fwUpdLayout, 4, 2, 1, 1);

        pollLabel2 = new QLabel(devTab);
        pollLabel2->setObjectName(QStringLiteral("pollLabel2"));
        pollLabel2->setMinimumSize(QSize(0, 34));

        gridLayout_3->addWidget(pollLabel2, 1, 0, 1, 1);

        pollLabel = new QLabel(devTab);
        pollLabel->setObjectName(QStringLiteral("pollLabel"));

        gridLayout_3->addWidget(pollLabel, 1, 2, 1, 1);

        tabWidget->addTab(devTab, QString());

        gridLayout->addWidget(tabWidget, 0, 1, 3, 1);

        modesList = new RListWidget(KbWidget);
        modesList->setObjectName(QStringLiteral("modesList"));
        QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy4.setHorizontalStretch(18);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
        modesList->setSizePolicy(sizePolicy4);
        modesList->setContextMenuPolicy(Qt::CustomContextMenu);
        modesList->setFrameShadow(QFrame::Plain);
        modesList->setDragDropMode(QAbstractItemView::InternalMove);
        modesList->setIconSize(QSize(24, 24));
        modesList->setMovement(QListView::Snap);

        gridLayout->addWidget(modesList, 1, 0, 1, 1);

        hwSaveButton = new QPushButton(KbWidget);
        hwSaveButton->setObjectName(QStringLiteral("hwSaveButton"));
        QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy5.setHorizontalStretch(18);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
        hwSaveButton->setSizePolicy(sizePolicy5);

        gridLayout->addWidget(hwSaveButton, 2, 0, 1, 1);


        retranslateUi(KbWidget);

        tabWidget->setCurrentIndex(0);


        QMetaObject::connectSlotsByName(KbWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.95.3 Field Documentation

12.95.3.1 QWidget* Ui_KbWidget::bindTab

Definition at line 43 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.2 KbBindWidget* Ui_KbWidget::bindWidget

Definition at line 45 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.3 QWidget* Ui_KbWidget::devTab

Definition at line 52 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.4 QLabel* Ui_KbWidget::fwLabel

Definition at line 56 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), retranslateUi(), and setupUi().

12.95.3.5 QPushButton* Ui_KbWidget::fwUpdButton

Definition at line 62 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), retranslateUi(), setupUi(), and KbWidget::updateFwButton().

12.95.3.6 QLabel* Ui_KbWidget::fwUpdLabel

Definition at line 54 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.7 QHBoxLayout* Ui_KbWidget::fwUpdLayout

Definition at line 61 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), and setupUi().

12.95.3.8 QGridLayout* Ui_KbWidget::gridLayout

Definition at line 36 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.9 QGridLayout* Ui_KbWidget::gridLayout_2

Definition at line 40 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.10 QGridLayout* Ui_KbWidget::gridLayout_3

Definition at line 53 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.11 QGridLayout* Ui_KbWidget::gridLayout_4

Definition at line 47 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.12 QGridLayout* Ui_KbWidget::gridLayout_5

Definition at line 44 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.13 QGridLayout* Ui_KbWidget::gridLayout_7

Definition at line 50 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.14 QSpacerItem* Ui_KbWidget::horizontalSpacer_2

Definition at line 58 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.15 QSpacerItem* Ui_KbWidget::horizontalSpacer_3

Definition at line 63 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.16 QPushButton* Ui_KbWidget::hwSaveButton

Definition at line 67 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.17 QWidget* Ui_KbWidget::kPerfTab

Definition at line 46 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.18 KPerfWidget* Ui_KbWidget::kPerfWidget

Definition at line 48 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.19 QLabel* Ui_KbWidget::label_3

Definition at line 42 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.20 QLabel* Ui_KbWidget::label_4

Definition at line 57 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.21 QLabel* Ui_KbWidget::label_9

Definition at line 59 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.22 QWidget* Ui_KbWidget::lightTab

Definition at line 39 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.23 KbLightWidget* Ui_KbWidget::lightWidget

Definition at line 41 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::modeChanged(), and setupUi().

12.95.3.24 RListWidget* Ui_KbWidget::modesList

Definition at line 66 of file ui_kbwidget.h.

Referenced by KbWidget::addNewModeItem(), KbWidget::KbWidget(), KbWidget::modeChanged(), KbWidget::modesList_reordered(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), and setupUi().

12.95.3.25 QWidget* Ui_KbWidget::mPerfTab

Definition at line 49 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.26 MPerfWidget* Ui_KbWidget::mPerfWidget

Definition at line 51 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.27 QLabel* Ui_KbWidget::pollLabel

Definition at line 65 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.28 QLabel* Ui_KbWidget::pollLabel2

Definition at line 64 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.29 QComboBox* Ui_KbWidget::profileBox

Definition at line 37 of file ui_kbwidget.h.

Referenced by setupUi(), and KbWidget::updateProfileList().

12.95.3.30 QLabel* Ui_KbWidget::serialLabel

Definition at line 60 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), retranslateUi(), and setupUi().

12.95.3.31 QTabWidget* Ui_KbWidget::tabWidget

Definition at line 38 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_tabWidget_currentChanged(), retranslateUi(), setupUi(), KbWidget::showFirstTab(), and KbWidget::showLastTab().

12.95.3.32 QSpacerItem* Ui_KbWidget::verticalSpacer

Definition at line 55 of file ui_kbwidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kbwidget.h

12.96 Ui_KPerfWidget Class Reference

```
#include <src/ckb/ui_kperfwidget.h>
```

Inheritance diagram for Ui_KPerfWidget:

Collaboration diagram for Ui_KPerfWidget:

Public Member Functions

- void setupUi (QWidget *KPerfWidget)
- void retranslateUi (QWidget *KPerfWidget)

Data Fields

- QGridLayout * gridLayout
- QWidget * k95Spacer
- QLabel * label_10
- ColorButton * lockColorOff
- QFrame * line
- QSpacerItem * horizontalSpacer_5
- QLabel * k95Label2
- QLabel * label_12
- ColorButton * modeColorOff
- ColorButton * lightColor3
- QSpacerItem * horizontalSpacer
- QCheckBox * lockBox
- ColorButton * modeColorOn
- QCheckBox * macroBox
- ColorButton * numColorOn
- QComboBox * numBox
- QLabel * label_5
- QSpacerItem * verticalSpacer_2
- ColorButton * lightColor2
- QSpacerItem * horizontalSpacer_7
- QLabel * label_8
- QCheckBox * lightBox
- ColorButton * lightColor1

- QSpacerItem * verticalSpacer_4
- QLabel * label_6
- QLabel * label
- QSpacerItem * horizontalSpacer_6
- ColorButton * lockColorOn
- QLabel * label_4
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QCheckBox * modeBox
- ColorButton * capsColorOff
- ColorButton * numColorOff
- ColorButton * capsColorOn
- QFrame * line_3
- QLabel * label_22
- QComboBox * scrollBox
- QLabel * label_7
- ColorButton * scrollColorOn
- QComboBox * capsBox
- ColorButton * scrollColorOff
- QCheckBox * muteBox
- ColorButton * muteColorOn
- ColorButton * macroColorOff
- QLabel * label_3
- ColorButton * muteColorOff
- QLabel * k95Label3
- ColorButton * macroColorOn
- ColorButton * muteColorNA
- QLabel * label_19
- QFrame * k95Line
- QLabel * label_21
- QLabel * label_24
- QLabel * label_20
- QLabel * label_16
- QLabel * label_14
- QLabel * label_18
- QSpacerItem * horizontalSpacer_2
- QLabel * label_15
- QLabel * k95Label4
- QLabel * label_17
- QLabel * label_11
- QLabel * label_23
- QLabel * k95Label1
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_8
- QHBoxLayout * horizontalLayout
- QLabel * label_2
- QSpacerItem * horizontalSpacer_4
- QSpinBox * intensityBox
- QSpacerItem * horizontalSpacer_3
- QLabel * k95Label5
- QFrame * line_2
- QLabel * k95Label6

12.96.1 Detailed Description

Definition at line 31 of file ui_kperfwidget.h.

12.96.2 Member Function Documentation

12.96.2.1 void Ui_KPerfWidget::retranslateUi (QWidget * *KPerfWidget*) [inline]

Definition at line 589 of file ui_kperfwidget.h.

References capsBox, capsColorOff, capsColorOn, copyButton, intensityBox, k95Label1, k95Label2, k95Label3, k95Label4, k95Label5, k95Label6, label, label_10, label_11, label_12, label_14, label_15, label_16, label_17, label_18, label_19, label_2, label_20, label_21, label_22, label_23, label_24, label_3, label_4, label_5, label_6, label_7, label_8, lightBox, lightColor1, lightColor2, lightColor3, lockBox, lockColorOff, lockColorOn, macroBox, macroColorOff, macroColorOn, modeBox, modeColorOff, modeColorOn, muteBox, muteColorNA, muteColorOff, muteColorOn, numBox, numColorOff, numColorOn, scrollBox, scrollColorOff, and scrollColorOn.

Referenced by setupUi().

```
590     {
591         KPerfWidget->setWindowTitle(QApplication::translate("KPerfWidget", "Form", Q_NULLPTR));
592         label_10->setText(QApplication::translate("KPerfWidget", "100%", Q_NULLPTR));
593         lockColorOff->setText(QString());
594         k95Label2->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
595         label_12->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
596         modeColorOff->setText(QString());
597         lightColor3->setText(QString());
598         lockBox->setText(QApplication::translate("KPerfWidget", "Indicate Windows Lock:", Q_NULLPTR)
    );
599         modeColorOn->setText(QString());
600         macroBox->setText(QApplication::translate("KPerfWidget", "Indicate macro recording:",
    Q_NULLPTR));
601         numColorOn->setText(QString());
602         numBox->clear();
603         numBox->insertItems(0, QStringList()
604          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
605          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
606          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
607          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
608          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
609         );
610         label_5->setText(QApplication::translate("KPerfWidget", "Num lock:", Q_NULLPTR));
611         lightColor2->setText(QString());
612         label_8->setText(QApplication::translate("KPerfWidget", "Note: many desktop environments do
     not use scroll lock. The indicator may not turn on even when enabled.", Q_NULLPTR));
613         lightBox->setText(QApplication::translate("KPerfWidget", "Indicate brightness:", Q_NULLPTR)
    );
614         lightColor1->setText(QString());
615         label_6->setText(QApplication::translate("KPerfWidget", "Caps lock:", Q_NULLPTR));
616         label->setText(QApplication::translate("KPerfWidget", "Miscellaneous", Q_NULLPTR));
617         lockColorOn->setText(QString());
618         label_4->setText(QApplication::translate("KPerfWidget", "Lock lights", Q_NULLPTR));
619         modeBox->setText(QApplication::translate("KPerfWidget", "Indicate current mode:", Q_NULLPTR)
    );
620         capsColorOff->setText(QString());
621         numColorOff->setText(QString());
622         capsColorOn->setText(QString());
623         label_22->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
624         scrollBox->clear();
625         scrollBox->insertItems(0, QStringList()
626          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
627          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
628          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
629          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
630          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
631         );
632         label_7->setText(QApplication::translate("KPerfWidget", "Scroll lock:", Q_NULLPTR));
633         scrollColorOn->setText(QString());
634         capsBox->clear();
635         capsBox->insertItems(0, QStringList()
636          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
637          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
638          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
639          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
640          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
641         );
642         scrollColorOff->setText(QString());
643         muteBox->setText(QApplication::translate("KPerfWidget", "Indicate mute:", Q_NULLPTR));
```

```
        muteColorOn->setText(QString());
        macroColorOff->setText(QString());
        label_3->setText(QApplication::translate("KPerfWidget", "Top row", Q_NULLPTR));
        muteColorOff->setText(QString());
        k95Label3->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        macroColorOn->setText(QString());
#ifndef QT_NO_TOOLTIP
        muteColorNA->setToolTip(QApplication::translate("KPerfWidget", "If the sound device does not support muting, or if mute status is unknown, this color will be displayed.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        muteColorNA->setText(QString());
        label_19->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_21->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_24->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        label_20->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_16->setText(QApplication::translate("KPerfWidget", "67%", Q_NULLPTR));
        label_14->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        label_18->setText(QApplication::translate("KPerfWidget", "33%", Q_NULLPTR));
        label_15->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label4->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_17->setText(QApplication::translate("KPerfWidget", "Unknown", Q_NULLPTR));
        label_11->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
        label_23->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label1->setText(QApplication::translate("KPerfWidget", "K95 buttons", Q_NULLPTR));
        copyButton->setText(QApplication::translate("KPerfWidget", "Copy to mode...", Q_NULLPTR));
        label_2->setText(QApplication::translate("KPerfWidget", "Indicator intensity:", Q_NULLPTR));
        intensityBox->setSuffix(QApplication::translate("KPerfWidget", "%", Q_NULLPTR));
        k95Label5->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
        k95Label6->setText(QApplication::translate("KPerfWidget", "Note: macro recording not yet implemented. Indicator will always display \"off\".", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.96.2.2 void Ui_KPerfWidget::setupUi (QWidget * *KPerfWidget*) [inline]

Definition at line 111 of file ui_kperfwidget.h.

References capsBox, capsColorOff, capsColorOn, copyButton, gridLayout, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, horizontalSpacer_8, intensityBox, k95Label1, k95Label2, k95Label3, k95Label4, k95Label5, k95Label6, k95Line, k95Spacer, label, label_10, label_11, label_12, label_14, label_15, label_16, label_17, label_18, label_19, label_2, label_20, label_21, label_22, label_23, label_24, label_3, label_4, label_5, label_6, label_7, label_8, lightBox, lightColor1, lightColor2, lightColor3, line, line_2, line_3, lockBox, lockColorOff, lockColorOn, macroBox, macroColorOff, macroColorOn, modeBox, modeColorOff, modeColorOn, muteBox, muteColorNA, muteColorOff, muteColorOn, numBox, numColorOff, numColorOn, retranslateUi(), scrollBox, scrollColorOff, scrollColorOn, verticalSpacer, verticalSpacer_2, verticalSpacer_3, and verticalSpacer_4.

Referenced by KPerfWidget::KPerfWidget().

```
    {
        if (KPerfWidget->objectName().isEmpty())
            KPerfWidget->setObjectName(QStringLiteral("KPerfWidget"));
        KPerfWidget->resize(840, 679);
        gridLayout = new QGridLayout(KPerfWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        k95Spacer = new QWidget(KPerfWidget);
        k95Spacer->setObjectName(QStringLiteral("k95Spacer"));
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(k95Spacer->sizePolicy().hasHeightForWidth());
        k95Spacer->setSizePolicy(sizePolicy);
        k95Spacer->setMinimumSize(QSize(15, 10));
```

```
        k95Spacer->setMaximumSize(QSize(15, 10));

        gridLayout->addWidget(k95Spacer, 12, 4, 1, 1);

        label_10 = new QLabel(KPerfWidget);
        label_10->setObjectName(QStringLiteral("label_10"));

        gridLayout->addWidget(label_10, 15, 5, 1, 1);

        lockColorOff = new ColorButton(KPerfWidget);
        lockColorOff->setObjectName(QStringLiteral("lockColorOff"));
        sizePolicy.setHeightForWidth(lockColorOff->sizePolicy().hasHeightForWidth());
        lockColorOff->setSizePolicy(sizePolicy);
        lockColorOff->setMinimumSize(QSize(0, 40));
        lockColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lockColorOff, 16, 7, 1, 1);

        line = new QFrame(KPerfWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 2, 0, 1, 13);

        horizontalSpacer_5 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_5, 17, 6, 1, 1);

        k95Label2 = new QLabel(KPerfWidget);
        k95Label2->setObjectName(QStringLiteral("k95Label2"));

        gridLayout->addWidget(k95Label2, 9, 5, 1, 1);

        label_12 = new QLabel(KPerfWidget);
        label_12->setObjectName(QStringLiteral("label_12"));

        gridLayout->addWidget(label_12, 17, 5, 1, 1);

        modeColorOff = new ColorButton(KPerfWidget);
        modeColorOff->setObjectName(QStringLiteral("modeColorOff"));
        sizePolicy.setHeightForWidth(modeColorOff->sizePolicy().hasHeightForWidth());
        modeColorOff->setSizePolicy(sizePolicy);
        modeColorOff->setMinimumSize(QSize(0, 40));
        modeColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(modeColorOff, 9, 7, 1, 1);

        lightColor3 = new ColorButton(KPerfWidget);
        lightColor3->setObjectName(QStringLiteral("lightColor3"));
        sizePolicy.setHeightForWidth(lightColor3->sizePolicy().hasHeightForWidth());
        lightColor3->setSizePolicy(sizePolicy);
        lightColor3->setMinimumSize(QSize(0, 40));
        lightColor3->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor3, 15, 4, 1, 1);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 15, 12, 1, 1);

        lockBox = new QCheckBox(KPerfWidget);
        lockBox->setObjectName(QStringLiteral("lockBox"));

        gridLayout->addWidget(lockBox, 16, 1, 1, 2);

        modeColorOn = new ColorButton(KPerfWidget);
        modeColorOn->setObjectName(QStringLiteral("modeColorOn"));
        sizePolicy.setHeightForWidth(modeColorOn->sizePolicy().hasHeightForWidth());
        modeColorOn->setSizePolicy(sizePolicy);
        modeColorOn->setMinimumSize(QSize(0, 40));
        modeColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(modeColorOn, 9, 4, 1, 1);

        macroBox = new QCheckBox(KPerfWidget);
        macroBox->setObjectName(QStringLiteral("macroBox"));

        gridLayout->addWidget(macroBox, 10, 1, 1, 2);

        numColorOn = new ColorButton(KPerfWidget);
        numColorOn->setObjectName(QStringLiteral("numColorOn"));
        sizePolicy.setHeightForWidth(numColorOn->sizePolicy().hasHeightForWidth());
        numColorOn->setSizePolicy(sizePolicy);
        numColorOn->setMinimumSize(QSize(0, 40));
```

```
        numColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(numColorOn, 21, 4, 1, 1);

        numBox = new QComboBox(KPerfWidget);
        numBox->setObjectName(QStringLiteral("numBox"));

        gridLayout->addWidget(numBox, 21, 2, 1, 1);

        label_5 = new QLabel(KPerfWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout->addWidget(label_5, 21, 1, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
);

        gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);

        lightColor2 = new ColorButton(KPerfWidget);
        lightColor2->setObjectName(QStringLiteral("lightColor2"));
        sizePolicy.setHeightForWidth(lightColor2->sizePolicy().hasHeightForWidth());
        lightColor2->setSizePolicy(sizePolicy);
        lightColor2->setMinimumSize(QSize(0, 40));
        lightColor2->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor2, 15, 7, 1, 1);

        horizontalSpacer_7 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_7, 17, 3, 1, 1);

        label_8 = new QLabel(KPerfWidget);
        label_8->setObjectName(QStringLiteral("label_8"));
        QFont font;
        font.setPointSize(8);
        font.setItalic(true);
        label_8->setFont(font);

        gridLayout->addWidget(label_8, 25, 1, 1, 12);

        lightBox = new QCheckBox(KPerfWidget);
        lightBox->setObjectName(QStringLiteral("lightBox"));

        gridLayout->addWidget(lightBox, 15, 1, 1, 2);

        lightColor1 = new ColorButton(KPerfWidget);
        lightColor1->setObjectName(QStringLiteral("lightColor1"));
        sizePolicy.setHeightForWidth(lightColor1->sizePolicy().hasHeightForWidth());
        lightColor1->setSizePolicy(sizePolicy);
        lightColor1->setMinimumSize(QSize(0, 40));
        lightColor1->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lightColor1, 15, 10, 1, 1);

        verticalSpacer_4 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_4, 24, 4, 1, 1);

        label_6 = new QLabel(KPerfWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 22, 1, 1, 1);

        label = new QLabel(KPerfWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font1;
        font1.setBold(true);
        font1.setWeight(75);
        label->setFont(font1);

        gridLayout->addWidget(label, 1, 0, 1, 13);

        horizontalSpacer_6 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_6, 17, 9, 1, 1);

        lockColorOn = new ColorButton(KPerfWidget);
        lockColorOn->setObjectName(QStringLiteral("lockColorOn"));
        sizePolicy.setHeightForWidth(lockColorOn->sizePolicy().hasHeightForWidth());
        lockColorOn->setSizePolicy(sizePolicy);
        lockColorOn->setMinimumSize(QSize(0, 40));
        lockColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(lockColorOn, 16, 4, 1, 1);
```

```
        label_4 = new QLabel(KPerfWidget);
        label_4->setObjectName(QStringLiteral("label_4"));
        label_4->setFont(font1);

        gridLayout->addWidget(label_4, 19, 0, 1, 13);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );

        gridLayout->addItem(verticalSpacer, 26, 2, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
    );

        gridLayout->addItem(verticalSpacer_3, 18, 4, 1, 1);

        modeBox = new QCheckBox(KPerfWidget);
        modeBox->setObjectName(QStringLiteral("modeBox"));

        gridLayout->addWidget(modeBox, 9, 1, 1, 2);

        capsColorOff = new ColorButton(KPerfWidget);
        capsColorOff->setObjectName(QStringLiteral("capsColorOff"));
        sizePolicy.setHeightForWidth(capsColorOff->sizePolicy().hasHeightForWidth());
        capsColorOff->setSizePolicy(sizePolicy);
        capsColorOff->setMinimumSize(QSize(0, 40));
        capsColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(capsColorOff, 22, 7, 1, 1);

        numColorOff = new ColorButton(KPerfWidget);
        numColorOff->setObjectName(QStringLiteral("numColorOff"));
        QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(40);
        sizePolicy1.setHeightForWidth(numColorOff->sizePolicy().hasHeightForWidth());
        numColorOff->setSizePolicy(sizePolicy1);
        numColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(numColorOff, 21, 7, 1, 1);

        capsColorOn = new ColorButton(KPerfWidget);
        capsColorOn->setObjectName(QStringLiteral("capsColorOn"));
        sizePolicy.setHeightForWidth(capsColorOn->sizePolicy().hasHeightForWidth());
        capsColorOn->setSizePolicy(sizePolicy);
        capsColorOn->setMinimumSize(QSize(0, 40));
        capsColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(capsColorOn, 22, 4, 1, 1);

        line_3 = new QFrame(KPerfWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 20, 0, 1, 13);

        label_22 = new QLabel(KPerfWidget);
        label_22->setObjectName(QStringLiteral("label_22"));

        gridLayout->addWidget(label_22, 21, 8, 1, 1);

        scrollBox = new QComboBox(KPerfWidget);
        scrollBox->setObjectName(QStringLiteral("scrollBox"));

        gridLayout->addWidget(scrollBox, 23, 2, 1, 1);

        label_7 = new QLabel(KPerfWidget);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout->addWidget(label_7, 23, 1, 1, 1);

        scrollColorOn = new ColorButton(KPerfWidget);
        scrollColorOn->setObjectName(QStringLiteral("scrollColorOn"));
        sizePolicy.setHeightForWidth(scrollColorOn->sizePolicy().hasHeightForWidth());
        scrollColorOn->setSizePolicy(sizePolicy);
        scrollColorOn->setMinimumSize(QSize(0, 40));
        scrollColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(scrollColorOn, 23, 4, 1, 1);

        capsBox = new QComboBox(KPerfWidget);
        capsBox->setObjectName(QStringLiteral("capsBox"));

        gridLayout->addWidget(capsBox, 22, 2, 1, 1);

```

```
        scrollColorOff = new ColorButton(KPerfWidget);
        scrollColorOff->setObjectName(QStringLiteral("scrollColorOff"));
        sizePolicy.setHeightForWidth(scrollColorOff->sizePolicy().hasHeightForWidth());
        scrollColorOff->setSizePolicy(sizePolicy);
        scrollColorOff->setMinimumSize(QSize(0, 40));
        scrollColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(scrollColorOff, 23, 7, 1, 1);

        muteBox = new QCheckBox(KPerfWidget);
        muteBox->setObjectName(QStringLiteral("muteBox"));

        gridLayout->addWidget(muteBox, 17, 1, 1, 2);

        muteColorOn = new ColorButton(KPerfWidget);
        muteColorOn->setObjectName(QStringLiteral("muteColorOn"));
        sizePolicy.setHeightForWidth(muteColorOn->sizePolicy().hasHeightForWidth());
        muteColorOn->setSizePolicy(sizePolicy);
        muteColorOn->setMinimumSize(QSize(0, 40));
        muteColorOn->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorOn, 17, 4, 1, 1);

        macroColorOff = new ColorButton(KPerfWidget);
        macroColorOff->setObjectName(QStringLiteral("macroColorOff"));
        QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(40);
        sizePolicy2.setHeightForWidth(macroColorOff->sizePolicy().hasHeightForWidth());
        macroColorOff->setSizePolicy(sizePolicy2);
        macroColorOff->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(macroColorOff, 10, 7, 1, 1);

        label_3 = new QLabel(KPerfWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        label_3->setFont(font1);

        gridLayout->addWidget(label_3, 13, 0, 1, 3);

        muteColorOff = new ColorButton(KPerfWidget);
        muteColorOff->setObjectName(QStringLiteral("muteColorOff"));
        sizePolicy.setHeightForWidth(muteColorOff->sizePolicy().hasHeightForWidth());
        muteColorOff->setSizePolicy(sizePolicy);
        muteColorOff->setMinimumSize(QSize(0, 40));
        muteColorOff->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorOff, 17, 7, 1, 1);

        k95Label3 = new QLabel(KPerfWidget);
        k95Label3->setObjectName(QStringLiteral("k95Label3"));

        gridLayout->addWidget(k95Label3, 9, 8, 1, 1);

        macroColorOn = new ColorButton(KPerfWidget);
        macroColorOn->setObjectName(QStringLiteral("macroColorOn"));
        sizePolicy2.setHeightForWidth(macroColorOn->sizePolicy().hasHeightForWidth());
        macroColorOn->setSizePolicy(sizePolicy2);
        macroColorOn->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(macroColorOn, 10, 4, 1, 1);

        muteColorNA = new ColorButton(KPerfWidget);
        muteColorNA->setObjectName(QStringLiteral("muteColorNA"));
        muteColorNA->setMinimumSize(QSize(0, 40));
        muteColorNA->setMaximumSize(QSize(16777215, 40));

        gridLayout->addWidget(muteColorNA, 17, 10, 1, 1);

        label_19 = new QLabel(KPerfWidget);
        label_19->setObjectName(QStringLiteral("label_19"));

        gridLayout->addWidget(label_19, 21, 5, 1, 1);

        k95Line = new QFrame(KPerfWidget);
        k95Line->setObjectName(QStringLiteral("k95Line"));
        k95Line->setFrameShape(QFrame::HLine);
        k95Line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(k95Line, 8, 0, 1, 13);

        label_21 = new QLabel(KPerfWidget);
        label_21->setObjectName(QStringLiteral("label_21"));

        gridLayout->addWidget(label_21, 23, 5, 1, 1);

        label_24 = new QLabel(KPerfWidget);
```

```
        label_24->setObjectName(QStringLiteral("label_24"));

        gridLayout->addWidget(label_24, 23, 8, 1, 1);

        label_20 = new QLabel(KPerfWidget);
        label_20->setObjectName(QStringLiteral("label_20"));

        gridLayout->addWidget(label_20, 22, 5, 1, 1);

        label_16 = new QLabel(KPerfWidget);
        label_16->setObjectName(QStringLiteral("label_16"));

        gridLayout->addWidget(label_16, 15, 8, 1, 1);

        label_14 = new QLabel(KPerfWidget);
        label_14->setObjectName(QStringLiteral("label_14"));

        gridLayout->addWidget(label_14, 17, 8, 1, 1);

        label_18 = new QLabel(KPerfWidget);
        label_18->setObjectName(QStringLiteral("label_18"));

        gridLayout->addWidget(label_18, 15, 11, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_2, 15, 0, 1, 1);

        label_15 = new QLabel(KPerfWidget);
        label_15->setObjectName(QStringLiteral("label_15"));

        gridLayout->addWidget(label_15, 16, 8, 1, 1);

        k95Label4 = new QLabel(KPerfWidget);
        k95Label4->setObjectName(QStringLiteral("k95Label4"));

        gridLayout->addWidget(k95Label4, 10, 5, 1, 1);

        label_17 = new QLabel(KPerfWidget);
        label_17->setObjectName(QStringLiteral("label_17"));

        gridLayout->addWidget(label_17, 17, 11, 1, 1);

        label_11 = new QLabel(KPerfWidget);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout->addWidget(label_11, 16, 5, 1, 1);

        label_23 = new QLabel(KPerfWidget);
        label_23->setObjectName(QStringLiteral("label_23"));

        gridLayout->addWidget(label_23, 22, 8, 1, 1);

        k95Label1 = new QLabel(KPerfWidget);
        k95Label1->setObjectName(QStringLiteral("k95Label1"));
        k95Label1->setFont(font1);

        gridLayout->addWidget(k95Label1, 7, 0, 1, 5);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        copyButton = new QPushButton(KPerfWidget);
        copyButton->setObjectName(QStringLiteral("copyButton"));

        horizontalLayout_2->addWidget(copyButton);

        horizontalSpacer_8 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_8);


        gridLayout->addLayout(horizontalLayout_2, 3, 10, 1, 3);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        label_2 = new QLabel(KPerfWidget);
        label_2->setObjectName(QStringLiteral("label_2"));

        horizontalLayout->addWidget(label_2);

        horizontalSpacer_4 = new QSpacerItem(10, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_4);

```

```
        intensityBox = new QSpinBox(KPerfWidget);
        intensityBox->setObjectName(QStringLiteral("intensityBox"));
        intensityBox->setMaximum(100);
        intensityBox->setValue(100);

        horizontalLayout->addWidget(intensityBox);

        horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_3);


        gridLayout->addLayout(horizontalLayout, 3, 1, 1, 9);

        k95Label5 = new QLabel(KPerfWidget);
        k95Label5->setObjectName(QStringLiteral("k95Label5"));

        gridLayout->addWidget(k95Label5, 10, 8, 1, 1);

        line_2 = new QFrame(KPerfWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 14, 0, 1, 13);

        k95Label6 = new QLabel(KPerfWidget);
        k95Label6->setObjectName(QStringLiteral("k95Label6"));
        k95Label6->setFont(font);

        gridLayout->addWidget(k95Label6, 11, 1, 1, 10);


        retranslateUi(KPerfWidget);

        QMetaObject::connectSlotsByName(KPerfWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.96.3 Field Documentation

12.96.3.1 QComboBox* Ui_KPerfWidget::capsBox

Definition at line 74 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.2 ColorButton* Ui_KPerfWidget::capsColorOff

Definition at line 66 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.3 ColorButton* Ui_KPerfWidget::capsColorOn

Definition at line 68 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.4 QPushButton* Ui_KPerfWidget::copyButton

Definition at line 100 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.5 QGridLayout* Ui_KPerfWidget::gridLayout

Definition at line 34 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.6 QHBoxLayout* Ui_KPerfWidget::horizontalLayout

Definition at line 102 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.7 QHBoxLayout* Ui_KPerfWidget::horizontalLayout_2

Definition at line 99 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.8 QSpacerItem* Ui_KPerfWidget::horizontalSpacer

Definition at line 44 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.9 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_2

Definition at line 92 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.10 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_3

Definition at line 106 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.11 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_4

Definition at line 104 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.12 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_5

Definition at line 39 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.13 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_6

Definition at line 60 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.14 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_7

Definition at line 53 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.15 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_8

Definition at line 101 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.16 QSpinBox* Ui_KPerfWidget::intensityBox

Definition at line 105 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.17 QLabel* Ui_KPerfWidget::k95Label1

Definition at line 98 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.18 QLabel* Ui_KPerfWidget::k95Label2

Definition at line 40 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.19 QLabel* Ui_KPerfWidget::k95Label3

Definition at line 81 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.20 QLabel* Ui_KPerfWidget::k95Label4

Definition at line 94 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.21 QLabel* Ui_KPerfWidget::k95Label5

Definition at line 107 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.22 QLabel* Ui_KPerfWidget::k95Label6

Definition at line 109 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.23 QFrame* Ui_KPerfWidget::k95Line

Definition at line 85 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and setupUi().

12.96.3.24 QWidget* Ui_KPerfWidget::k95Spacer

Definition at line 35 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and setupUi().

12.96.3.25 QLabel* Ui_KPerfWidget::label

Definition at line 59 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.26 QLabel* Ui_KPerfWidget::label_10

Definition at line 36 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.27 QLabel* Ui_KPerfWidget::label_11

Definition at line 96 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.28 QLabel* Ui_KPerfWidget::label_12

Definition at line 41 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.29 QLabel* Ui_KPerfWidget::label_14

Definition at line 90 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.30 QLabel* Ui_KPerfWidget::label_15

Definition at line 93 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.31 QLabel* Ui_KPerfWidget::label_16

Definition at line 89 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.32 QLabel* Ui_KPerfWidget::label_17

Definition at line 95 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.33 QLabel* Ui_KPerfWidget::label_18

Definition at line 91 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.34 QLabel* Ui_KPerfWidget::label_19

Definition at line 84 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.35 QLabel* Ui_KPerfWidget::label_2

Definition at line 103 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.36 QLabel* Ui_KPerfWidget::label_20

Definition at line 88 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.37 QLabel* Ui_KPerfWidget::label_21

Definition at line 86 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.38 QLabel* Ui_KPerfWidget::label_22

Definition at line 70 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.39 QLabel* Ui_KPerfWidget::label_23

Definition at line 97 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.40 QLabel* Ui_KPerfWidget::label_24

Definition at line 87 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.41 QLabel* Ui_KPerfWidget::label_3

Definition at line 79 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.42 QLabel* Ui_KPerfWidget::label_4

Definition at line 62 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.43 QLabel* Ui_KPerfWidget::label_5

Definition at line 50 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.44 QLabel* Ui_KPerfWidget::label_6

Definition at line 58 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.45 QLabel* Ui_KPerfWidget::label_7

Definition at line 72 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.46 QLabel* Ui_KPerfWidget::label_8

Definition at line 54 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.47 QCheckBox* Ui_KPerfWidget::lightBox

Definition at line 55 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.48 ColorButton* Ui_KPerfWidget::lightColor1

Definition at line 56 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.49 ColorButton* Ui_KPerfWidget::lightColor2

Definition at line 52 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.50 ColorButton* Ui_KPerfWidget::lightColor3

Definition at line 43 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.51 QFrame* Ui_KPerfWidget::line

Definition at line 38 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.52 QFrame* Ui_KPerfWidget::line_2

Definition at line 108 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.53 QFrame* Ui_KPerfWidget::line_3

Definition at line 69 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.54 QCheckBox* Ui_KPerfWidget::lockBox

Definition at line 45 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.55 ColorButton* Ui_KPerfWidget::lockColorOff

Definition at line 37 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.56 ColorButton* Ui_KPerfWidget::lockColorOn

Definition at line 61 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.57 QCheckBox* Ui_KPerfWidget::macroBox

Definition at line 47 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.58 ColorButton* Ui_KPerfWidget::macroColorOff

Definition at line 78 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.59 ColorButton* Ui_KPerfWidget::macroColorOn

Definition at line 82 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.60 QCheckBox* Ui_KPerfWidget::modeBox

Definition at line 65 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.61 ColorButton* Ui_KPerfWidget::modeColorOff

Definition at line 42 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.62 ColorButton* Ui_KPerfWidget::modeColorOn

Definition at line 46 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.63 QCheckBox* Ui_KPerfWidget::muteBox

Definition at line 76 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.64 ColorButton* Ui_KPerfWidget::muteColorNA

Definition at line 83 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.65 ColorButton* Ui_KPerfWidget::muteColorOff

Definition at line 80 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.66 ColorButton* Ui_KPerfWidget::muteColorOn

Definition at line 77 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.67 QComboBox* Ui_KPerfWidget::numBox

Definition at line 49 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.68 ColorButton* Ui_KPerfWidget::numColorOff

Definition at line 67 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.69 ColorButton* Ui_KPerfWidget::numColorOn

Definition at line 48 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.70 QComboBox* Ui_KPerfWidget::scrollBox

Definition at line 71 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.71 ColorButton* Ui_KPerfWidget::scrollColorOff

Definition at line 75 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.72 ColorButton* Ui_KPerfWidget::scrollColorOn

Definition at line 73 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.73 QSpacerItem* Ui_KPerfWidget::verticalSpacer

Definition at line 63 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.74 QSpacerItem* Ui_KPerfWidget::verticalSpacer_2

Definition at line 51 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.75 QSpacerItem* Ui_KPerfWidget::verticalSpacer_3

Definition at line 64 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.76 QSpacerItem* Ui_KPerfWidget::verticalSpacer_4

Definition at line 57 of file ui_kperfwidget.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_kperfwidget.h

12.97 Ui_LayoutDialog Class Reference

```
#include <src/ckb/ui_layoutdialog.h>
```

Inheritance diagram for Ui_LayoutDialog:

Collaboration diagram for Ui_LayoutDialog:

Public Member Functions

- void setupUi (QDialog *LayoutDialog)

- void retranslateUi (QDialog *LayoutDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QDialogButtonBox * buttonBox
- QLabel * label
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_2
- QSpacerItem * horizontalSpacer
- QComboBox * comboBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_4

12.97.1 Detailed Description

Definition at line 26 of file ui_layoutdialog.h.

12.97.2 Member Function Documentation

12.97.2.1 void Ui_LayoutDialog::retranslateUi (QDialog * *LayoutDialog*) [inline]

Definition at line 109 of file ui_layoutdialog.h.

References label, and label_2.

Referenced by setupUi().

```
110     {
111         LayoutDialog->setWindowTitle(QApplication::translate("LayoutDialog", "Keyboard Layout", Q_NULLPTR))
    ;
112         label->setText(QApplication::translate("LayoutDialog", "Please select your keyboard layout:",
    Q_NULLPTR));
113         label_2->setText(QApplication::translate("LayoutDialog", "Note: this only controls the
     layout within the ckb application. If your keys are typing the wrong characters, check your system preferences.",
     Q_NULLPTR));
114     } // retranslateUi
```

Here is the caller graph for this function:

12.97.2.2 void Ui_LayoutDialog::setupUi (QDialog * *LayoutDialog*) [inline]

Definition at line 41 of file ui_layoutdialog.h.

References buttonBox, comboBox, gridLayout, horizontalSpacer, horizontalSpacer_2, label, label_2, retranslateUi(), verticalSpacer, verticalSpacer_2, verticalSpacer_3, and verticalSpacer_4.

Referenced by LayoutDialog::LayoutDialog().

```
 {
     if (LayoutDialog->objectName().isEmpty())
         LayoutDialog->setObjectName(QStringLiteral("LayoutDialog"));
     LayoutDialog->resize(400, 240);
     gridLayout = new QGridLayout(LayoutDialog);
     gridLayout->setObjectName(QStringLiteral("gridLayout"));
     verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

     gridLayout->addItem(verticalSpacer, 6, 0, 1, 3);

     verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

     gridLayout->addItem(verticalSpacer_3, 0, 1, 1, 1);

     buttonBox = new QDialogButtonBox(LayoutDialog);
     buttonBox->setObjectName(QStringLiteral("buttonBox"));
     buttonBox->setOrientation(Qt::Horizontal);
     buttonBox->setStandardButtons(QDialogButtonBox::Ok);

     gridLayout->addWidget(buttonBox, 7, 0, 1, 3);

     label = new QLabel(LayoutDialog);
     label->setObjectName(QStringLiteral("label"));
     label->setAlignment(Qt::AlignCenter);

     gridLayout->addWidget(label, 1, 0, 1, 3);

     horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

     gridLayout->addItem(horizontalSpacer_2, 3, 2, 1, 1);

     verticalSpacer_2 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed);

     gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);

     horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

     gridLayout->addItem(horizontalSpacer, 3, 0, 1, 1);

     comboBox = new QComboBox(LayoutDialog);
     comboBox->setObjectName(QStringLiteral("comboBox"));

     gridLayout->addWidget(comboBox, 3, 1, 1, 1);

     label_2 = new QLabel(LayoutDialog);
     label_2->setObjectName(QStringLiteral("label_2"));
     QFont font;
     font.setPointSize(8);
     font.setItalic(true);
     label_2->setFont(font);
     label_2->setAlignment(Qt::AlignCenter);
     label_2->setWordWrap(true);

     gridLayout->addWidget(label_2, 5, 0, 1, 3);

     verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

     gridLayout->addItem(verticalSpacer_4, 2, 1, 1, 1);


      retranslateUi(LayoutDialog);
      QObject::connect(buttonBox, SIGNAL(accepted()), LayoutDialog, SLOT(accept()));
      QObject::connect(buttonBox, SIGNAL(rejected()), LayoutDialog, SLOT(reject()));

      QMetaObject::connectSlotsByName(LayoutDialog);
  } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.97.3 Field Documentation

12.97.3.1 QDialogButtonBox* Ui_LayoutDialog::buttonBox

Definition at line 32 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.2 QComboBox* Ui_LayoutDialog::comboBox

Definition at line 37 of file ui_layoutdialog.h.

Referenced by LayoutDialog::LayoutDialog(), LayoutDialog::selected(), and setupUi().

12.97.3.3 QGridLayout* Ui_LayoutDialog::gridLayout

Definition at line 29 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.4 QSpacerItem* Ui_LayoutDialog::horizontalSpacer

Definition at line 36 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.5 QSpacerItem* Ui_LayoutDialog::horizontalSpacer_2

Definition at line 34 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.6 QLabel* Ui_LayoutDialog::label

Definition at line 33 of file ui_layoutdialog.h.

Referenced by retranslateUi(), and setupUi().

12.97.3.7 QLabel* Ui_LayoutDialog::label_2

Definition at line 38 of file ui_layoutdialog.h.

Referenced by retranslateUi(), and setupUi().

12.97.3.8 QSpacerItem* Ui_LayoutDialog::verticalSpacer

Definition at line 30 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.9 QSpacerItem* Ui_LayoutDialog::verticalSpacer_2

Definition at line 35 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.10 QSpacerItem* Ui_LayoutDialog::verticalSpacer_3

Definition at line 31 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.11 QSpacerItem* Ui_LayoutDialog::verticalSpacer_4

Definition at line 39 of file ui_layoutdialog.h.

Referenced by setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_layoutdialog.h

12.98 Ui_MainWindow Class Reference

```
#include <src/ckb/ui_mainwindow.h>
```

Inheritance diagram for Ui_MainWindow:

Collaboration diagram for Ui_MainWindow:

Public Member Functions

- void setupUi (QMainWindow *MainWindow)
- void retranslateUi (QMainWindow *MainWindow)

Data Fields

- QAction ∗ actionExit
- QAction ∗ actionAbout
- QWidget ∗ centralWidget
- QGridLayout ∗ gridLayout
- QTabWidget ∗ tabWidget

12.98.1 Detailed Description

Definition at line 24 of file ui_mainwindow.h.

12.98.2 Member Function Documentation

12.98.2.1 void Ui_MainWindow::retranslateUi (QMainWindow ∗ *MainWindow*) [inline]

Definition at line 68 of file ui_mainwindow.h.

References actionAbout, and actionExit.

Referenced by setupUi().

```
69     {
70         MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
71         actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
72         actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
73         actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
74     } // retranslateUi
```

Here is the caller graph for this function:

12.98.2.2 void Ui_MainWindow::setupUi (QMainWindow ∗ *MainWindow*) [inline]

Definition at line 33 of file ui_mainwindow.h.

References actionAbout, actionExit, centralWidget, gridLayout, retranslateUi(), and tabWidget.

Referenced by MainWindow::MainWindow().

```
34     {
35         if (MainWindow->objectName().isEmpty())
36             MainWindow->setObjectName(QStringLiteral("MainWindow"));
37         MainWindow->resize(1000, 750);
38         MainWindow->setMinimumSize(QSize(1000, 750));
39         QIcon icon;
40         icon.addFile(QStringLiteral(":/img/ckb-logo.png"), QSize(), QIcon::Normal, QIcon::Off);
41         MainWindow->setWindowIcon(icon);
42         MainWindow->setUnifiedTitleAndToolBarOnMac(true);
43         actionExit = new QAction(MainWindow);
44         actionExit->setObjectName(QStringLiteral("actionExit"));
45         actionAbout = new QAction(MainWindow);
46         actionAbout->setObjectName(QStringLiteral("actionAbout"));
47         centralWidget = new QWidget(MainWindow);
48         centralWidget->setObjectName(QStringLiteral("centralWidget"));
49         gridLayout = new QGridLayout(centralWidget);
50         gridLayout->setSpacing(6);
```

```
        gridLayout->setContentsMargins(11, 11, 11, 11);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        tabWidget = new QTabWidget(centralWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));

        gridLayout->addWidget(tabWidget, 0, 0, 1, 1);

        MainWindow->setCentralWidget(centralWidget);

        retranslateUi(MainWindow);

        tabWidget->setCurrentIndex(-1);


        QMetaObject::connectSlotsByName(MainWindow);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.98.3 Field Documentation

12.98.3.1 QAction* Ui_MainWindow::actionAbout

Definition at line 28 of file ui_mainwindow.h.

Referenced by retranslateUi(), and setupUi().

12.98.3.2 QAction* Ui_MainWindow::actionExit

Definition at line 27 of file ui_mainwindow.h.

Referenced by MainWindow::MainWindow(), retranslateUi(), and setupUi().

12.98.3.3 QWidget* Ui_MainWindow::centralWidget

Definition at line 29 of file ui_mainwindow.h.

Referenced by setupUi().

12.98.3.4 QGridLayout* Ui_MainWindow::gridLayout

Definition at line 30 of file ui_mainwindow.h.

Referenced by setupUi().

12.98.3.5 QTabWidget* Ui_MainWindow::tabWidget

Definition at line 31 of file ui_mainwindow.h.

Referenced by MainWindow::addDevice(), MainWindow::MainWindow(), MainWindow::removeDevice(), setupUi(), and MainWindow::showFwUpdateNotification().

The documentation for this class was generated from the following file:

- src/ckb/ui_mainwindow.h

12.99 Ui_ModeSelectDialog Class Reference

```
#include <src/ckb/ui_modeselectdialog.h>
```

Inheritance diagram for Ui_ModeSelectDialog:

Collaboration diagram for Ui_ModeSelectDialog:

Public Member Functions

- void setupUi (QDialog *ModeSelectDialog)
- void retranslateUi (QDialog *ModeSelectDialog)

Data Fields

- QGridLayout * gridLayout
- QLabel * label
- QDialogButtonBox * buttonBox
- QListWidget * modeList
- QPushButton * selAllButton
- QPushButton * selNoneButton

12.99.1 Detailed Description

Definition at line 26 of file ui_modeselectdialog.h.

12.99.2 Member Function Documentation

12.99.2.1 void Ui_ModeSelectDialog::retranslateUi (QDialog * *ModeSelectDialog*) [inline]

Definition at line 82 of file ui_modeselectdialog.h.

References label, selAllButton, and selNoneButton.

Referenced by setupUi().

```
83     {
84         ModeSelectDialog->setWindowTitle(QApplication::translate("ModeSelectDialog", "Select Modes",
       Q_NULLPTR));
85         label->setText(QApplication::translate("ModeSelectDialog", "TextLabel", Q_NULLPTR));
86         selAllButton->setText(QApplication::translate("ModeSelectDialog", "Select All",
       Q_NULLPTR));
87         selNoneButton->setText(QApplication::translate("ModeSelectDialog", "Select None",
       Q_NULLPTR));
88     } // retranslateUi
```

Here is the caller graph for this function:

12.99.2.2 void Ui_ModeSelectDialog::setupUi (QDialog * *ModeSelectDialog*) [inline]

Definition at line 36 of file ui_modeselectdialog.h.

References buttonBox, gridLayout, label, modeList, retranslateUi(), selAllButton, and selNoneButton.

Referenced by ModeSelectDialog::ModeSelectDialog().

```
37     {
38         if (ModeSelectDialog->objectName().isEmpty())
39             ModeSelectDialog->setObjectName(QStringLiteral("ModeSelectDialog"));
40         ModeSelectDialog->resize(320, 320);
41         gridLayout = new QGridLayout(ModeSelectDialog);
42         gridLayout->setObjectName(QStringLiteral("gridLayout"));
43         label = new QLabel(ModeSelectDialog);
44         label->setObjectName(QStringLiteral("label"));
45         label->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);
46
47         gridLayout->addWidget(label, 0, 0, 1, 2);
48
49         buttonBox = new QDialogButtonBox(ModeSelectDialog);
50         buttonBox->setObjectName(QStringLiteral("buttonBox"));
51         buttonBox->setOrientation(Qt::Vertical);
52         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
53         buttonBox->setCenterButtons(false);
54
55         gridLayout->addWidget(buttonBox, 0, 2, 3, 1);
56
57         modeList = new QListWidget(ModeSelectDialog);
58         modeList->setObjectName(QStringLiteral("modeList"));
59         modeList->setFrameShadow(QFrame::Plain);
60         modeList->setSelectionMode(QAbstractItemView::ExtendedSelection);
61
62         gridLayout->addWidget(modeList, 1, 0, 1, 2);
63
64         selAllButton = new QPushButton(ModeSelectDialog);
65         selAllButton->setObjectName(QStringLiteral("selAllButton"));
66
67         gridLayout->addWidget(selAllButton, 2, 0, 1, 1);
68
69         selNoneButton = new QPushButton(ModeSelectDialog);
70         selNoneButton->setObjectName(QStringLiteral("selNoneButton"));
71
72         gridLayout->addWidget(selNoneButton, 2, 1, 1, 1);
73
74
75         retranslateUi(ModeSelectDialog);
76         QObject::connect(buttonBox, SIGNAL(accepted()), ModeSelectDialog, SLOT(accept()));
77         QObject::connect(buttonBox, SIGNAL(rejected()), ModeSelectDialog, SLOT(reject()));
78
79         QMetaObject::connectSlotsByName(ModeSelectDialog);
80     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.99.3 Field Documentation

12.99.3.1 QDialogButtonBox* Ui_ModeSelectDialog::buttonBox

Definition at line 31 of file ui_modeselectdialog.h.

Referenced by setupUi().

12.99.3.2 QGridLayout* Ui_ModeSelectDialog::gridLayout

Definition at line 29 of file ui_modeselectdialog.h.

Referenced by setupUi().

12.99.3.3 QLabel* Ui_ModeSelectDialog::label

Definition at line 30 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), retranslateUi(), and setupUi().

12.99.3.4 QListWidget* Ui_ModeSelectDialog::modeList

Definition at line 32 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), ModeSelectDialog::on_selAllButton_clicked(), ModeSelectDialog::on_selNoneButton_clicked(), ModeSelectDialog::selection(), and setupUi().

12.99.3.5 QPushButton* Ui_ModeSelectDialog::selAllButton

Definition at line 33 of file ui_modeselectdialog.h.

Referenced by retranslateUi(), and setupUi().

12.99.3.6 QPushButton* Ui_ModeSelectDialog::selNoneButton

Definition at line 34 of file ui_modeselectdialog.h.

Referenced by retranslateUi(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_modeselectdialog.h

12.100 Ui_MPerfWidget Class Reference

```
#include <src/ckb/ui_mperfwidget.h>
```

Inheritance diagram for Ui_MPerfWidget:

Collaboration diagram for Ui_MPerfWidget:

Public Member Functions

- void setupUi (QWidget ∗MPerfWidget)
- void retranslateUi (QWidget ∗MPerfWidget)

Data Fields

- QVBoxLayout ∗ verticalLayout
- QLabel ∗ label
- QFrame ∗ line
- QGridLayout ∗ gridLayout
- QLabel ∗ label_25
- QHBoxLayout ∗ horizontalLayout_2
- QComboBox ∗ lHeightBox
- QSpacerItem ∗ horizontalSpacer_2
- QCheckBox ∗ eBox2
- QSlider ∗ ySlider3
- QSlider ∗ xSlider2
- QSpinBox ∗ xBox3
- QSpinBox ∗ yBox0
- QSlider ∗ ySlider0
- ColorButton ∗ iButton4
- ColorButton ∗ iButton5
- QSpacerItem ∗ horizontalSpacer_4
- QSpacerItem ∗ verticalSpacer_3
- QSpacerItem ∗ horizontalSpacer_5
- ColorButton ∗ iButton3
- QLabel ∗ label_12
- QSpinBox ∗ xBox4
- QSpinBox ∗ xBox0
- QSpinBox ∗ yBox5
- QCheckBox ∗ eBox5
- QSlider ∗ xSlider5
- QSpinBox ∗ xBox1

- QSpinBox * yBox2
- QSpinBox * yBox3
- QSlider * xSlider4
- QLabel * label_4
- QSlider * xSlider0
- ColorButton * iButton2
- QFrame * line_3
- ColorButton * iButtonO
- QSpinBox * yBox1
- QSlider * ySlider2
- QSpinBox * xBox2
- QSlider * xSlider1
- QSpacerItem * horizontalSpacer
- QSpinBox * yBox4
- ColorButton * iButton1
- QSlider * ySlider4
- QSlider * ySlider1
- ColorButton * iButton0
- QSlider * xSlider3
- QSpinBox * xBox5
- QLabel * label_3
- QLabel * label_6
- QSlider * ySlider5
- QLabel * label_7
- QLabel * label_8
- QLabel * label_5
- QLabel * label_15
- QLabel * label_13
- QLabel * label_14
- QCheckBox * eBox4
- QLabel * label_11
- QCheckBox * eBox3
- QCheckBox * eBox1
- QLabel * label_2
- QSpacerItem * verticalSpacer
- QCheckBox * aSnapBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_4
- QCheckBox * indicBox
- QSpacerItem * horizontalSpacer_3
- QSpinBox * spinBox
- QSpacerItem * horizontalSpacer_7
- QCheckBox * xyBox
- QSpacerItem * verticalSpacer_2
- QHBoxLayout * horizontalLayout
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_6

12.100.1 Detailed Description

Definition at line 33 of file ui_mperfwidget.h.

12.100.2 Member Function Documentation

12.100.2.1 void Ui_MPerfWidget::retranslateUi (QWidget * *MPerfWidget*) [inline]

Definition at line 641 of file ui_mperfwidget.h.

References aSnapBox, copyButton, eBox1, eBox2, eBox3, eBox4, eBox5, iButton0, iButton1, iButton2, iButton3, iButton4, iButton5, iButtonO, indicBox, label, label_11, label_12, label_13, label_14, label_15, label_2, label_25, label_3, label_4, label_5, label_6, label_7, label_8, lHeightBox, spinBox, and xyBox.

Referenced by setupUi().

```
    {
        MPerfWidget->setWindowTitle(QApplication::translate("MPerfWidget", "Form", Q_NULLPTR));
        label->setText(QApplication::translate("MPerfWidget", "DPI", Q_NULLPTR));
        label_25->setText(QApplication::translate("MPerfWidget", "Lift height:", Q_NULLPTR));
        lHeightBox->clear();
        lHeightBox->insertItems(0, QStringList()
         << QApplication::translate("MPerfWidget", "Low", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium-low", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "Medium-high", Q_NULLPTR)
         << QApplication::translate("MPerfWidget", "High", Q_NULLPTR)
        );
#ifndef QT_NO_TOOLTIP
        eBox2->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox2->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton4->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton4->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton5->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton5->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton3->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton3->setText(QString());
        label_12->setText(QApplication::translate("MPerfWidget", "X Value:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox5->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox5->setText(QString());
        label_4->setText(QApplication::translate("MPerfWidget", "Y Value:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        iButton2->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton2->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButtonO->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButtonO->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton1->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton1->setText(QString());
#ifndef QT_NO_TOOLTIP
        iButton0->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all colors at once", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        iButton0->setText(QString());
        label_3->setText(QApplication::translate("MPerfWidget", "You can assign other DPIs in the Binding tab.", Q_NULLPTR));
        label_6->setText(QApplication::translate("MPerfWidget", "2:", Q_NULLPTR));
        label_7->setText(QApplication::translate("MPerfWidget", "3:", Q_NULLPTR));
        label_8->setText(QApplication::translate("MPerfWidget", "4:", Q_NULLPTR));
        label_5->setText(QApplication::translate("MPerfWidget", "1:", Q_NULLPTR));
        label_15->setText(QApplication::translate("MPerfWidget", "Other:", Q_NULLPTR));
        label_13->setText(QApplication::translate("MPerfWidget", "5:", Q_NULLPTR));
        label_14->setText(QApplication::translate("MPerfWidget", "Sniper:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox4->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
```

```
#endif // QT_NO_TOOLTIP
        eBox4->setText(QString());
        label_11->setText(QApplication::translate("MPerfWidget", "DPI Stage:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        eBox3->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox3->setText(QString());
#ifndef QT_NO_TOOLTIP
        eBox1->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage while moving up or down.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        eBox1->setText(QString());
        label_2->setText(QApplication::translate("MPerfWidget", "Movement", Q_NULLPTR));
        aSnapBox->setText(QApplication::translate("MPerfWidget", "Angle snap", Q_NULLPTR));
        indicBox->setText(QApplication::translate("MPerfWidget", "Use DPI indicator:", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        spinBox->setToolTip(QApplication::translate("MPerfWidget", "Indicator intensity", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        spinBox->setSuffix(QApplication::translate("MPerfWidget", "%", Q_NULLPTR));
        xyBox->setText(QApplication::translate("MPerfWidget", "Independent X/Y states", Q_NULLPTR));
        copyButton->setText(QApplication::translate("MPerfWidget", "Copy to mode...", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.100.2.2 void Ui_MPerfWidget::setupUi (QWidget * *MPerfWidget*) [inline]

Definition at line 111 of file ui_mperfwidget.h.

References aSnapBox, copyButton, eBox1, eBox2, eBox3, eBox4, eBox5, gridLayout, horizontalLayout, horizontalLayout_2, horizontalLayout_4, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, iButton0, iButton1, iButton2, iButton3, iButton4, iButton5, iButtonO, indicBox, label, label_11, label_12, label_13, label_14, label_15, label_2, label_25, label_3, label_4, label_5, label_6, label_7, label_8, lHeightBox, line, line_2, line_3, retranslateUi(), spinBox, verticalLayout, verticalSpacer, verticalSpacer_2, verticalSpacer_3, xBox0, xBox1, xBox2, xBox3, xBox4, xBox5, xSlider0, xSlider1, xSlider2, xSlider3, xSlider4, xSlider5, xyBox, yBox0, yBox1, yBox2, yBox3, yBox4, yBox5, ySlider0, ySlider1, ySlider2, ySlider3, ySlider4, and ySlider5.

Referenced by MPerfWidget::MPerfWidget().

```
    {
        if (MPerfWidget->objectName().isEmpty())
            MPerfWidget->setObjectName(QStringLiteral("MPerfWidget"));
        MPerfWidget->resize(932, 637);
        verticalLayout = new QVBoxLayout(MPerfWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        label = new QLabel(MPerfWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        verticalLayout->addWidget(label);

        line = new QFrame(MPerfWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        verticalLayout->addWidget(line);

        gridLayout = new QGridLayout();
```

```
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        label_25 = new QLabel(MPerfWidget);
        label_25->setObjectName(QStringLiteral("label_25"));
        label_25->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout->addWidget(label_25, 16, 5, 1, 2);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        lHeightBox = new QComboBox(MPerfWidget);
        lHeightBox->setObjectName(QStringLiteral("lHeightBox"));

        horizontalLayout_2->addWidget(lHeightBox);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_2);


        gridLayout->addLayout(horizontalLayout_2, 16, 8, 1, 3);

        eBox2 = new QCheckBox(MPerfWidget);
        eBox2->setObjectName(QStringLiteral("eBox2"));

        gridLayout->addWidget(eBox2, 7, 1, 1, 1);

        ySlider3 = new QSlider(MPerfWidget);
        ySlider3->setObjectName(QStringLiteral("ySlider3"));
        ySlider3->setMinimum(0);
        ySlider3->setMaximum(1000);
        ySlider3->setSingleStep(10);
        ySlider3->setPageStep(50);
        ySlider3->setValue(0);
        ySlider3->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider3, 8, 8, 1, 1);

        xSlider2 = new QSlider(MPerfWidget);
        xSlider2->setObjectName(QStringLiteral("xSlider2"));
        xSlider2->setMinimum(0);
        xSlider2->setMaximum(1000);
        xSlider2->setSingleStep(10);
        xSlider2->setPageStep(50);
        xSlider2->setValue(0);
        xSlider2->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider2, 7, 5, 1, 1);

        xBox3 = new QSpinBox(MPerfWidget);
        xBox3->setObjectName(QStringLiteral("xBox3"));
        xBox3->setMinimum(100);
        xBox3->setMaximum(12000);
        xBox3->setSingleStep(50);

        gridLayout->addWidget(xBox3, 8, 6, 1, 1);

        yBox0 = new QSpinBox(MPerfWidget);
        yBox0->setObjectName(QStringLiteral("yBox0"));
        yBox0->setMinimum(100);
        yBox0->setMaximum(12000);
        yBox0->setSingleStep(50);

        gridLayout->addWidget(yBox0, 11, 9, 1, 1);

        ySlider0 = new QSlider(MPerfWidget);
        ySlider0->setObjectName(QStringLiteral("ySlider0"));
        ySlider0->setMinimum(0);
        ySlider0->setMaximum(1000);
        ySlider0->setSingleStep(10);
        ySlider0->setPageStep(50);
        ySlider0->setValue(0);
        ySlider0->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider0, 11, 8, 1, 1);

        iButton4 = new ColorButton(MPerfWidget);
        iButton4->setObjectName(QStringLiteral("iButton4"));
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(iButton4->sizePolicy().hasHeightForWidth());
        iButton4->setSizePolicy(sizePolicy);
        iButton4->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton4, 9, 2, 1, 1);

```

```
        iButton5 = new ColorButton(MPerfWidget);
        iButton5->setObjectName(QStringLiteral("iButton5"));
        sizePolicy.setHeightForWidth(iButton5->sizePolicy().hasHeightForWidth());
        iButton5->setSizePolicy(sizePolicy);
        iButton5->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton5, 10, 2, 1, 1);

        horizontalSpacer_4 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_4, 4, 4, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_3, 3, 2, 1, 1);

        horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_5, 4, 7, 1, 1);

        iButton3 = new ColorButton(MPerfWidget);
        iButton3->setObjectName(QStringLiteral("iButton3"));
        sizePolicy.setHeightForWidth(iButton3->sizePolicy().hasHeightForWidth());
        iButton3->setSizePolicy(sizePolicy);
        iButton3->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton3, 8, 2, 1, 1);

        label_12 = new QLabel(MPerfWidget);
        label_12->setObjectName(QStringLiteral("label_12"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(label_12->sizePolicy().hasHeightForWidth());
        label_12->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(label_12, 4, 5, 1, 1);

        xBox4 = new QSpinBox(MPerfWidget);
        xBox4->setObjectName(QStringLiteral("xBox4"));
        xBox4->setMinimum(100);
        xBox4->setMaximum(12000);
        xBox4->setSingleStep(50);

        gridLayout->addWidget(xBox4, 9, 6, 1, 1);

        xBox0 = new QSpinBox(MPerfWidget);
        xBox0->setObjectName(QStringLiteral("xBox0"));
        xBox0->setMinimum(100);
        xBox0->setMaximum(12000);
        xBox0->setSingleStep(50);

        gridLayout->addWidget(xBox0, 11, 6, 1, 1);

        yBox5 = new QSpinBox(MPerfWidget);
        yBox5->setObjectName(QStringLiteral("yBox5"));
        yBox5->setMinimum(100);
        yBox5->setMaximum(12000);
        yBox5->setSingleStep(50);

        gridLayout->addWidget(yBox5, 10, 9, 1, 1);

        eBox5 = new QCheckBox(MPerfWidget);
        eBox5->setObjectName(QStringLiteral("eBox5"));

        gridLayout->addWidget(eBox5, 10, 1, 1, 1);

        xSlider5 = new QSlider(MPerfWidget);
        xSlider5->setObjectName(QStringLiteral("xSlider5"));
        xSlider5->setMinimum(0);
        xSlider5->setMaximum(1000);
        xSlider5->setSingleStep(10);
        xSlider5->setPageStep(50);
        xSlider5->setValue(0);
        xSlider5->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider5, 10, 5, 1, 1);

        xBox1 = new QSpinBox(MPerfWidget);
        xBox1->setObjectName(QStringLiteral("xBox1"));
        sizePolicy.setHeightForWidth(xBox1->sizePolicy().hasHeightForWidth());
        xBox1->setSizePolicy(sizePolicy);
        xBox1->setMinimum(100);
        xBox1->setMaximum(12000);
```

```
        xBox1->setSingleStep(50);

        gridLayout->addWidget(xBox1, 6, 6, 1, 1);

        yBox2 = new QSpinBox(MPerfWidget);
        yBox2->setObjectName(QStringLiteral("yBox2"));
        yBox2->setMinimum(100);
        yBox2->setMaximum(12000);
        yBox2->setSingleStep(50);

        gridLayout->addWidget(yBox2, 7, 9, 1, 1);

        yBox3 = new QSpinBox(MPerfWidget);
        yBox3->setObjectName(QStringLiteral("yBox3"));
        yBox3->setMinimum(100);
        yBox3->setMaximum(12000);
        yBox3->setSingleStep(50);

        gridLayout->addWidget(yBox3, 8, 9, 1, 1);

        xSlider4 = new QSlider(MPerfWidget);
        xSlider4->setObjectName(QStringLiteral("xSlider4"));
        xSlider4->setMinimum(0);
        xSlider4->setMaximum(1000);
        xSlider4->setSingleStep(10);
        xSlider4->setPageStep(50);
        xSlider4->setValue(0);
        xSlider4->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider4, 9, 5, 1, 1);

        label_4 = new QLabel(MPerfWidget);
        label_4->setObjectName(QStringLiteral("label_4"));
        sizePolicy1.setHeightForWidth(label_4->sizePolicy().hasHeightForWidth());
        label_4->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(label_4, 4, 8, 1, 1);

        xSlider0 = new QSlider(MPerfWidget);
        xSlider0->setObjectName(QStringLiteral("xSlider0"));
        xSlider0->setMinimum(0);
        xSlider0->setMaximum(1000);
        xSlider0->setSingleStep(10);
        xSlider0->setPageStep(50);
        xSlider0->setValue(0);
        xSlider0->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider0, 11, 5, 1, 1);

        iButton2 = new ColorButton(MPerfWidget);
        iButton2->setObjectName(QStringLiteral("iButton2"));
        sizePolicy.setHeightForWidth(iButton2->sizePolicy().hasHeightForWidth());
        iButton2->setSizePolicy(sizePolicy);
        iButton2->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton2, 7, 2, 1, 1);

        line_3 = new QFrame(MPerfWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 5, 0, 1, 11);

        iButton0 = new ColorButton(MPerfWidget);
        iButton0->setObjectName(QStringLiteral("iButton0"));
        sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
        iButton0->setSizePolicy(sizePolicy);
        iButton0->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton0, 12, 2, 1, 1);

        yBox1 = new QSpinBox(MPerfWidget);
        yBox1->setObjectName(QStringLiteral("yBox1"));
        sizePolicy.setHeightForWidth(yBox1->sizePolicy().hasHeightForWidth());
        yBox1->setSizePolicy(sizePolicy);
        yBox1->setMinimum(100);
        yBox1->setMaximum(12000);
        yBox1->setSingleStep(50);

        gridLayout->addWidget(yBox1, 6, 9, 1, 1);

        ySlider2 = new QSlider(MPerfWidget);
        ySlider2->setObjectName(QStringLiteral("ySlider2"));
        ySlider2->setMinimum(0);
        ySlider2->setMaximum(1000);
        ySlider2->setSingleStep(10);
```

```
        ySlider2->setPageStep(50);
        ySlider2->setValue(0);
        ySlider2->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider2, 7, 8, 1, 1);

        xBox2 = new QSpinBox(MPerfWidget);
        xBox2->setObjectName(QStringLiteral("xBox2"));
        xBox2->setMinimum(100);
        xBox2->setMaximum(12000);
        xBox2->setSingleStep(50);

        gridLayout->addWidget(xBox2, 7, 6, 1, 1);

        xSlider1 = new QSlider(MPerfWidget);
        xSlider1->setObjectName(QStringLiteral("xSlider1"));
        QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(xSlider1->sizePolicy().hasHeightForWidth());
        xSlider1->setSizePolicy(sizePolicy2);
        xSlider1->setMinimum(0);
        xSlider1->setMaximum(1000);
        xSlider1->setSingleStep(10);
        xSlider1->setPageStep(50);
        xSlider1->setValue(0);
        xSlider1->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider1, 6, 5, 1, 1);

        horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);

        yBox4 = new QSpinBox(MPerfWidget);
        yBox4->setObjectName(QStringLiteral("yBox4"));
        yBox4->setMinimum(100);
        yBox4->setMaximum(12000);
        yBox4->setSingleStep(50);

        gridLayout->addWidget(yBox4, 9, 9, 1, 1);

        iButton1 = new ColorButton(MPerfWidget);
        iButton1->setObjectName(QStringLiteral("iButton1"));
        sizePolicy.setHeightForWidth(iButton1->sizePolicy().hasHeightForWidth());
        iButton1->setSizePolicy(sizePolicy);
        iButton1->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton1, 6, 2, 1, 1);

        ySlider4 = new QSlider(MPerfWidget);
        ySlider4->setObjectName(QStringLiteral("ySlider4"));
        ySlider4->setMinimum(0);
        ySlider4->setMaximum(1000);
        ySlider4->setSingleStep(10);
        ySlider4->setPageStep(50);
        ySlider4->setValue(0);
        ySlider4->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider4, 9, 8, 1, 1);

        ySlider1 = new QSlider(MPerfWidget);
        ySlider1->setObjectName(QStringLiteral("ySlider1"));
        ySlider1->setMinimum(0);
        ySlider1->setMaximum(1000);
        ySlider1->setSingleStep(10);
        ySlider1->setPageStep(50);
        ySlider1->setValue(0);
        ySlider1->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider1, 6, 8, 1, 1);

        iButton0 = new ColorButton(MPerfWidget);
        iButton0->setObjectName(QStringLiteral("iButton0"));
        sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
        iButton0->setSizePolicy(sizePolicy);
        iButton0->setMinimumSize(QSize(0, 40));

        gridLayout->addWidget(iButton0, 11, 2, 1, 1);

        xSlider3 = new QSlider(MPerfWidget);
        xSlider3->setObjectName(QStringLiteral("xSlider3"));
        xSlider3->setMinimum(0);
        xSlider3->setMaximum(1000);
        xSlider3->setSingleStep(10);
        xSlider3->setPageStep(50);
```

```
        xSlider3->setValue(0);
        xSlider3->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(xSlider3, 8, 5, 1, 1);

        xBox5 = new QSpinBox(MPerfWidget);
        xBox5->setObjectName(QStringLiteral("xBox5"));
        xBox5->setMinimum(100);
        xBox5->setMaximum(12000);
        xBox5->setSingleStep(50);

        gridLayout->addWidget(xBox5, 10, 6, 1, 1);

        label_3 = new QLabel(MPerfWidget);
        label_3->setObjectName(QStringLiteral("label_3"));

        gridLayout->addWidget(label_3, 12, 5, 1, 5);

        label_6 = new QLabel(MPerfWidget);
        label_6->setObjectName(QStringLiteral("label_6"));

        gridLayout->addWidget(label_6, 7, 3, 1, 1);

        ySlider5 = new QSlider(MPerfWidget);
        ySlider5->setObjectName(QStringLiteral("ySlider5"));
        ySlider5->setMinimum(0);
        ySlider5->setMaximum(1000);
        ySlider5->setSingleStep(10);
        ySlider5->setPageStep(50);
        ySlider5->setValue(0);
        ySlider5->setOrientation(Qt::Horizontal);

        gridLayout->addWidget(ySlider5, 10, 8, 1, 1);

        label_7 = new QLabel(MPerfWidget);
        label_7->setObjectName(QStringLiteral("label_7"));

        gridLayout->addWidget(label_7, 8, 3, 1, 1);

        label_8 = new QLabel(MPerfWidget);
        label_8->setObjectName(QStringLiteral("label_8"));

        gridLayout->addWidget(label_8, 9, 3, 1, 1);

        label_5 = new QLabel(MPerfWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

        gridLayout->addWidget(label_5, 6, 3, 1, 1);

        label_15 = new QLabel(MPerfWidget);
        label_15->setObjectName(QStringLiteral("label_15"));

        gridLayout->addWidget(label_15, 12, 3, 1, 1);

        label_13 = new QLabel(MPerfWidget);
        label_13->setObjectName(QStringLiteral("label_13"));

        gridLayout->addWidget(label_13, 10, 3, 1, 1);

        label_14 = new QLabel(MPerfWidget);
        label_14->setObjectName(QStringLiteral("label_14"));

        gridLayout->addWidget(label_14, 11, 3, 1, 1);

        eBox4 = new QCheckBox(MPerfWidget);
        eBox4->setObjectName(QStringLiteral("eBox4"));

        gridLayout->addWidget(eBox4, 9, 1, 1, 1);

        label_11 = new QLabel(MPerfWidget);
        label_11->setObjectName(QStringLiteral("label_11"));

        gridLayout->addWidget(label_11, 4, 2, 1, 2);

        eBox3 = new QCheckBox(MPerfWidget);
        eBox3->setObjectName(QStringLiteral("eBox3"));

        gridLayout->addWidget(eBox3, 8, 1, 1, 1);

        eBox1 = new QCheckBox(MPerfWidget);
        eBox1->setObjectName(QStringLiteral("eBox1"));

        gridLayout->addWidget(eBox1, 6, 1, 1, 1);

        label_2 = new QLabel(MPerfWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setFont(font);
```

```
        gridLayout->addWidget(label_2, 14, 0, 1, 10);

        verticalSpacer = new QSpacerItem(20, 30, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer, 13, 2, 1, 1);

        aSnapBox = new QCheckBox(MPerfWidget);
        aSnapBox->setObjectName(QStringLiteral("aSnapBox"));

        gridLayout->addWidget(aSnapBox, 16, 1, 1, 4);

        line_2 = new QFrame(MPerfWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 15, 0, 1, 10);

        horizontalLayout_4 = new QHBoxLayout();
        horizontalLayout_4->setObjectName(QStringLiteral("horizontalLayout_4"));
        indicBox = new QCheckBox(MPerfWidget);
        indicBox->setObjectName(QStringLiteral("indicBox"));

        horizontalLayout_4->addWidget(indicBox);

        horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);

        horizontalLayout_4->addItem(horizontalSpacer_3);

        spinBox = new QSpinBox(MPerfWidget);
        spinBox->setObjectName(QStringLiteral("spinBox"));
        spinBox->setMaximum(100);
        spinBox->setValue(100);

        horizontalLayout_4->addWidget(spinBox);

        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout_4->addItem(horizontalSpacer_7);


        gridLayout->addLayout(horizontalLayout_4, 0, 1, 1, 9);

        xyBox = new QCheckBox(MPerfWidget);
        xyBox->setObjectName(QStringLiteral("xyBox"));

        gridLayout->addWidget(xyBox, 2, 1, 1, 9);


        verticalLayout->addLayout(gridLayout);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        verticalLayout->addItem(verticalSpacer_2);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        copyButton = new QPushButton(MPerfWidget);
        copyButton->setObjectName(QStringLiteral("copyButton"));

        horizontalLayout->addWidget(copyButton);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout);


        retranslateUi(MPerfWidget);

        QMetaObject::connectSlotsByName(MPerfWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.100.3 Field Documentation

12.100.3.1 QCheckBox* Ui_MPerfWidget::aSnapBox

Definition at line 98 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.2 QPushButton* Ui_MPerfWidget::copyButton

Definition at line 108 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.3 QCheckBox* Ui_MPerfWidget::eBox1

Definition at line 95 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.4 QCheckBox* Ui_MPerfWidget::eBox2

Definition at line 44 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.5 QCheckBox* Ui_MPerfWidget::eBox3

Definition at line 94 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.6 QCheckBox∗ Ui_MPerfWidget::eBox4

Definition at line 92 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.7 QCheckBox∗ Ui_MPerfWidget::eBox5

Definition at line 60 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.8 QGridLayout∗ Ui_MPerfWidget::gridLayout

Definition at line 39 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.9 QHBoxLayout∗ Ui_MPerfWidget::horizontalLayout

Definition at line 107 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.10 QHBoxLayout∗ Ui_MPerfWidget::horizontalLayout_2

Definition at line 41 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.11 QHBoxLayout∗ Ui_MPerfWidget::horizontalLayout_4

Definition at line 100 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.12 QSpacerItem∗ Ui_MPerfWidget::horizontalSpacer

Definition at line 75 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.13 QSpacerItem∗ Ui_MPerfWidget::horizontalSpacer_2

Definition at line 43 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.14 QSpacerItem∗ Ui_MPerfWidget::horizontalSpacer_3

Definition at line 102 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.15 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_4

Definition at line 52 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.16 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_5

Definition at line 54 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.17 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_6

Definition at line 109 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.18 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_7

Definition at line 104 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.19 ColorButton* Ui_MPerfWidget::iButton0

Definition at line 80 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.20 ColorButton* Ui_MPerfWidget::iButton1

Definition at line 77 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.21 ColorButton* Ui_MPerfWidget::iButton2

Definition at line 68 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.22 ColorButton* Ui_MPerfWidget::iButton3

Definition at line 55 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.23 ColorButton* Ui_MPerfWidget::iButton4

Definition at line 50 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.24 ColorButton* Ui_MPerfWidget::iButton5

Definition at line 51 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.25 ColorButton* Ui_MPerfWidget::iButtonO

Definition at line 70 of file ui_mperfwidget.h.

Referenced by MPerfWidget::colorChanged(), MPerfWidget::MPerfWidget(), retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.26 QCheckBox* Ui_MPerfWidget::indicBox

Definition at line 101 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.27 QLabel* Ui_MPerfWidget::label

Definition at line 37 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.28 QLabel* Ui_MPerfWidget::label_11

Definition at line 93 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.29 QLabel* Ui_MPerfWidget::label_12

Definition at line 56 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.30 QLabel* Ui_MPerfWidget::label_13

Definition at line 90 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.31 QLabel* Ui_MPerfWidget::label_14

Definition at line 91 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.32 QLabel* Ui_MPerfWidget::label_15

Definition at line 89 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.33 QLabel* Ui_MPerfWidget::label_2

Definition at line 96 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.34 QLabel* Ui_MPerfWidget::label_25

Definition at line 40 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.35 QLabel* Ui_MPerfWidget::label_3

Definition at line 83 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.36 QLabel* Ui_MPerfWidget::label_4

Definition at line 66 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.37 QLabel* Ui_MPerfWidget::label_5

Definition at line 88 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.38 QLabel* Ui_MPerfWidget::label_6

Definition at line 84 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.39 QLabel* Ui_MPerfWidget::label_7

Definition at line 86 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.40 QLabel* Ui_MPerfWidget::label_8

Definition at line 87 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.41 QComboBox* Ui_MPerfWidget::lHeightBox

Definition at line 42 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.42 QFrame* Ui_MPerfWidget::line

Definition at line 38 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.43 QFrame* Ui_MPerfWidget::line_2

Definition at line 99 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.44 QFrame* Ui_MPerfWidget::line_3

Definition at line 69 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.45 QSpinBox* Ui_MPerfWidget::spinBox

Definition at line 103 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.46 QVBoxLayout* Ui_MPerfWidget::verticalLayout

Definition at line 36 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.47 QSpacerItem* Ui_MPerfWidget::verticalSpacer

Definition at line 97 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.48 QSpacerItem* Ui_MPerfWidget::verticalSpacer_2

Definition at line 106 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.49 QSpacerItem* Ui_MPerfWidget::verticalSpacer_3

Definition at line 53 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.50 QSpinBox* Ui_MPerfWidget::xBox0

Definition at line 58 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.51 QSpinBox* Ui_MPerfWidget::xBox1

Definition at line 62 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.52 QSpinBox* Ui_MPerfWidget::xBox2

Definition at line 73 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.53 QSpinBox* Ui_MPerfWidget::xBox3

Definition at line 47 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.54 QSpinBox* Ui_MPerfWidget::xBox4

Definition at line 57 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.55 QSpinBox* Ui_MPerfWidget::xBox5

Definition at line 82 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.56 QSlider* Ui_MPerfWidget::xSlider0

Definition at line 67 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.57 QSlider* Ui_MPerfWidget::xSlider1

Definition at line 74 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.58 QSlider* Ui_MPerfWidget::xSlider2

Definition at line 46 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.59 QSlider* Ui_MPerfWidget::xSlider3

Definition at line 81 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.60 QSlider* Ui_MPerfWidget::xSlider4

Definition at line 65 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.61 QSlider* Ui_MPerfWidget::xSlider5

Definition at line 61 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.62 QCheckBox* Ui_MPerfWidget::xyBox

Definition at line 105 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), setupUi(), and MPerfWidget::sliderYMoved().

12.100.3.63 QSpinBox* Ui_MPerfWidget::yBox0

Definition at line 48 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.64 QSpinBox* Ui_MPerfWidget::yBox1

Definition at line 71 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.65 QSpinBox* Ui_MPerfWidget::yBox2

Definition at line 63 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.66 QSpinBox* Ui_MPerfWidget::yBox3

Definition at line 64 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.67 QSpinBox* Ui_MPerfWidget::yBox4

Definition at line 76 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.68 QSpinBox* Ui_MPerfWidget::yBox5

Definition at line 59 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.69 QSlider* Ui_MPerfWidget::ySlider0

Definition at line 49 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.70 QSlider* Ui_MPerfWidget::ySlider1

Definition at line 79 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.71 QSlider* Ui_MPerfWidget::ySlider2

Definition at line 72 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.72 QSlider* Ui_MPerfWidget::ySlider3

Definition at line 45 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.73 QSlider* Ui_MPerfWidget::ySlider4

Definition at line 78 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.74 QSlider* Ui_MPerfWidget::ySlider5

Definition at line 85 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_mperfwidget.h

12.101 Ui_RebindWidget Class Reference

```
#include <src/ckb/ui_rebindwidget.h>
```

Inheritance diagram for Ui_RebindWidget:

Collaboration diagram for Ui_RebindWidget:

Public Member Functions

- void setupUi (QWidget *RebindWidget)
- void retranslateUi (QWidget *RebindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QTabWidget * tabWidget
- QWidget * keyTab

- QGridLayout * gridLayout_2
- QComboBox * numBox
- QComboBox * typingBox
- QComboBox * fnBox
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_2
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_4
- QSpacerItem * horizontalSpacer_9
- QSpacerItem * horizontalSpacer_4
- QRadioButton * modButton
- QRadioButton * fnButton
- QComboBox * mediaBox
- QRadioButton * numButton
- QSpacerItem * horizontalSpacer_17
- QWidget * mouseTab
- QGridLayout * gridLayout
- QRadioButton * dpiButton
- QSpacerItem * verticalSpacer_2
- QSpacerItem * verticalSpacer_8
- QSpacerItem * horizontalSpacer_18
- QSpacerItem * horizontalSpacer_20
- QComboBox * mb2Box
- QComboBox * dpiBox
- QSpinBox * dpiCustYBox
- QComboBox * mbBox
- QComboBox * wheelBox
- QRadioButton * mbButton
- QSpinBox * dpiCustXBox
- QLabel * dpiWarning
- QRadioButton * wheelButton
- QSpacerItem * horizontalSpacer_22
- QRadioButton * mb2Button
- QLabel * dpiCustLabel
- QSpacerItem * horizontalSpacer_19
- QSpacerItem * horizontalSpacer_21
- QWidget * animTab
- QGridLayout * gridLayout_5
- QSpacerItem * verticalSpacer_11
- QComboBox * animBox
- QSpacerItem * horizontalSpacer_24
- QSpacerItem * horizontalSpacer_25
- QCheckBox * animKrBox
- QCheckBox * animOnceBox
- QSpacerItem * horizontalSpacer_26
- QRadioButton * animButton
- QSpacerItem * horizontalSpacer_23
- QWidget * actionTab
- QGridLayout * gridLayout_3
- QSpacerItem * horizontalSpacer_5
- QRadioButton * modeButton

- QCheckBox * modeWrapBox
- QCheckBox * lightWrapBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_6
- QRadioButton * lockButton
- QSpacerItem * verticalSpacer_5
- QComboBox * lightBox
- QComboBox * lockBox
- QRadioButton * lightButton
- QComboBox * modeBox
- QSpacerItem * horizontalSpacer_8
- QSpacerItem * horizontalSpacer_10
- QSpacerItem * horizontalSpacer_7
- QSpacerItem * horizontalSpacer_6
- QWidget * programTab
- QGridLayout * gridLayout_4
- QSpacerItem * verticalSpacer
- QSpacerItem * horizontalSpacer
- QCheckBox * programKpButton
- QLineEdit * programKpBox
- QSpacerItem * horizontalSpacer_11
- QSpacerItem * horizontalSpacer_13
- QLineEdit * programKrBox
- QCheckBox * programKrButton
- QSpacerItem * horizontalSpacer_12
- QWidget * programKpExtra
- QHBoxLayout * horizontalLayout_2
- QCheckBox * programKpSIBox
- QComboBox * programKpModeBox
- QSpacerItem * horizontalSpacer_15
- QWidget * programKrExtra
- QHBoxLayout * horizontalLayout_3
- QCheckBox * programKrSIBox
- QComboBox * programKrModeBox
- QSpacerItem * horizontalSpacer_16
- QLabel * progTipLabel
- QWidget * macroTab
- QWidget * layoutWidget1
- QGridLayout * gridLayout_8
- QGroupBox * groupBox_2
- QPlainTextEdit * pteMacroBox
- QPlainTextEdit * pteMacroComment
- QPlainTextEdit * pteMacroText
- QWidget * layoutWidget
- QVBoxLayout * verticalLayout_2
- QGroupBox * groupBox_3
- QGroupBox * groupBox_4
- QWidget * layoutWidget_2
- QGridLayout * gridLayout_10
- QPushButton * btnStopMacro
- QPushButton * btnClearMacro
- QPushButton * btnStartMacro
- QLabel * label
- QLabel * lbl_macro
- QWidget * layoutWidget2

- QHBoxLayout * delayButtons
- QRadioButton * rb_delay_no
- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_asTyped
- QLabel * txtBuffer
- QHBoxLayout * horizontalLayout
- QSpacerItem * horizontalSpacer_14
- QPushButton * unbindButton
- QPushButton * resetButton
- QPushButton * cancelButton
- QPushButton * applyButton

12.101.1 Detailed Description

Definition at line 35 of file ui_rebindwidget.h.

12.101.2 Member Function Documentation

12.101.2.1 void Ui_RebindWidget::retranslateUi (QWidget * *RebindWidget*) [inline]

Definition at line 897 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, dpiBox, dpiButton, dpiCustLabel, dpiWarning, fnBox, fnButton, groupBox_2, groupBox_3, groupBox_4, keyTab, label, lbl_macro, lightBox, lightButton, lightWrapBox, lockBox, lockButton, macroTab, mb2Box, mb2Button, mbBox, mbButton, mediaBox, mediaButton, modBox, modButton, modeBox, modeButton, modeWrapBox, mouseTab, numBox, numButton, programKpButton, programKpModeBox, programKpSlBox, programKrButton, programKrModeBox, programKrSlBox, programTab, progTipLabel, pteMacroComment, pteMacroText, rb_delay_asTyped, rb_delay_default, rb_delay_no, resetButton, tabWidget, txtBuffer, typingBox, typingButton, unbindButton, wheelBox, and wheelButton.

Referenced by setupUi().

```
898     {
899         numBox->clear();
900         numBox->insertItems(0, QStringList()
901          << QString()
902         );
903         typingBox->clear();
904         typingBox->insertItems(0, QStringList()
905          << QString()
906         );
907         fnBox->clear();
908         fnBox->insertItems(0, QStringList()
909          << QString()
910         );
911         typingButton->setText(QApplication::translate("RebindWidget", "Typing:", Q_NULLPTR));
912         modBox->clear();
913         modBox->insertItems(0, QStringList()
914          << QString()
915         );
916         mediaButton->setText(QApplication::translate("RebindWidget", "Media:", Q_NULLPTR));
917         modButton->setText(QApplication::translate("RebindWidget", "Modifier:", Q_NULLPTR));
918         fnButton->setText(QApplication::translate("RebindWidget", "Miscellaneous:", Q_NULLPTR));
919         mediaBox->clear();
920         mediaBox->insertItems(0, QStringList()
921          << QString()
922         );
923         numButton->setText(QApplication::translate("RebindWidget", "Number pad:", Q_NULLPTR));
924         tabWidget->setTabText(tabWidget->indexOf(keyTab), QApplication::translate("
    RebindWidget", "Keyboard", Q_NULLPTR));
925         dpiButton->setText(QApplication::translate("RebindWidget", "Change DPI:", Q_NULLPTR));
926         mb2Box->clear();
927         mb2Box->insertItems(0, QStringList()
928          << QString()
929          << QApplication::translate("RebindWidget", "4 (Back)", Q_NULLPTR)
930          << QApplication::translate("RebindWidget", "5 (Forward)", Q_NULLPTR)
931          << QApplication::translate("RebindWidget", "6", Q_NULLPTR)
```

```
        << QApplication::translate("RebindWidget", "7", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "8", Q_NULLPTR)
       );
       dpiBox->clear();
       dpiBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "(Cycle Up)", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "(Cycle Down)", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "(Up)", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "(Down)", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Sniper", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "1:", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "2:", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "3:", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "4:", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "5:", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Custom:", Q_NULLPTR)
       );
       mbBox->clear();
       mbBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "Left", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Right", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Middle", Q_NULLPTR)
       );
       wheelBox->clear();
       wheelBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
       );
       mbButton->setText(QApplication::translate("RebindWidget", "Standard button:", Q_NULLPTR));
       dpiWarning->setText(QApplication::translate("RebindWidget", "DPI is only available for mice.", Q_NULLPTR));
       wheelButton->setText(QApplication::translate("RebindWidget", "Wheel:", Q_NULLPTR));
       mb2Button->setText(QApplication::translate("RebindWidget", "Special button:", Q_NULLPTR));
       dpiCustLabel->setText(QApplication::translate("RebindWidget", "x", Q_NULLPTR));
       tabWidget->setTabText(tabWidget->indexOf(mouseTab), QApplication::translate("RebindWidget", "Mouse", Q_NULLPTR));
       animBox->clear();
       animBox->insertItems(0, QStringList()
        << QString()
       );
       animKrBox->setText(QApplication::translate("RebindWidget", "Stop on key release", Q_NULLPTR));
       animOnceBox->setText(QApplication::translate("RebindWidget", "Restart every time", Q_NULLPTR));
       animButton->setText(QApplication::translate("RebindWidget", "Start animation on keypress:", Q_NULLPTR));
       tabWidget->setTabText(tabWidget->indexOf(animTab), QApplication::translate("RebindWidget", "Animation", Q_NULLPTR));
       modeButton->setText(QApplication::translate("RebindWidget", "Switch to mode:", Q_NULLPTR));
       modeWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
       lightWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
       lockButton->setText(QApplication::translate("RebindWidget", "Windows lock:", Q_NULLPTR));
       lightBox->clear();
       lightBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
       );
       lockBox->clear();
       lockBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "Toggle", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "On", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "Off", Q_NULLPTR)
       );
       lightButton->setText(QApplication::translate("RebindWidget", "Brightness:", Q_NULLPTR));
       modeBox->clear();
       modeBox->insertItems(0, QStringList()
        << QString()
        << QApplication::translate("RebindWidget", "(Previous)", Q_NULLPTR)
        << QApplication::translate("RebindWidget", "(Next)", Q_NULLPTR)
        );
        tabWidget->setTabText(tabWidget->indexOf(actionTab), QApplication::translate("RebindWidget", "Special", Q_NULLPTR));
        programKpButton->setText(QApplication::translate("RebindWidget", "Launch program on key press:", Q_NULLPTR));
        programKrButton->setText(QApplication::translate("RebindWidget", "Launch program on key release:", Q_NULLPTR));
        programKpSIBox->setText(QApplication::translate("RebindWidget", "Single instance", Q_NULLPTR));
        programKpModeBox->clear();
        programKpModeBox->insertItems(0, QStringList()
```

```
         << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Stop on release", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
        );
        programKrSIBox->setText(QApplication::translate("RebindWidget", "Single instance", Q_NULLPTR));
        programKrModeBox->clear();
        programKrModeBox->insertItems(0, QStringList()
         << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
         << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
        );
        progTipLabel->setText(QApplication::translate("RebindWidget", "Tip", Q_NULLPTR));
        tabWidget->setTabText(tabWidget->indexOf(programTab), QApplication::translate("RebindWidget", "Program", Q_NULLPTR));
        groupBox_2->setTitle(QApplication::translate("RebindWidget", "Macro Key Actions", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        pteMacroComment->setToolTip(QApplication::translate("RebindWidget", "What is this macro for?", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        pteMacroComment->setDocumentTitle(QString());
        pteMacroComment->setPlainText(QString());
        pteMacroText->setDocumentTitle(QString());
        pteMacroText->setPlainText(QString());
        groupBox_3->setTitle(QApplication::translate("RebindWidget", "Macro Comment", Q_NULLPTR));
        groupBox_4->setTitle(QApplication::translate("RebindWidget", "Macro Text", Q_NULLPTR));
        btnStopMacro->setText(QApplication::translate("RebindWidget", "Stop", Q_NULLPTR));
        btnClearMacro->setText(QApplication::translate("RebindWidget", "Clear", Q_NULLPTR));
        btnStartMacro->setText(QApplication::translate("RebindWidget", "Start", Q_NULLPTR));
        label->setText(QApplication::translate("RebindWidget", "Record macro ", Q_NULLPTR));
        lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_no->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Disable delay", Q_NULLPTR));
#endif // QT_NO_WHATSTHIS
        rb_delay_no->setText(QApplication::translate("RebindWidget", "No delay", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_default->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Set delay to default values: 20us up to 15 chars, 200us above", Q_NULLPTR));
#endif // QT_NO_WHATSTHIS
        rb_delay_default->setText(QApplication::translate("RebindWidget", "default", Q_NULLPTR));
#ifndef QT_NO_WHATSTHIS
        rb_delay_asTyped->setWhatsThis(QApplication::translate("RebindWidget", "configure delays between keystrokes: Remember delays as they had been typed while the macro definition process", Q_NULLPTR));
#endit // QT_NO_WHATSTHIS
        rb_delay_asTyped->setText(QApplication::translate("RebindWidget", "as typed", Q_NULLPTR));
        txtBuffer->setText(QString());
        tabWidget->setTabText(tabWidget->indexOf(macroTab), QApplication::translate("RebindWidget", "Macro", Q_NULLPTR));
        unbindButton->setText(QApplication::translate("RebindWidget", "Unbind", Q_NULLPTR));
        resetButton->setText(QApplication::translate("RebindWidget", "Reset to Default", Q_NULLPTR));
        cancelButton->setText(QApplication::translate("RebindWidget", "Cancel", Q_NULLPTR));
        applyButton->setText(QApplication::translate("RebindWidget", "Apply", Q_NULLPTR));
        Q_UNUSED(RebindWidget);
    } // retranslateUi
```

Here is the caller graph for this function:

12.101.2.2 void Ui_RebindWidget::setupUi (QWidget * *RebindWidget*) [inline]

Definition at line 163 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, delayButtons, dpiBox, dpiButton, dpiCustLabel, dpiCustXBox, dpi-

CustYBox, dpiWarning, fnBox, fnButton, gridLayout, gridLayout_10, gridLayout_2, gridLayout_3, gridLayout_4, gridLayout_5, gridLayout_8, groupBox_2, groupBox_3, groupBox_4, horizontalLayout, horizontalLayout_2, horizontalLayout_3, horizontalSpacer, horizontalSpacer_10, horizontalSpacer_11, horizontalSpacer_12, horizontalSpacer_13, horizontalSpacer_14, horizontalSpacer_15, horizontalSpacer_16, horizontalSpacer_17, horizontalSpacer_18, horizontalSpacer_19, horizontalSpacer_2, horizontalSpacer_20, horizontalSpacer_21, horizontalSpacer_22, horizontalSpacer_23, horizontalSpacer_24, horizontalSpacer_25, horizontalSpacer_26, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, horizontalSpacer_8, horizontalSpacer_9, keyTab, label, layoutWidget, layoutWidget1, layoutWidget2, layoutWidget_2, lbl_macro, lightBox, lightButton, lightWrapBox, lockBox, lockButton, macroTab, mb2Box, mb2Button, mbBox, mbButton, mediaBox, mediaButton, modBox, modButton, modeBox, modeButton, modeWrapBox, mouseTab, numBox, numButton, programKpBox, programKpButton, programKpExtra, programKpModeBox, programKpSIBox, programKrBox, programKrButton, programKrExtra, programKrModeBox, programKrSIBox, programTab, progTipLabel, pteMacroBox, pteMacroComment, pteMacroText, rb_delay_asTyped, rb_delay_default, rb_delay_no, resetButton, retranslateUi(), tabWidget, txtBuffer, typingBox, typingButton, unbindButton, verticalLayout, verticalLayout_2, verticalSpacer, verticalSpacer_10, verticalSpacer_11, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, wheelBox, and wheelButton.

Referenced by RebindWidget::RebindWidget().

```
    {
        if (RebindWidget->objectName().isEmpty())
            RebindWidget->setObjectName(QStringLiteral("RebindWidget"));
        RebindWidget->resize(687, 342);
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
        RebindWidget->setSizePolicy(sizePolicy);
        RebindWidget->setStyleSheet(QStringLiteral("font-size: 12px ;"));
        verticalLayout = new QVBoxLayout(RebindWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        tabWidget = new QTabWidget(RebindWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        tabWidget->setStyleSheet(QStringLiteral(""));
        tabWidget->setUsesScrollButtons(false);
        tabWidget->setDocumentMode(false);
        keyTab = new QWidget();
        keyTab->setObjectName(QStringLiteral("keyTab"));
        sizePolicy.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
        keyTab->setSizePolicy(sizePolicy);
        gridLayout_2 = new QGridLayout(keyTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(-1, -1, -1, 0);
        numBox = new QComboBox(keyTab);
        numBox->setObjectName(QStringLiteral("numBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
        numBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(numBox, 6, 4, 1, 1);

        typingBox = new QComboBox(keyTab);
        typingBox->setObjectName(QStringLiteral("typingBox"));
        sizePolicy1.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
        typingBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);

        fnBox = new QComboBox(keyTab);
        fnBox->setObjectName(QStringLiteral("fnBox"));
        sizePolicy1.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
        fnBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(fnBox, 6, 1, 1, 1);

        verticalSpacer_10 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_2->addItem(verticalSpacer_10, 9, 1, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer_3, 15, 2, 1, 1);

        horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);
```

```

        gridLayout_2->addItem(horizontalSpacer_2, 1, 3, 1, 1);

        typingButton = new QRadioButton(keyTab);
        typingButton->setObjectName(QStringLiteral("typingButton"));
        typingButton->setAutoExclusive(false);

        gridLayout_2->addWidget(typingButton, 0, 0, 1, 2);

        modBox = new QComboBox(keyTab);
        modBox->setObjectName(QStringLiteral("modBox"));
        sizePolicy1.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
        modBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(modBox, 1, 4, 1, 1);

        horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_3, 1, 0, 1, 1);

        mediaButton = new QRadioButton(keyTab);
        mediaButton->setObjectName(QStringLiteral("mediaButton"));
        mediaButton->setAutoExclusive(false);

        gridLayout_2->addWidget(mediaButton, 10, 0, 1, 2);

        verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_2->addItem(verticalSpacer_4, 2, 1, 1, 1);

        horizontalSpacer_9 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_9, 1, 5, 1, 2);

        horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);

        modButton = new QRadioButton(keyTab);
        modButton->setObjectName(QStringLiteral("modButton"));

        gridLayout_2->addWidget(modButton, 0, 3, 1, 2);

        fnButton = new QRadioButton(keyTab);
        fnButton->setObjectName(QStringLiteral("fnButton"));
        fnButton->setAutoExclusive(false);

        gridLayout_2->addWidget(fnButton, 5, 0, 1, 2);

        mediaBox = new QComboBox(keyTab);
        mediaBox->setObjectName(QStringLiteral("mediaBox"));
        sizePolicy1.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
        mediaBox->setSizePolicy(sizePolicy1);

        gridLayout_2->addWidget(mediaBox, 11, 1, 1, 1);

        numButton = new QRadioButton(keyTab);
        numButton->setObjectName(QStringLiteral("numButton"));
        numButton->setAutoExclusive(false);

        gridLayout_2->addWidget(numButton, 5, 3, 1, 2);

        horizontalSpacer_17 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_17, 1, 7, 1, 1);

        tabWidget->addTab(keyTab, QString());
        mouseTab = new QWidget();
        mouseTab->setObjectName(QStringLiteral("mouseTab"));
        gridLayout = new QGridLayout(mouseTab);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        dpiButton = new QRadioButton(mouseTab);
        dpiButton->setObjectName(QStringLiteral("dpiButton"));
        dpiButton->setAutoExclusive(false);

        gridLayout->addWidget(dpiButton, 3, 3, 1, 5);

        verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);

```

```
        verticalSpacer_8 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 2, 1, 1, 1);

        horizontalSpacer_18 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_18, 1, 0, 1, 1);

        horizontalSpacer_20 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_20, 1, 3, 1, 1);

        mb2Box = new QComboBox(mouseTab);
        mb2Box->setObjectName(QStringLiteral("mb2Box"));
        sizePolicy1.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
        mb2Box->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(mb2Box, 1, 4, 1, 4);

        dpiBox = new QComboBox(mouseTab);
        dpiBox->setObjectName(QStringLiteral("dpiBox"));

        gridLayout->addWidget(dpiBox, 4, 4, 1, 1);

        dpiCustYBox = new QSpinBox(mouseTab);
        dpiCustYBox->setObjectName(QStringLiteral("dpiCustYBox"));
        dpiCustYBox->setMinimum(400);
        dpiCustYBox->setMaximum(8500);
        dpiCustYBox->setSingleStep(50);

        gridLayout->addWidget(dpiCustYBox, 4, 7, 1, 1);

        mbBox = new QComboBox(mouseTab);
        mbBox->setObjectName(QStringLiteral("mbBox"));
        sizePolicy1.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
        mbBox->setSizePolicy(sizePolicy1);

        gridLayout->addWidget(mbBox, 1, 1, 1, 1);

        wheelBox = new QComboBox(mouseTab);
        wheelBox->setObjectName(QStringLiteral("wheelBox"));

        gridLayout->addWidget(wheelBox, 4, 1, 1, 1);

        mbButton = new QRadioButton(mouseTab);
        mbButton->setObjectName(QStringLiteral("mbButton"));
        mbButton->setAutoExclusive(false);

        gridLayout->addWidget(mbButton, 0, 0, 1, 2);

        dpiCustXBox = new QSpinBox(mouseTab);
        dpiCustXBox->setObjectName(QStringLiteral("dpiCustXBox"));
        dpiCustXBox->setMinimum(400);
        dpiCustXBox->setMaximum(8500);
        dpiCustXBox->setSingleStep(50);

        gridLayout->addWidget(dpiCustXBox, 4, 5, 1, 1);

        dpiWarning = new QLabel(mouseTab);
        dpiWarning->setObjectName(QStringLiteral("dpiWarning"));
        QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
        dpiWarning->setSizePolicy(sizePolicy2);

        gridLayout->addWidget(dpiWarning, 6, 0, 1, 10);

        wheelButton = new QRadioButton(mouseTab);
        wheelButton->setObjectName(QStringLiteral("wheelButton"));

        gridLayout->addWidget(wheelButton, 3, 0, 1, 2);

        horizontalSpacer_22 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_22, 1, 8, 1, 1);

        mb2Button = new QRadioButton(mouseTab);
        mb2Button->setObjectName(QStringLiteral("mb2Button"));
        mb2Button->setAutoExclusive(false);

        gridLayout->addWidget(mb2Button, 0, 3, 1, 5);

```

```
        dpiCustLabel = new QLabel(mouseTab);
        dpiCustLabel->setObjectName(QStringLiteral("dpiCustLabel"));

        gridLayout->addWidget(dpiCustLabel, 4, 6, 1, 1);

        horizontalSpacer_19 = new QSpacerItem(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_19, 1, 2, 1, 1);

        horizontalSpacer_21 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout->addItem(horizontalSpacer_21, 1, 9, 1, 1);

        tabWidget->addTab(mouseTab, QString());
        animTab = new QWidget();
        animTab->setObjectName(QStringLiteral("animTab"));
        gridLayout_5 = new QGridLayout(animTab);
        gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
        verticalSpacer_11 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_5->addItem(verticalSpacer_11, 6, 2, 1, 1);

        animBox = new QComboBox(animTab);
        animBox->setObjectName(QStringLiteral("animBox"));
        sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy1);

        gridLayout_5->addWidget(animBox, 4, 2, 1, 1);

        horizontalSpacer_24 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_24, 4, 3, 1, 1);

        horizontalSpacer_25 = new QSpacerItem(438, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_25, 4, 7, 1, 1);

        animKrBox = new QCheckBox(animTab);
        animKrBox->setObjectName(QStringLiteral("animKrBox"));

        gridLayout_5->addWidget(animKrBox, 4, 6, 1, 1);

        animOnceBox = new QCheckBox(animTab);
        animOnceBox->setObjectName(QStringLiteral("animOnceBox"));

        gridLayout_5->addWidget(animOnceBox, 4, 4, 1, 1);

        horizontalSpacer_26 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_26, 4, 5, 1, 1);

        animButton = new QRadioButton(animTab);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy1.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy1);

        gridLayout_5->addWidget(animButton, 0, 1, 1, 2);

        horizontalSpacer_23 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_23, 4, 1, 1, 1);

        tabWidget->addTab(animTab, QString());
        actionTab = new QWidget();
        actionTab->setObjectName(QStringLiteral("actionTab"));
        sizePolicy.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
        actionTab->setSizePolicy(sizePolicy);
        gridLayout_3 = new QGridLayout(actionTab);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        gridLayout_3->setContentsMargins(-1, -1, -1, 0);
        horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_5, 1, 0, 1, 1);

        modeButton = new QRadioButton(actionTab);
        modeButton->setObjectName(QStringLiteral("modeButton"));
        modeButton->setAutoExclusive(false);

        gridLayout_3->addWidget(modeButton, 0, 0, 1, 2);
```

```
        modeWrapBox = new QCheckBox(actionTab);
        modeWrapBox->setObjectName(QStringLiteral("modeWrapBox"));
        modeWrapBox->setChecked(true);

        gridLayout_3->addWidget(modeWrapBox, 1, 3, 1, 1);

        lightWrapBox = new QCheckBox(actionTab);
        lightWrapBox->setObjectName(QStringLiteral("lightWrapBox"));
        lightWrapBox->setChecked(true);

        gridLayout_3->addWidget(lightWrapBox, 4, 3, 1, 1);

        verticalSpacer_7 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_3->addItem(verticalSpacer_7, 2, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_3->addItem(verticalSpacer_6, 5, 1, 1, 1);

        lockButton = new QRadioButton(actionTab);
        lockButton->setObjectName(QStringLiteral("lockButton"));
        lockButton->setAutoExclusive(false);

        gridLayout_3->addWidget(lockButton, 6, 0, 1, 2);

        verticalSpacer_5 = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_3->addItem(verticalSpacer_5, 8, 1, 1, 1);

        lightBox = new QComboBox(actionTab);
        lightBox->setObjectName(QStringLiteral("lightBox"));
        sizePolicy1.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
        lightBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);

        lockBox = new QComboBox(actionTab);
        lockBox->setObjectName(QStringLiteral("lockBox"));
        sizePolicy1.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
        lockBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(lockBox, 7, 1, 1, 1);

        lightButton = new QRadioButton(actionTab);
        lightButton->setObjectName(QStringLiteral("lightButton"));
        lightButton->setAutoExclusive(false);

        gridLayout_3->addWidget(lightButton, 3, 0, 1, 2);

        modeBox = new QComboBox(actionTab);
        modeBox->setObjectName(QStringLiteral("modeBox"));
        sizePolicy1.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
        modeBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(modeBox, 1, 1, 1, 1);

        horizontalSpacer_8 = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_8, 1, 2, 1, 1);

        horizontalSpacer_10 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_10, 7, 3, 1, 1);

        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_7, 1, 4, 1, 1);

        horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_6, 1, 5, 1, 1);

        tabWidget->addTab(actionTab, QString());
        programTab = new QWidget();
        programTab->setObjectName(QStringLiteral("programTab"));
        gridLayout_4 = new QGridLayout(programTab);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        verticalSpacer = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
```

```

        gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);

        horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);

        programKpButton = new QCheckBox(programTab);
        programKpButton->setObjectName(QStringLiteral("programKpButton"));

        gridLayout_4->addWidget(programKpButton, 0, 0, 1, 2);

        programKpBox = new QLineEdit(programTab);
        programKpBox->setObjectName(QStringLiteral("programKpBox"));

        gridLayout_4->addWidget(programKpBox, 1, 1, 1, 1);

        horizontalSpacer_11 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_11, 0, 2, 1, 2);

        horizontalSpacer_13 = new QSpacerItem(20, 20, QSizePolicy::Fixed, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_13, 1, 2, 1, 1);

        programKrBox = new QLineEdit(programTab);
        programKrBox->setObjectName(QStringLiteral("programKrBox"));

        gridLayout_4->addWidget(programKrBox, 4, 1, 1, 1);

        programKrButton = new QCheckBox(programTab);
        programKrButton->setObjectName(QStringLiteral("programKrButton"));

        gridLayout_4->addWidget(programKrButton, 3, 0, 1, 2);

        horizontalSpacer_12 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer_12, 0, 4, 1, 1);

        programKpExtra = new QWidget(programTab);
        programKpExtra->setObjectName(QStringLiteral("programKpExtra"));
        horizontalLayout_2 = new QHBoxLayout(programKpExtra);
        horizontalLayout_2->setSpacing(12);
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
        programKpSIBox = new QCheckBox(programKpExtra);
        programKpSIBox->setObjectName(QStringLiteral("programKpSIBox"));

        horizontalLayout_2->addWidget(programKpSIBox);

        programKpModeBox = new QComboBox(programKpExtra);
        programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));

        horizontalLayout_2->addWidget(programKpModeBox);

        horizontalSpacer_15 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer_15);


        gridLayout_4->addWidget(programKpExtra, 1, 3, 1, 2);

        programKrExtra = new QWidget(programTab);
        programKrExtra->setObjectName(QStringLiteral("programKrExtra"));
        horizontalLayout_3 = new QHBoxLayout(programKrExtra);
        horizontalLayout_3->setSpacing(12);
        horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
        horizontalLayout_3->setContentsMargins(0, 0, 0, 0);
        programKrSIBox = new QCheckBox(programKrExtra);
        programKrSIBox->setObjectName(QStringLiteral("programKrSIBox"));

        horizontalLayout_3->addWidget(programKrSIBox);

        programKrModeBox = new QComboBox(programKrExtra);
        programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));

        horizontalLayout_3->addWidget(programKrModeBox);

        horizontalSpacer_16 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_3->addItem(horizontalSpacer_16);
```

```


        gridLayout_4->addWidget(programKrExtra, 4, 3, 1, 2);

        progTipLabel = new QLabel(programTab);
        progTipLabel->setObjectName(QStringLiteral("progTipLabel"));
        QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Expanding);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
        progTipLabel->setSizePolicy(sizePolicy3);
        progTipLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);

        gridLayout_4->addWidget(progTipLabel, 5, 1, 1, 4);

        tabWidget->addTab(programTab, QString());
        macroTab = new QWidget();
        macroTab->setObjectName(QStringLiteral("macroTab"));
        layoutWidget1 = new QWidget(macroTab);
        layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
        layoutWidget1->setGeometry(QRect(40, 12, 241, 161));
        gridLayout_8 = new QGridLayout(layoutWidget1);
        gridLayout_8->setObjectName(QStringLiteral("gridLayout_8"));
        gridLayout_8->setSizeConstraint(QLayout::SetNoConstraint);
        gridLayout_8->setContentsMargins(0, 0, 0, 0);
        groupBox_2 = new QGroupBox(layoutWidget1);
        groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
        pteMacroBox = new QPlainTextEdit(groupBox_2);
        pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
        pteMacroBox->setGeometry(QRect(0, 20, 241, 131));
        pteMacroBox->setFocusPolicy(Qt::WheelFocus);
        pteMacroBox->setTabChangesFocus(true);

        gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);

        pteMacroComment = new QPlainTextEdit(macroTab);
        pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
        pteMacroComment->setEnabled(true);
        pteMacroComment->setGeometry(QRect(410, 10, 311, 31));
        pteMacroComment->setFocusPolicy(Qt::WheelFocus);
        pteMacroComment->setContextMenuPolicy(Qt::NoContextMenu);
        pteMacroComment->setAcceptDrops(true);
        pteMacroComment->setToolTipDuration(1);
        pteMacroComment->setInputMethodHints(Qt::ImhNone);
        pteMacroComment->setVerticalScrollBarPolicy(Qt::ScrollBarAlwaysOff);
        pteMacroComment->setTabChangesFocus(true);
        pteMacroComment->setUndoRedoEnabled(true);
        pteMacroComment->setReadOnly(false);
        pteMacroComment->setTabStopWidth(1);
        pteMacroText = new QPlainTextEdit(macroTab);
        pteMacroText->setObjectName(QStringLiteral("pteMacroText"));
        pteMacroText->setGeometry(QRect(410, 50, 311, 66));
        pteMacroText->setFocusPolicy(Qt::StrongFocus);
        pteMacroText->setContextMenuPolicy(Qt::NoContextMenu);
        pteMacroText->setAcceptDrops(false);
        pteMacroText->setInputMethodHints(Qt::ImhNoAutoUppercase);
        pteMacroText->setUndoRedoEnabled(false);
        pteMacroText->setReadOnly(false);
        pteMacroText->setTabStopWidth(1);
        layoutWidget = new QWidget(macroTab);
        layoutWidget->setObjectName(QStringLiteral("layoutWidget"));
        layoutWidget->setGeometry(QRect(300, 10, 111, 71));
        verticalLayout_2 = new QVBoxLayout(layoutWidget);
        verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
        verticalLayout_2->setSizeConstraint(QLayout::SetNoConstraint);
        verticalLayout_2->setContentsMargins(0, 0, 0, 0);
        groupBox_3 = new QGroupBox(layoutWidget);
        groupBox_3->setObjectName(QStringLiteral("groupBox_3"));

        verticalLayout_2->addWidget(groupBox_3);

        groupBox_4 = new QGroupBox(layoutWidget);
        groupBox_4->setObjectName(QStringLiteral("groupBox_4"));

        verticalLayout_2->addWidget(groupBox_4);

        layoutWidget_2 = new QWidget(macroTab);
        layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
        layoutWidget_2->setGeometry(QRect(300, 160, 407, 36));
        gridLayout_10 = new QGridLayout(layoutWidget_2);
        gridLayout_10->setObjectName(QStringLiteral("gridLayout_10"));
        gridLayout_10->setContentsMargins(0, 0, 0, 0);
        btnStopMacro = new QPushButton(layoutWidget_2);
        btnStopMacro->setObjectName(QStringLiteral("btnStopMacro"));
        btnStopMacro->setEnabled(false);

```

```
        gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);

        btnClearMacro = new QPushButton(layoutWidget_2);
        btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));

        gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);

        btnStartMacro = new QPushButton(layoutWidget_2);
        btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));

        gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);

        label = new QLabel(layoutWidget_2);
        label->setObjectName(QStringLiteral("label"));
        label->setStyleSheet(QLatin1String("font: 75 10pt ; \n"
"")); 

        gridLayout_10->addWidget(label, 0, 0, 1, 1);

        lbl_macro = new QLabel(macroTab);
        lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
        lbl_macro->setGeometry(QRect(300, 130, 431, 27));
        lbl_macro->setStyleSheet(QStringLiteral("font: 75 11pt ; color: darkblue;"));
        layoutWidget2 = new QWidget(macroTab);
        layoutWidget2->setObjectName(QStringLiteral("layoutWidget2"));
        layoutWidget2->setGeometry(QRect(40, 170, 238, 28));
        delayButtons = new QHBoxLayout(layoutWidget2);
        delayButtons->setSpacing(0);
        delayButtons->setObjectName(QStringLiteral("delayButtons"));
        delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
        delayButtons->setContentsMargins(0, 0, 0, 0);
        rb_delay_no = new QRadioButton(layoutWidget2);
        rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
        rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));

        delayButtons->addWidget(rb_delay_no);

        rb_delay_default = new QRadioButton(layoutWidget2);
        rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
        rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_default->setChecked(false);
        rb_delay_default->setAutoExclusive(true);

        delayButtons->addWidget(rb_delay_default);

        rb_delay_asTyped = new QRadioButton(layoutWidget2);
        rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
        rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_asTyped->setChecked(true);

        delayButtons->addWidget(rb_delay_asTyped);

        txtBuffer = new QLabel(macroTab);
        txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
        txtBuffer->setEnabled(false);
        txtBuffer->setGeometry(QRect(300, 100, 0, 0));
        QSizePolicy sizePolicy4(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
        txtBuffer->setSizePolicy(sizePolicy4);
        txtBuffer->setMaximumSize(QSize(0, 0));
        txtBuffer->setContextMenuPolicy(Qt::NoContextMenu);
#ifndef QT_NO_TOOLTIP
        txtBuffer->setToolTip(QStringLiteral(""));
#endif // QT_NO_TOOLTIP
        txtBuffer->setToolTipDuration(0);
#ifndef QT_NO_STATUSTIP
        txtBuffer->setStatusTip(QStringLiteral(""));
#endif // QT_NO_STATUSTIP
#ifndef QT_NO_WHATSTHIS
        txtBuffer->setWhatsThis(QStringLiteral(""));
#endif // QT_NO_WHATSTHIS
        txtBuffer->setFrameShadow(QFrame::Plain);
        txtBuffer->setLineWidth(0);
        txtBuffer->setTextFormat(Qt::PlainText);
        txtBuffer->setIndent(0);
        txtBuffer->setTextInteractionFlags(Qt::NoTextInteraction);
        tabWidget->addTab(macroTab, QString());
        layoutWidget->raise();
        layoutWidget1->raise();
        layoutWidget->raise();
        pteMacroText->raise();
        layoutWidget_2->raise();
        lbl_macro->raise();
        txtBuffer->raise();

```

```
        verticalLayout->addWidget(tabWidget);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        horizontalSpacer_14 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_14);

        unbindButton = new QPushButton(RebindWidget);
        unbindButton->setObjectName(QStringLiteral("unbindButton"));

        horizontalLayout->addWidget(unbindButton);

        resetButton = new QPushButton(RebindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));

        horizontalLayout->addWidget(resetButton);

        cancelButton = new QPushButton(RebindWidget);
        cancelButton->setObjectName(QStringLiteral("cancelButton"));

        horizontalLayout->addWidget(cancelButton);

        applyButton = new QPushButton(RebindWidget);
        applyButton->setObjectName(QStringLiteral("applyButton"));

        horizontalLayout->addWidget(applyButton);


        verticalLayout->addLayout(horizontalLayout);

        QWidget::setTabOrder(tabWidget, pteMacroComment);
        QWidget::setTabOrder(pteMacroComment, pteMacroBox);
        QWidget::setTabOrder(pteMacroBox, dpiButton);
        QWidget::setTabOrder(dpiButton, mb2Box);
        QWidget::setTabOrder(mb2Box, btnStartMacro);
        QWidget::setTabOrder(btnStartMacro, fnBox);
        QWidget::setTabOrder(fnBox, dpiCustYBox);
        QWidget::setTabOrder(dpiCustYBox, dpiBox);
        QWidget::setTabOrder(dpiBox, applyButton);
        QWidget::setTabOrder(applyButton, mbBox);
        QWidget::setTabOrder(mbBox, cancelButton);
        QWidget::setTabOrder(cancelButton, wheelBox);
        QWidget::setTabOrder(wheelBox, btnStopMacro);
        QWidget::setTabOrder(btnStopMacro, mbButton);
        QWidget::setTabOrder(mbButton, dpiCustXBox);
        QWidget::setTabOrder(dpiCustXBox, btnClearMacro);
        QWidget::setTabOrder(btnClearMacro, wheelButton);
        QWidget::setTabOrder(wheelButton, mb2Button);
        QWidget::setTabOrder(mb2Button, animBox);
        QWidget::setTabOrder(animBox, animKrBox);
        QWidget::setTabOrder(animKrBox, animOnceBox);
        QWidget::setTabOrder(animOnceBox, animButton);
        QWidget::setTabOrder(animButton, modeButton);
        QWidget::setTabOrder(modeButton, modeWrapBox);
        QWidget::setTabOrder(modeWrapBox, lightWrapBox);
        QWidget::setTabOrder(lightWrapBox, lockButton);
        QWidget::setTabOrder(lockButton, lightBox);
        QWidget::setTabOrder(lightBox, resetButton);
        QWidget::setTabOrder(resetButton, lockBox);
        QWidget::setTabOrder(lockBox, lightButton);
        QWidget::setTabOrder(lightButton, modeBox);
        QWidget::setTabOrder(modeBox, unbindButton);
        QWidget::setTabOrder(unbindButton, programKpButton);
        QWidget::setTabOrder(programKpButton, programKpBox);
        QWidget::setTabOrder(programKpBox, programKrBox);
        QWidget::setTabOrder(programKrBox, programKrButton);
        QWidget::setTabOrder(programKrButton, programKpSIBox);
        QWidget::setTabOrder(programKpSIBox, programKpModeBox);
        QWidget::setTabOrder(programKpModeBox, programKrSIBox);
        QWidget::setTabOrder(programKrSIBox, programKrModeBox);
        QWidget::setTabOrder(programKrModeBox, typingBox);
        QWidget::setTabOrder(typingBox, numBox);
        QWidget::setTabOrder(numBox, pteMacroText);
        QWidget::setTabOrder(pteMacroText, typingButton);
        QWidget::setTabOrder(typingButton, mediaButton);
        QWidget::setTabOrder(mediaButton, modBox);
        QWidget::setTabOrder(modBox, modButton);
        QWidget::setTabOrder(modButton, fnButton);
        QWidget::setTabOrder(fnButton, mediaBox);
        QWidget::setTabOrder(mediaBox, numButton);

        retranslateUi(RebindWidget);
        QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroText, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()),
```

```
pteMacroComment, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()), btnStopMacro, SLOT(animateClick()));
        QObject::connect(cancelButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(btnClearMacro, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(btnStartMacro, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(unbindButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
        QObject::connect(resetButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));

        tabWidget->setCurrentIndex(0);
        applyButton->setDefault(true);


        QMetaObject::connectSlotsByName(RebindWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.101.3 Field Documentation

12.101.3.1 QWidget* Ui_RebindWidget::actionTab

Definition at line 92 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.2 QComboBox* Ui_RebindWidget::animBox

Definition at line 84 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_animBox_currentIndexChanged(), RebindWidget::on_animButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.3 QRadioButton* Ui_RebindWidget::animButton

Definition at line 90 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_animBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.4 QCheckBox* Ui_RebindWidget::animKrBox

Definition at line 87 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.5 QCheckBox* Ui_RebindWidget::animOnceBox

Definition at line 88 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.6 QWidget* Ui_RebindWidget::animTab

Definition at line 81 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.7 QPushButton* Ui_RebindWidget::applyButton

Definition at line 161 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.8 QPushButton* Ui_RebindWidget::btnClearMacro

Definition at line 146 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.9 QPushButton* Ui_RebindWidget::btnStartMacro

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.10 QPushButton* Ui_RebindWidget::btnStopMacro

Definition at line 145 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.11 QPushButton* Ui_RebindWidget::cancelButton

Definition at line 160 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons

Definition at line 151 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.13 QComboBox* Ui_RebindWidget::dpiBox

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::on_dpiButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.14 QRadioButton* Ui_RebindWidget::dpiButton

Definition at line 62 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.15 QLabel* Ui_RebindWidget::dpiCustLabel

Definition at line 78 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.16 QSpinBox* Ui_RebindWidget::dpiCustXBox

Definition at line 73 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and setupUi().

12.101.3.17 QSpinBox* Ui_RebindWidget::dpiCustYBox

Definition at line 69 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and setupUi().

12.101.3.18 QLabel* Ui_RebindWidget::dpiWarning

Definition at line 74 of file ui_rebindwidget.h.

Referenced by retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.19 QComboBox* Ui_RebindWidget::fnBox

Definition at line 44 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_fnBox_currentIndexChanged(), RebindWidget::on_fnButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.20 QRadioButton* Ui_RebindWidget::fnButton

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_fnBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.21 QGridLayout* Ui_RebindWidget::gridLayout

Definition at line 61 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10

Definition at line 144 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.23 QGridLayout* Ui_RebindWidget::gridLayout_2

Definition at line 41 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.24 QGridLayout* Ui_RebindWidget::gridLayout_3

Definition at line 93 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4

Definition at line 111 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5

Definition at line 82 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8

Definition at line 134 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.28 QGroupBox* Ui_RebindWidget::groupBox_2

Definition at line 135 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.29 QGroupBox* Ui_RebindWidget::groupBox_3

Definition at line 141 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.30 QGroupBox* Ui_RebindWidget::groupBox_4

Definition at line 142 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.31 QHBoxLayout* Ui_RebindWidget::horizontalLayout

Definition at line 156 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2

Definition at line 122 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3

Definition at line 127 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.34 QSpacerItem* Ui_RebindWidget::horizontalSpacer

Definition at line 113 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10

Definition at line 107 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11

Definition at line 116 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12

Definition at line 120 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13

Definition at line 117 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14

Definition at line 157 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15

Definition at line 125 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16

Definition at line 130 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17

Definition at line 59 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18

Definition at line 65 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19

Definition at line 79 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_2

Definition at line 47 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20

Definition at line 66 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21

Definition at line 80 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22

Definition at line 76 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23

Definition at line 91 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24

Definition at line 85 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25

Definition at line 86 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26

Definition at line 89 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.53 QSpacerItem* Ui_RebindWidget::horizontalSpacer_3

Definition at line 50 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.54 QSpacerItem* Ui_RebindWidget::horizontalSpacer_4

Definition at line 54 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5

Definition at line 94 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_6

Definition at line 109 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.57 QSpacerItem* Ui_RebindWidget::horizontalSpacer_7

Definition at line 108 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.58 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8

Definition at line 106 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.59 QSpacerItem* Ui_RebindWidget::horizontalSpacer_9

Definition at line 53 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.60 QWidget* Ui_RebindWidget::keyTab

Definition at line 40 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.61 QLabel* Ui_RebindWidget::label

Definition at line 148 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.62 QWidget* Ui_RebindWidget::layoutWidget

Definition at line 139 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.63 QWidget* Ui_RebindWidget::layoutWidget1

Definition at line 133 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.64 QWidget* Ui_RebindWidget::layoutWidget2

Definition at line 150 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.65 QWidget* Ui_RebindWidget::layoutWidget_2

Definition at line 143 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.66 QLabel* Ui_RebindWidget::lbl_macro

Definition at line 149 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), retranslateUi(), and setupUi().

12.101.3.67 QComboBox* Ui_RebindWidget::lightBox

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::on_lightButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.68 QRadioButton* Ui_RebindWidget::lightButton

Definition at line 104 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.69 QCheckBox* Ui_RebindWidget::lightWrapBox

Definition at line 97 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.70 QComboBox* Ui_RebindWidget::lockBox

Definition at line 103 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lockBox_currentIndexChanged(), RebindWidget::on_lockButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.71 QRadioButton* Ui_RebindWidget::lockButton

Definition at line 100 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.72 QWidget* Ui_RebindWidget::macroTab

Definition at line 132 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.73 QComboBox* Ui_RebindWidget::mb2Box

Definition at line 67 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mb2Box_currentIndexChanged(), RebindWidget::on_mb2Button_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.74 QRadioButton* Ui_RebindWidget::mb2Button

Definition at line 77 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.75 QComboBox* Ui_RebindWidget::mbBox

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), RebindWidget::on_mbButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.76 QRadioButton* Ui_RebindWidget::mbButton

Definition at line 72 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.77 QComboBox* Ui_RebindWidget::mediaBox

Definition at line 57 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mediaBox_currentIndexChanged(), RebindWidget::on_mediaButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.78 QRadioButton* Ui_RebindWidget::mediaButton

Definition at line 51 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mediaBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.79 QComboBox* Ui_RebindWidget::modBox

Definition at line 49 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modBox_currentIndexChanged(), RebindWidget::on_modButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.80 QRadioButton* Ui_RebindWidget::modButton

Definition at line 55 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.81 QComboBox* Ui_RebindWidget::modeBox

Definition at line 105 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::on_modeButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.82 QRadioButton* Ui_RebindWidget::modeButton

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.83 QCheckBox* Ui_RebindWidget::modeWrapBox

Definition at line 96 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.84 QWidget* Ui_RebindWidget::mouseTab

Definition at line 60 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.85 QComboBox* Ui_RebindWidget::numBox

Definition at line 42 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_numBox_currentIndexChanged(), RebindWidget::on_numButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.86 QRadioButton* Ui_RebindWidget::numButton

Definition at line 58 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.87 QLineEdit* Ui_RebindWidget::programKpBox

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpBox_textChanged(), RebindWidget::on_programKpButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.88 QCheckBox* Ui_RebindWidget::programKpButton

Definition at line 114 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.89 QWidget* Ui_RebindWidget::programKpExtra

Definition at line 121 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.90 QComboBox* Ui_RebindWidget::programKpModeBox

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.91 QCheckBox* Ui_RebindWidget::programKpSIBox

Definition at line 123 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.92 QLineEdit* Ui_RebindWidget::programKrBox

Definition at line 118 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrBox_textChanged(), RebindWidget::on_programKrButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.93 QCheckBox* Ui_RebindWidget::programKrButton

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.94 QWidget* Ui_RebindWidget::programKrExtra

Definition at line 126 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.95 QComboBox* Ui_RebindWidget::programKrModeBox

Definition at line 129 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.96 QCheckBox* Ui_RebindWidget::programKrSIBox

Definition at line 128 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.97 QWidget* Ui_RebindWidget::programTab

Definition at line 110 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.98 QLabel* Ui_RebindWidget::progTipLabel

Definition at line 131 of file ui_rebindwidget.h.

Referenced by RebindWidget::RebindWidget(), retranslateUi(), and setupUi().

12.101.3.99 QPlainTextEdit* Ui_RebindWidget::pteMacroBox

Definition at line 136 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_pteMacroBox_textChanged(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.100 QPlainTextEdit* Ui_RebindWidget::pteMacroComment

Definition at line 137 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.101 QPlainTextEdit* Ui_RebindWidget::pteMacroText

Definition at line 138 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.102 QRadioButton* Ui_RebindWidget::rb_delay_asTyped

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.103 QRadioButton* Ui_RebindWidget::rb_delay_default

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.104 QRadioButton* Ui_RebindWidget::rb_delay_no

Definition at line 152 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.105 QPushButton* Ui_RebindWidget::resetButton

Definition at line 159 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.106 QTabWidget* Ui_RebindWidget::tabWidget

Definition at line 39 of file ui_rebindwidget.h.

Referenced by retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.107 QLabel* Ui_RebindWidget::txtBuffer

Definition at line 155 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.108 QComboBox* Ui_RebindWidget::typingBox

Definition at line 43 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_typingBox_currentIndexChanged(), RebindWidget::on_typingButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.109 QRadioButton* Ui_RebindWidget::typingButton

Definition at line 48 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_typingBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.110 QPushButton* Ui_RebindWidget::unbindButton

Definition at line 158 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.111 QVBoxLayout* Ui_RebindWidget::verticalLayout

Definition at line 38 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.112 QVBoxLayout* Ui_RebindWidget::verticalLayout_2

Definition at line 140 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer

Definition at line 112 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_10

Definition at line 45 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_11

Definition at line 83 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_2

Definition at line 63 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_3

Definition at line 46 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.118 QSpacerItem* Ui_RebindWidget::verticalSpacer_4

Definition at line 52 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.119 QSpacerItem* Ui_RebindWidget::verticalSpacer_5

Definition at line 101 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.120 QSpacerItem* Ui_RebindWidget::verticalSpacer_6

Definition at line 99 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.121 QSpacerItem* Ui_RebindWidget::verticalSpacer_7

Definition at line 98 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.122 QSpacerItem* Ui_RebindWidget::verticalSpacer_8

Definition at line 64 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.123 QComboBox* Ui_RebindWidget::wheelBox

Definition at line 71 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_wheelBox_currentIndexChanged(), RebindWidget::on_wheelButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.124 QRadioButton* Ui_RebindWidget::wheelButton

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_wheelBox_currentIndexChanged(), retranslateUi(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_rebindwidget.h

12.102 Ui_SettingsWidget Class Reference

```
#include <src/ckb/ui_settingswidget.h>
```

Inheritance diagram for Ui_SettingsWidget:

Collaboration diagram for Ui_SettingsWidget:

Public Member Functions

- void setupUi (QWidget ∗SettingsWidget)
- void retranslateUi (QWidget ∗SettingsWidget)

Data Fields

- QGridLayout ∗ gridLayout
- QLabel ∗ label_2
- QLabel ∗ label
- QLabel ∗ label_6
- QGridLayout ∗ gridLayout_5
- QSpacerItem ∗ horizontalSpacer_7
- QLabel ∗ devicesLabel
- QLabel ∗ label_5
- QComboBox ∗ layoutBox
- QSpacerItem ∗ verticalSpacer_10
- QHBoxLayout ∗ horizontalLayout_2
- QLabel ∗ label_3
- QSpacerItem ∗ horizontalSpacer
- QPushButton ∗ pushButton
- QSpacerItem ∗ verticalSpacer
- QSpacerItem ∗ verticalSpacer_8
- QCheckBox ∗ loginItemBox
- QSpacerItem ∗ verticalSpacer_6
- QCheckBox ∗ autoFWBox
- QFrame ∗ line_2
- QLabel ∗ label_8
- QGridLayout ∗ gridLayout_3
- QLabel ∗ shiftLabel
- QLabel ∗ capsLabel
- QSpacerItem ∗ horizontalSpacer_10
- QComboBox ∗ capsBox
- QLabel ∗ ctrlLabel

- QSpacerItem * horizontalSpacer_9
- QComboBox * ctrlBox
- QComboBox * shiftBox
- QLabel * winLabel
- QComboBox * winBox
- QComboBox * altBox
- QLabel * altLabel
- QFrame * line
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_5
- QFrame * line_3
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_2
- QLabel * versionLabel
- QHBoxLayout * horizontalLayout
- QPushButton * extraButton
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_7

12.102.1 Detailed Description

Definition at line 29 of file ui_settingswidget.h.

12.102.2 Member Function Documentation

12.102.2.1 void Ui_SettingsWidget::retranslateUi (QWidget * *SettingsWidget*) [inline]

Definition at line 347 of file ui_settingswidget.h.

References altLabel, autoFWBox, capsLabel, ctrlLabel, devicesLabel, extraButton, label, label_2, label_3, label_5, label_6, label_8, loginItemBox, pushButton, shiftLabel, versionLabel, and winLabel.

Referenced by setupUi().

```
    {
        SettingsWidget->setWindowTitle(QApplication::translate("SettingsWidget", "Form", Q_NULLPTR));
        label_2->setText(QApplication::translate("SettingsWidget", "\302\251 2014-2016 <a href=\"
    https://github.com/ccMSC/\" style=\"text-decoration:none;\">ccMSC</a>.<br/>\302\251 2017 <a href=\"
    https://github.com/mattanger/ckb-next/graphs/contributors\" style=\"text-decoration:none;\">The ckb-next development
     team</a>.", Q_NULLPTR));
        label->setText(QApplication::translate("SettingsWidget", "Modifier keys", Q_NULLPTR));
        label_6->setText(QApplication::translate("SettingsWidget", "Application", Q_NULLPTR));
        devicesLabel->setText(QApplication::translate("SettingsWidget", "No devices connected",
     Q_NULLPTR));
        label_5->setText(QApplication::translate("SettingsWidget", "Keyboard layout:", Q_NULLPTR));
        label_3->setText(QApplication::translate("SettingsWidget", "<a href=\"
    https://github.com/mattanger/ckb-next\" style=\"text-decoration:none;\">https://github.com/mattanger/ckb-next</a>", Q_NU
        pushButton->setText(QApplication::translate("SettingsWidget", "Quit", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        loginItemBox->setToolTip(QApplication::translate("SettingsWidget", "ckb-next will be
     started when you log in to your computer.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        loginItemBox->setText(QApplication::translate("SettingsWidget", "Start ckb-next at
     login", Q_NULLPTR));
#ifndef QT_NO_TOOLTIP
        autoFWBox->setToolTip(QApplication::translate("SettingsWidget", "You will be notified when
     new firmware versions are available. You'll have the option to install them immediately or wait until
     later.", Q_NULLPTR));
#endif // QT_NO_TOOLTIP
        autoFWBox->setText(QApplication::translate("SettingsWidget", "Check for new firmware
     automatically", Q_NULLPTR));
        label_8->setText(QApplication::translate("SettingsWidget", "These will override the keyboard
     profile. See \"Binding\" tab for more settings.", Q_NULLPTR));
        shiftLabel->setText(QApplication::translate("SettingsWidget", "Shift:", Q_NULLPTR));
        capsLabel->setText(QApplication::translate("SettingsWidget", "Caps Lock:", Q_NULLPTR));
        ctrlLabel->setText(QApplication::translate("SettingsWidget", "Ctrl:", Q_NULLPTR));
        winLabel->setText(QApplication::translate("SettingsWidget", "Windows:", Q_NULLPTR));
```

```
        altLabel->setText(QApplication::translate("SettingsWidget", "Alt:", Q_NULLPTR));
        versionLabel->setText(QApplication::translate("SettingsWidget", "ckb-next", Q_NULLPTR));
        extraButton->setText(QApplication::translate("SettingsWidget", "More settings", Q_NULLPTR));
    } // retranslateUi
```

Here is the caller graph for this function:

12.102.2.2 void Ui_SettingsWidget::setupUi (QWidget * *SettingsWidget*) [inline]

Definition at line 78 of file ui_settingswidget.h.

References altBox, altLabel, autoFWBox, capsBox, capsLabel, ctrlBox, ctrlLabel, devicesLabel, extraButton, gridLayout, gridLayout_3, gridLayout_5, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_10, horizontalSpacer_2, horizontalSpacer_7, horizontalSpacer_9, label, label_2, label_3, label_5, label_6, label_8, layoutBox, line, line_2, line_3, loginItemBox, pushButton, retranslateUi(), shiftBox, shiftLabel, versionLabel, verticalSpacer, verticalSpacer_10, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, winBox, and winLabel.

Referenced by SettingsWidget::SettingsWidget().

```
    {
        if (SettingsWidget->objectName().isEmpty())
            SettingsWidget->setObjectName(QStringLiteral("SettingsWidget"));
        SettingsWidget->resize(827, 654);
        gridLayout = new QGridLayout(SettingsWidget);
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        label_2 = new QLabel(SettingsWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        label_2->setOpenExternalLinks(true);
        label_2->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignVCenter);

        gridLayout->addWidget(label_2, 20, 0, 1, 2);

        label = new QLabel(SettingsWidget);
        label->setObjectName(QStringLiteral("label"));
        QFont font;
        font.setBold(true);
        font.setWeight(75);
        label->setFont(font);

        gridLayout->addWidget(label, 6, 0, 1, 2);

        label_6 = new QLabel(SettingsWidget);
        label_6->setObjectName(QStringLiteral("label_6"));
        label_6->setFont(font);

        gridLayout->addWidget(label_6, 12, 0, 1, 2);

        gridLayout_5 = new QGridLayout();
        gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
        horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_5->addItem(horizontalSpacer_7, 2, 2, 1, 1);

        devicesLabel = new QLabel(SettingsWidget);
        devicesLabel->setObjectName(QStringLiteral("devicesLabel"));

        gridLayout_5->addWidget(devicesLabel, 0, 0, 1, 3);

        label_5 = new QLabel(SettingsWidget);
        label_5->setObjectName(QStringLiteral("label_5"));

```

```
        gridLayout_5->addWidget(label_5, 2, 0, 1, 1);

        layoutBox = new QComboBox(SettingsWidget);
        layoutBox->setObjectName(QStringLiteral("layoutBox"));

        gridLayout_5->addWidget(layoutBox, 2, 1, 1, 1);

        verticalSpacer_10 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_5->addItem(verticalSpacer_10, 1, 0, 1, 1);


        gridLayout->addLayout(gridLayout_5, 4, 1, 1, 1);

        horizontalLayout_2 = new QHBoxLayout();
        horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
        label_3 = new QLabel(SettingsWidget);
        label_3->setObjectName(QStringLiteral("label_3"));
        label_3->setOpenExternalLinks(true);

        horizontalLayout_2->addWidget(label_3);

        horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout_2->addItem(horizontalSpacer);

        pushButton = new QPushButton(SettingsWidget);
        pushButton->setObjectName(QStringLiteral("pushButton"));
        pushButton->setFlat(false);

        horizontalLayout_2->addWidget(pushButton);


        gridLayout->addLayout(horizontalLayout_2, 21, 0, 1, 2);

        verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout->addItem(verticalSpacer, 19, 0, 1, 2);

        verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_8, 16, 0, 1, 1);

        loginItemBox = new QCheckBox(SettingsWidget);
        loginItemBox->setObjectName(QStringLiteral("loginItemBox"));

        gridLayout->addWidget(loginItemBox, 16, 1, 1, 1);

        verticalSpacer_6 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_6, 15, 0, 1, 1);

        autoFWBox = new QCheckBox(SettingsWidget);
        autoFWBox->setObjectName(QStringLiteral("autoFWBox"));
        autoFWBox->setChecked(true);

        gridLayout->addWidget(autoFWBox, 15, 1, 1, 1);

        line_2 = new QFrame(SettingsWidget);
        line_2->setObjectName(QStringLiteral("line_2"));
        line_2->setFrameShape(QFrame::HLine);
        line_2->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_2, 13, 0, 1, 2);

        label_8 = new QLabel(SettingsWidget);
        label_8->setObjectName(QStringLiteral("label_8"));
        QFont font1;
        font1.setItalic(true);
        label_8->setFont(font1);

        gridLayout->addWidget(label_8, 8, 1, 1, 1);

        gridLayout_3 = new QGridLayout();
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        shiftLabel = new QLabel(SettingsWidget);
        shiftLabel->setObjectName(QStringLiteral("shiftLabel"));
        QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(shiftLabel->sizePolicy().hasHeightForWidth());
        shiftLabel->setSizePolicy(sizePolicy);
```

```
        shiftLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(shiftLabel, 0, 3, 1, 1);

        capsLabel = new QLabel(SettingsWidget);
        capsLabel->setObjectName(QStringLiteral("capsLabel"));
        capsLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(capsLabel, 0, 1, 1, 1);

        horizontalSpacer_10 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_10, 0, 0, 1, 1);

        capsBox = new QComboBox(SettingsWidget);
        capsBox->setObjectName(QStringLiteral("capsBox"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(capsBox->sizePolicy().hasHeightForWidth());
        capsBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(capsBox, 0, 2, 1, 1);

        ctrlLabel = new QLabel(SettingsWidget);
        ctrlLabel->setObjectName(QStringLiteral("ctrlLabel"));
        ctrlLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(ctrlLabel, 1, 1, 1, 1);

        horizontalSpacer_9 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
QSizePolicy::Minimum);

        gridLayout_3->addItem(horizontalSpacer_9, 1, 7, 1, 1);

        ctrlBox = new QComboBox(SettingsWidget);
        ctrlBox->setObjectName(QStringLiteral("ctrlBox"));

        gridLayout_3->addWidget(ctrlBox, 1, 2, 1, 1);

        shiftBox = new QComboBox(SettingsWidget);
        shiftBox->setObjectName(QStringLiteral("shiftBox"));
        sizePolicy1.setHeightForWidth(shiftBox->sizePolicy().hasHeightForWidth());
        shiftBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(shiftBox, 0, 4, 1, 1);

        winLabel = new QLabel(SettingsWidget);
        winLabel->setObjectName(QStringLiteral("winLabel"));
        sizePolicy.setHeightForWidth(winLabel->sizePolicy().hasHeightForWidth());
        winLabel->setSizePolicy(sizePolicy);
        winLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(winLabel, 1, 3, 1, 1);

        winBox = new QComboBox(SettingsWidget);
        winBox->setObjectName(QStringLiteral("winBox"));
        sizePolicy1.setHeightForWidth(winBox->sizePolicy().hasHeightForWidth());
        winBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(winBox, 1, 4, 1, 1);

        altBox = new QComboBox(SettingsWidget);
        altBox->setObjectName(QStringLiteral("altBox"));
        sizePolicy1.setHeightForWidth(altBox->sizePolicy().hasHeightForWidth());
        altBox->setSizePolicy(sizePolicy1);

        gridLayout_3->addWidget(altBox, 1, 6, 1, 1);

        altLabel = new QLabel(SettingsWidget);
        altLabel->setObjectName(QStringLiteral("altLabel"));
        sizePolicy.setHeightForWidth(altLabel->sizePolicy().hasHeightForWidth());
        altLabel->setSizePolicy(sizePolicy);
        altLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);

        gridLayout_3->addWidget(altLabel, 1, 5, 1, 1);


        gridLayout->addLayout(gridLayout_3, 10, 1, 1, 1);

        line = new QFrame(SettingsWidget);
        line->setObjectName(QStringLiteral("line"));
        line->setFrameShape(QFrame::HLine);
        line->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line, 1, 0, 1, 2);
```

```
        verticalSpacer_3 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_3, 2, 1, 1, 1);

        verticalSpacer_5 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_5, 11, 1, 1, 1);

        line_3 = new QFrame(SettingsWidget);
        line_3->setObjectName(QStringLiteral("line_3"));
        QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(line_3->sizePolicy().hasHeightForWidth());
        line_3->setSizePolicy(sizePolicy2);
        line_3->setFrameShape(QFrame::HLine);
        line_3->setFrameShadow(QFrame::Sunken);

        gridLayout->addWidget(line_3, 7, 0, 1, 2);

        verticalSpacer_4 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_4, 9, 1, 1, 1);

        verticalSpacer_2 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);

        versionLabel = new QLabel(SettingsWidget);
        versionLabel->setObjectName(QStringLiteral("versionLabel"));
        versionLabel->setFont(font);

        gridLayout->addWidget(versionLabel, 0, 0, 1, 2);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        extraButton = new QPushButton(SettingsWidget);
        extraButton->setObjectName(QStringLiteral("extraButton"));

        horizontalLayout->addWidget(extraButton);

        horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_2);


        gridLayout->addLayout(horizontalLayout, 17, 1, 1, 1);

        verticalSpacer_7 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout->addItem(verticalSpacer_7, 17, 0, 1, 1);


        retranslateUi(SettingsWidget);

        QMetaObject::connectSlotsByName(SettingsWidget);
    } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.102.3 Field Documentation

12.102.3.1 QComboBox* Ui_SettingsWidget::altBox

Definition at line 64 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.2 QLabel* Ui_SettingsWidget::altLabel

Definition at line 65 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.3 QCheckBox* Ui_SettingsWidget::autoFWBox

Definition at line 50 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::SettingsWidget(), and setupUi().

12.102.3.4 QComboBox* Ui_SettingsWidget::capsBox

Definition at line 57 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.5 QLabel* Ui_SettingsWidget::capsLabel

Definition at line 55 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.6 QComboBox* Ui_SettingsWidget::ctrlBox

Definition at line 60 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.7 QLabel* Ui_SettingsWidget::ctrlLabel

Definition at line 58 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.8 QLabel* Ui_SettingsWidget::devicesLabel

Definition at line 38 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::setStatus(), and setupUi().

12.102.3.9 QPushButton* Ui_SettingsWidget::extraButton

Definition at line 74 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.10 QGridLayout* Ui_SettingsWidget::gridLayout

Definition at line 32 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.11 QGridLayout* Ui_SettingsWidget::gridLayout_3

Definition at line 53 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.12 QGridLayout* Ui_SettingsWidget::gridLayout_5

Definition at line 36 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.13 QHBoxLayout* Ui_SettingsWidget::horizontalLayout

Definition at line 73 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.14 QHBoxLayout* Ui_SettingsWidget::horizontalLayout_2

Definition at line 42 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.15 QSpacerItem* Ui_SettingsWidget::horizontalSpacer

Definition at line 44 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.16 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_10

Definition at line 56 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.17 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_2

Definition at line 75 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.18 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_7

Definition at line 37 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.19 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_9

Definition at line 59 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.20 QLabel* Ui_SettingsWidget::label

Definition at line 34 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.21 QLabel* Ui_SettingsWidget::label_2

Definition at line 33 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.22 QLabel* Ui_SettingsWidget::label_3

Definition at line 43 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.23 QLabel* Ui_SettingsWidget::label_5

Definition at line 39 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.24 QLabel* Ui_SettingsWidget::label_6

Definition at line 35 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.25 QLabel* Ui_SettingsWidget::label_8

Definition at line 52 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.26 QComboBox∗ Ui_SettingsWidget::layoutBox

Definition at line 40 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::showLayoutDialog().

12.102.3.27 QFrame∗ Ui_SettingsWidget::line

Definition at line 66 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.28 QFrame∗ Ui_SettingsWidget::line_2

Definition at line 51 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.29 QFrame∗ Ui_SettingsWidget::line_3

Definition at line 69 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.30 QCheckBox∗ Ui_SettingsWidget::loginItemBox

Definition at line 48 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::SettingsWidget(), and setupUi().

12.102.3.31 QPushButton∗ Ui_SettingsWidget::pushButton

Definition at line 45 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.32 QComboBox∗ Ui_SettingsWidget::shiftBox

Definition at line 61 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.33 QLabel∗ Ui_SettingsWidget::shiftLabel

Definition at line 54 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.34 QLabel∗ Ui_SettingsWidget::versionLabel

Definition at line 72 of file ui_settingswidget.h.

Referenced by retranslateUi(), setupUi(), and SettingsWidget::setVersion().

12.102.3.35 QSpacerItem* Ui_SettingsWidget::verticalSpacer

Definition at line 46 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.36 QSpacerItem* Ui_SettingsWidget::verticalSpacer_10

Definition at line 41 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.37 QSpacerItem* Ui_SettingsWidget::verticalSpacer_2

Definition at line 71 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.38 QSpacerItem* Ui_SettingsWidget::verticalSpacer_3

Definition at line 67 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.39 QSpacerItem* Ui_SettingsWidget::verticalSpacer_4

Definition at line 70 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.40 QSpacerItem* Ui_SettingsWidget::verticalSpacer_5

Definition at line 68 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.41 QSpacerItem* Ui_SettingsWidget::verticalSpacer_6

Definition at line 49 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.42 QSpacerItem* Ui_SettingsWidget::verticalSpacer_7

Definition at line 76 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.43 QSpacerItem* Ui_SettingsWidget::verticalSpacer_8

Definition at line 47 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.44 QComboBox* Ui_SettingsWidget::winBox

Definition at line 63 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.45 QLabel* Ui_SettingsWidget::winLabel

Definition at line 62 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

The documentation for this class was generated from the following file:

- src/ckb/ui_settingswidget.h

12.103 UsbId Struct Reference

```
#include <src/ckb/kbmode.h>
```

Collaboration diagram for UsbId:

Public Member Functions

- UsbId (const QString &_guid, quint32 _modified)

- UsbId (const QString &_guid, const QString &_modified)
- UsbId ()
- QString guidString () const
- void guidString (const QString &newGuid)
- QString modifiedString () const
- void modifiedString (const QString &newModified)
- QString hwModifiedString () const
- void hwModifiedString (const QString &newModified)
- void newGuid ()
- void newModified ()

Data Fields

- QUuid guid
- quint32 modified
- quint32 hwModified

12.103.1 Detailed Description

Definition at line 11 of file kbmode.h.

12.103.2 Constructor & Destructor Documentation

12.103.2.1 UsbId::UsbId (const QString & *_guid*, quint32 *_modified*) [inline]

Definition at line 16 of file kbmode.h.

```
16 : guid(_guid), modified(_modified), hwModified(_modified) {}
```

12.103.2.2 UsbId::UsbId (const QString & *_guid*, const QString & *_modified*) [inline]

Definition at line 17 of file kbmode.h.

```
17 : guid(_guid), modified(_modified.toUInt(0, 16)), hwModified(
      modified) {}
```

12.103.2.3 UsbId::UsbId ( ) [inline]

Definition at line 18 of file kbmode.h.

```
18 : guid(QUuid::createUuid()),modified(0) {}
```

12.103.3 Member Function Documentation

12.103.3.1 QString UsbId::guidString ( ) const [inline]

Definition at line 20 of file kbmode.h.

References guid.

Referenced by Kb::hwSave(), KbProfile::save(), KbMode::save(), Kb::save(), and Kb::writeProfileHeader().

```
20 { return guid.toString().toUpper(); }
```

Here is the caller graph for this function:

12.103.3.2 void UsbId::guidString (const QString & *newGuid*) [inline]

Definition at line 21 of file kbmode.h.

References guid, and newGuid().

```
21 { guid = newGuid; }
```

Here is the call graph for this function:

12.103.3.3 QString UsbId::hwModifiedString ( ) const [inline]

Definition at line 24 of file kbmode.h.

References hwModified.

Referenced by KbMode::KbMode(), KbProfile::KbProfile(), Kb::readNotify(), KbProfile::save(), and KbMode::save().

```
24 { return QString::number(hwModified, 16); }
```

Here is the caller graph for this function:

12.103.3.4 void UsbId::hwModifiedString (const QString & *newModified*) [inline]

Definition at line 25 of file kbmode.h.

References hwModified.

```
25 { hwModified = newModified.toUInt(0, 16); }
```

12.103.3.5 QString UsbId::modifiedString ( ) const [inline]

Definition at line 22 of file kbmode.h.

References modified.

Referenced by Kb::hwSave(), KbProfile::KbProfile(), Kb::readNotify(), KbProfile::save(), KbMode::save(), and Kb::writeProfileHeader().

```
22 { return QString::number(modified, 16); }
```

Here is the caller graph for this function:

12.103.3.6 void UsbId::modifiedString (const QString & *newModified*) [inline]

Definition at line 23 of file kbmode.h.

References modified.

```
23 { modified = newModified.toUInt(0, 16); }
```

12.103.3.7 void UsbId::newGuid ( ) [inline]

Definition at line 28 of file kbmode.h.

References guid.

Referenced by guidString().

```
28 { guid = QUuid::createUuid(); }
```

Here is the caller graph for this function:

12.103.3.8 void UsbId::newModified ( ) [inline]

Definition at line 29 of file kbmode.h.

References modified.

Referenced by KbProfile::save(), and KbMode::save().

```
29 { quint32 newMod; do { newMod = qrand(); } while(newMod == modified);
     modified = newMod; }
```

Here is the caller graph for this function:

12.103.4 Field Documentation

12.103.4.1 QUuid UsbId::guid

Definition at line 12 of file kbmode.h.

Referenced by KbProfile::find(), Kb::find(), guidString(), KbMode::KbMode(), KbProfile::KbProfile(), newGuid(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemChanged(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbProfileDialog::on_profileList_itemClicked(), KbWidget::profileChanged(), Kb::readNotify(), and KbProfileDialog::repopulate().

12.103.4.2 quint32 UsbId::hwModified

Definition at line 14 of file kbmode.h.

Referenced by hwModifiedString(), Kb::hwSave(), KbMode::KbMode(), and KbProfile::KbProfile().

12.103.4.3 quint32 UsbId::modified

Definition at line 13 of file kbmode.h.

Referenced by Kb::hwSave(), KbMode::KbMode(), KbProfile::KbProfile(), modifiedString(), and newModified().

The documentation for this struct was generated from the following file:

- src/ckb/kbmode.h

Chapter 13

File Documentation

13.1 BUILD.md File Reference

13.2 DAEMON.md File Reference

13.3 README.md File Reference

13.4 ROADMAP.md File Reference

13.5 src/ckb-daemon/command.c File Reference

```
#include <limits.h>
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for command.c:

Macros

- #define TRY_WITH_RESET(action)

Functions

- int readcmd (usbdevice *kb, const char *line)

Variables

- static const char *const cmd_strings [(CMD_LAST-CMD_FIRST+2)-1]

13.5.1 Macro Definition Documentation

13.5.1.1 #define TRY_WITH_RESET(*action*)

Value:

```
while(action){                  \
        if(usb_tryreset(kb)){   \
            free(word);         \
            return 1;           \
        }                       \
    }
```

Definition at line 59 of file command.c.

Referenced by readcmd().

13.5.2 Function Documentation

13.5.2.1 int readcmd (usbdevice * *kb*, const char * *line*)

< Because length of word is length of line + 1, there should be no problem with buffer overflow.

Definition at line 68 of file command.c.

References ACCEL, ACTIVE, usbdevice::active, BIND, CMD_COUNT, CMD_FIRST, cmd_strings, usbprofile::currentmode, DELAY, usbdevice::delay, DITHER, usbdevice::dither, devcmd::do_cmd, devcmd::do_io, devcmd::do_macro, DPI, DPISEL, ERASE, ERASEPROFILE, FEAT_ANSI, FEAT_BIND, FEAT_ISO, FEAT_LMASK, FEAT_MOUSEACCEL, FEAT_NOTIFY, usbdevice::features, lighting::forceupdate, FPS, FWUPDATE, GET, HAS_FEATURES, HWLOAD, HWSAVE, IAUTO, ID, IDLE, INDEX_OF, INOTIFY, IOFF, ION, IS_FULLRANGE, IS_MOUSE_DEV, keymap, LAYOUT, left, LIFT, usbmode::light, MACRO, mknotifynode(), MODE, usbprofile::mode, MODE_COUNT, N_KEYS_EXTENDED, NAME, NEEDS_FW_UPDATE, NONE, NOTIFY, NOTIFYOFF, NOTIFYON, OUTFIFO_MAX, POLLRATE, usbdevice::profile, PROFILEID, PROFILENAME, REBIND, RESTART, RGB, right(), rmnotifynode(), SCROLL_ACCELERATED, SCROLL_MAX, SCROLL_MIN, SCROLLSPEED, SNAP, SWITCH, TRY_WITH_RESET, UNBIND, usbdevice::usbdelay, and usbdevice::vtable.

Referenced by devmain().

```
68                                          {
69      char* word = malloc(strlen(line) + 1);
70      int wordlen;
71      const char* newline = 0;
72      const devcmd* vt = kb->vtable;
73      usbprofile* profile = kb->profile;
74      usbmode* mode = 0;
75      int notifynumber = 0;
76      // Read words from the input
77      cmd command = NONE;
78      while(sscanf(line, "%s%n", word, &wordlen) == 1){
79          line += wordlen;
80          // If we passed a newline, reset the context
81          if(line > newline){
82              mode = profile->currentmode;
83              command = NONE;
84              notifynumber = 0;
85              newline = strchr(line, '\n');
86              if(!newline)
87                  newline = line + strlen(line);
```

```
        }
        // Check for a command word
        for(int i = 0; i < CMD_COUNT - 1; i++){
            if(!strcmp(word, cmd_strings[i])){
                command = i + CMD_FIRST;
#ifndef OS_MAC
                // Layout and mouse acceleration aren't used on Linux; ignore
                if(command == LAYOUT || command == ACCEL || command == SCROLLSPEED)
                    command = NONE;
#endif
                // Most commands require parameters, but a few are actions in and of themselves
                if(command != SWITCH
                         && command != HWLOAD && command != HWSAVE
                         && command != ACTIVE && command != IDLE
                         && command != ERASE && command != ERASEPROFILE
                         && command != RESTART)
                     goto next_loop;
                 break;
            }
        }

        // Set current notification node when given @number
        int newnotify;
        if(sscanf(word, "@%u", &newnotify) == 1 && newnotify < OUTFIFO_MAX){
            notifynumber = newnotify;
            continue;
        }

        // Reject unrecognized commands. Reject bind or notify related commands if the keyboard doesn't have the feature enabled.
        if(command == NONE
                || ((!HAS_FEATURES(kb, FEAT_BIND) && (command == BIND || command == UNBIND || command == REBIND || command == MACRO || command == DELAY))
                            || (!HAS_FEATURES(kb, FEAT_NOTIFY) && command == NOTIFY))){
            next_loop:
            continue;
        }
        // Reject anything not related to fwupdate if device has a bricked FW
        if(NEEDS_FW_UPDATE(kb) && command != FWUPDATE && command != NOTIFYON && command != NOTIFYOFF)
            continue;

        // Specially handled commands - these are available even when keyboard is IDLE
        switch(command){
        case NOTIFYON: {
            // Notification node on
            int notify;
            if(sscanf(word, "%u", &notify) == 1)
                mknotifynode(kb, notify);
            continue;
        } case NOTIFYOFF: {
            // Notification node off
            int notify;
            if(sscanf(word, "%u", &notify) == 1 && notify != 0) // notify0 can't be removed
                rmnotifynode(kb, notify);
            continue;
        } case GET:
            // Output data to notification node
            vt->get(kb, mode, notifynumber, 0, word);
            continue;
        case LAYOUT:
            // OSX: switch ANSI/ISO keyboard layout
            if(!strcmp(word, "ansi"))
                kb->features = (kb->features & ~FEAT_LMASK) | FEAT_ANSI;
            else if(!strcmp(word, "iso"))
                kb->features = (kb->features & ~FEAT_LMASK) | FEAT_ISO;
            continue;
#ifdef OS_MAC
        case ACCEL:
            // OSX mouse acceleration on/off
            if(!strcmp(word, "on"))
                kb->features |= FEAT_MOUSEACCEL;
            else if(!strcmp(word, "off"))
                kb->features &= ~FEAT_MOUSEACCEL;
            continue;
        case SCROLLSPEED:{
            int newscroll;
            if(sscanf(word, "%d", &newscroll) != 1)
                break;
            if(newscroll < SCROLL_MIN)
                newscroll = SCROLL_ACCELERATED;
            if(newscroll > SCROLL_MAX)
```

```
                newscroll = SCROLL_MAX;
            kb->scroll_rate = newscroll;
            continue;
        }
#endif
        case MODE: {
            // Select a mode number (1 - 6)
            int newmode;
            if(sscanf(word, "%u", &newmode) == 1 && newmode > 0 && newmode <= MODE_COUNT)
                mode = profile->mode + newmode - 1;
            continue;
        }
        case FPS: {
            // USB command delay (2 - 10ms)
            uint framerate;
            if(sscanf(word, "%u", &framerate) == 1 && framerate > 0){
                // Not all devices require the same number of messages per frame; select delay appropriately
                uint per_frame = IS_MOUSE_DEV(kb) ? 2 : IS_FULLRANGE(kb) ? 14 : 5;
                uint delay = 1000 / framerate / per_frame;
                if(delay < 2)
                    delay = 2;
                else if(delay > 10)
                    delay = 10;
                kb->usbdelay = delay;
            }
            continue;
        }
        case DITHER: {
            // 0: No dither, 1: Ordered dither.
            uint dither;
            if(sscanf(word, "%u", &dither) == 1 && dither <= 1){
                kb->dither = dither;
                profile->currentmode->light.forceupdate = 1;
                mode->light.forceupdate = 1;
            }
            continue;
        }
        case DELAY: {
            long int delay;
            if(sscanf(word, "%ld", &delay) == 1 && 0 <= delay && delay < UINT_MAX) {
                // Add delay of `newdelay` microseconds to macro playback
                kb->delay = (unsigned int)delay;
            } else if(strcmp(word, "on") == 0) {
                // allow previous syntax, `delay on` means use old `long macro delay`
                kb->delay = UINT_MAX;
            } else {
                // bad parameter to handle false commands like "delay off"
                kb->delay = 0; // No delay.
            }
            continue;
        }
        case RESTART: {
            char mybuffer[] = "no reason specified";
            if (sscanf(line, " %[^\n]", word) == -1) {
                word = mybuffer;
            }
            vt->do_cmd[command](kb, mode, notifynumber, 0, word);
            continue;
        }
        default:;
        }

        // If a keyboard is inactive, it must be activated before receiving any other commands
        if(!kb->active){
            if(command == ACTIVE)
                TRY_WITH_RESET(vt->active(kb, mode, notifynumber, 0, 0));
            continue;
        }
        // Specially handled commands only available when keyboard is ACTIVE
        switch(command){
        case IDLE:
            TRY_WITH_RESET(vt->idle(kb, mode, notifynumber, 0, 0));
            continue;
        case SWITCH:
            if(profile->currentmode != mode){
                profile->currentmode = mode;
                // Set mode light for non-RGB K95
                int index = INDEX_OF(mode, profile->mode);
                vt->setmodeindex(kb, index);
            }
            continue;
        case HWLOAD: case HWSAVE:{
            char delay = kb->usbdelay;
            // Ensure delay of at least 10ms as the device can get overwhelmed otherwise
            if(delay < 10)
```

```
                kb->usbdelay = 10;
            // Try to load/save the hardware profile. Reset on failure, disconnect if reset fails.
            TRY_WITH_RESET(vt->do_io[command](kb, mode, notifynumber, 1, 0));
            // Re-send the current RGB state as it sometimes gets scrambled
            TRY_WITH_RESET(vt->updatergb(kb, 1));
            kb->usbdelay = delay;
            continue;
        }
        case FWUPDATE:
            // FW update parses a whole word. Unlike hwload/hwsave, there's no try again on failure.
            if(vt->fwupdate(kb, mode, notifynumber, 0, word)){
                free(word);
                return 1;
            }
            continue;
        case POLLRATE: {
            uint rate;
            if(sscanf(word, "%u", &rate) == 1 && (rate == 1 || rate == 2 || rate == 4 || rate == 8))
                TRY_WITH_RESET(vt->pollrate(kb, mode, notifynumber, rate, 0));
            continue;
        }
        case ERASEPROFILE:
            // Erase the current profile
            vt->eraseprofile(kb, mode, notifynumber, 0, 0);
            // Update profile/mode pointers
            profile = kb->profile;
            mode = profile->currentmode;
            continue;
        case ERASE: case NAME: case IOFF: case ION: case IAUTO: case INOTIFY: case PROFILENAME: case ID: case PROFILEID: case DPISEL: case LIFT: case SNAP:
            // All of the above just parse the whole word
            vt->do_cmd[command](kb, mode, notifynumber, 0, word);
            continue;
        case RGB: {
            // RGB command has a special response for a single hex constant
            int r, g, b;
            if(sscanf(word, "%02x%02x%02x", &r, &g, &b) == 3){
                // Set all keys
                for(int i = 0; i < N_KEYS_EXTENDED; i++)
                    vt->rgb(kb, mode, notifynumber, i, word);
                continue;
            }
            break;
        }
        case MACRO:
            if(!strcmp(word, "clear")){
                // Macro has a special clear command
                vt->macro(kb, mode, notifynumber, 0, 0);
                continue;
            }
            break;
        default:;
        }
        // For anything else, split the parameter at the colon
        int left = -1;
        sscanf(word, "%*[^:]%n", &left);
        if(left <= 0)
            continue;
        const char* right = word + left;
        if(right[0] == ':')
            right++;
        // Macros and DPI have a separate left-side handler
        if(command == MACRO || command == DPI){
            word[left] = 0;
            vt->do_macro[command](kb, mode, notifynumber, word, right);
            continue;
        }
        // Scan the left side for key names and run the requested command
        int position = 0, field = 0;
        char keyname[11];
        while(position < left && sscanf(word + position, "%10[^:,]%n", keyname, &field) == 1){
            int keycode;
            if(!strcmp(keyname, "all")){
                // Set all keys
                for(int i = 0; i < N_KEYS_EXTENDED; i++)
                    vt->do_cmd[command](kb, mode, notifynumber, i, right);
            } else if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode < N_KEYS_EXTENDED)
                    || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode < N_KEYS_EXTENDED)){
                // Set a key numerically
                vt->do_cmd[command](kb, mode, notifynumber, keycode, right);
            } else {
                // Find this key in the keymap
                for(unsigned i = 0; i < N_KEYS_EXTENDED; i++){
                    if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
```

```
                        vt->do_cmd[command](kb, mode, notifynumber, i,
    right);
                        break;
                    }
                }
            }
            if(word[position += field] == ',')
                position++;
        }
    }

    // Finish up
    if(!NEEDS_FW_UPDATE(kb)){
        TRY_WITH_RESET(vt->updatergb(kb, 0));
        TRY_WITH_RESET(vt->updatedpi(kb, 0));
    }
    free(word);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.5.3 Variable Documentation

13.5.3.1 const char* const cmd_strings[(CMD_LAST-CMD_FIRST+2)-1] [static]

Definition at line 10 of file command.c.

Referenced by readcmd().

13.6 src/ckb-daemon/command.h File Reference

```
#include "includes.h"
```

Include dependency graph for command.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- union devcmd
- struct devcmd.__unnamed__

Macros

- #define CMD_COUNT (CMD_LAST - CMD_FIRST + 2)
- #define CMD_DEV_COUNT (CMD_LAST - CMD_VT_FIRST + 1)

Typedefs

- typedef void(∗ cmdhandler)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)
- typedef int(∗ cmdhandler_io)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)
- typedef void(∗ cmdhandler_mac)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, const char ∗keys, const char ∗assignment)
- typedef union devcmd devcmd

Enumerations

- enum cmd {
  NONE = -11, DELAY = -10, CMD_FIRST = DELAY, MODE = -9,
  SWITCH = -8, LAYOUT = -7, ACCEL = -6, SCROLLSPEED = -5,
  NOTIFYON = -4, NOTIFYOFF = -3, FPS = -2, DITHER = -1,
  HWLOAD = 0, CMD_VT_FIRST = 0, HWSAVE, FWUPDATE,
  POLLRATE, ACTIVE, IDLE, ERASE,
  ERASEPROFILE, NAME, PROFILENAME, ID,
  PROFILEID, RGB, IOFF, ION,
  IAUTO, BIND, UNBIND, REBIND,
  MACRO, DPI, DPISEL, LIFT,
  SNAP, NOTIFY, INOTIFY, GET,
  RESTART, CMD_LAST = RESTART }

Functions

- int readcmd (usbdevice *kb, const char *line)

13.6.1 Data Structure Documentation

13.6.1.1 union devcmd

Definition at line 73 of file command.h.

Collaboration diagram for devcmd:

Data Fields

struct devcmd	__unnamed__	
cmdhandler	do_cmd[(CMD_LAST-CMD_VT_FIRST+1)]	
cmdhandler_io	do_io[(CMD_LAST-CMD_VT_FIRST+1)]	
cmdhandler_mac	do_macro[(CMD_LAST-CMD_VT_FIRST+1)]	

13.6.2 Macro Definition Documentation

13.6.2.1 #define CMD_COUNT (CMD_LAST - CMD_FIRST + 2)

Definition at line 65 of file command.h.

Referenced by readcmd().

13.6.2.2 #define CMD_DEV_COUNT (CMD_LAST - CMD_VT_FIRST + 1)

Definition at line 66 of file command.h.

13.6.3 Typedef Documentation

13.6.3.1 typedef void(∗ cmdhandler)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)

Definition at line 70 of file command.h.

13.6.3.2 typedef int(∗ cmdhandler_io)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)

Definition at line 71 of file command.h.

13.6.3.3 typedef void(∗ cmdhandler_mac)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, const char ∗keys, const char ∗assignment)

Definition at line 72 of file command.h.

13.6.3.4 typedef union devcmd devcmd

13.6.4 Enumeration Type Documentation

13.6.4.1 enum cmd

Enumerator

NONE

DELAY

CMD_FIRST

MODE

SWITCH

LAYOUT

ACCEL

SCROLLSPEED

NOTIFYON

NOTIFYOFF

FPS

DITHER

HWLOAD

CMD_VT_FIRST

HWSAVE

FWUPDATE

POLLRATE

ACTIVE

IDLE

ERASE

ERASEPROFILE

NAME

PROFILENAME

ID

PROFILEID

RGB

IOFF

ION

IAUTO

BIND

UNBIND

REBIND

MACRO

DPI

DPISEL

LIFT

SNAP

NOTIFY

INOTIFY

GET

RESTART

CMD_LAST

Definition at line 7 of file command.h.

```
7               {
8      // Special - handled by readcmd, no device functions
9      NONE        = -11,
10      DELAY       = -10,   CMD_FIRST = DELAY,
11      MODE        = -9,
12      SWITCH      = -8,
13      LAYOUT      = -7,
14      ACCEL       = -6,
15      SCROLLSPEED = -5,
16      NOTIFYON    = -4,
17      NOTIFYOFF   = -3,
18      FPS         = -2,
19      DITHER      = -1,
20
21      // Hardware data
22      HWLOAD      = 0,    CMD_VT_FIRST = 0,
23      HWSAVE,
24      FWUPDATE,
25      POLLRATE,
26
27      // Software control on/off
28      ACTIVE,
29      IDLE,
30
31      // Profile/mode metadata
32      ERASE,
33      ERASEPROFILE,
34      NAME,
35      PROFILENAME,
36      ID,
37      PROFILEID,
38
39      // LED control
40      RGB,
41      IOFF,
42      ION,
43      IAUTO,
44
45      // Key binding control
46      BIND,
```

```
    UNBIND,
    REBIND,
    MACRO,

    // DPI control
    DPI,
    DPISEL,
    LIFT,
    SNAP,

    // Notifications and output
    NOTIFY,
    INOTIFY,
    GET,
    RESTART,

    CMD_LAST = RESTART
} cmd;
```

13.6.5 Function Documentation

13.6.5.1 int readcmd (usbdevice * *kb*, const char * *line*)

< Because length of word is length of line + 1, there should be no problem with buffer overflow.

Definition at line 68 of file command.c.

References ACCEL, ACTIVE, usbdevice::active, BIND, CMD_COUNT, CMD_FIRST, cmd_strings, usbprofile::currentmode, DELAY, usbdevice::delay, DITHER, usbdevice::dither, devcmd::do_cmd, devcmd::do_io, devcmd::do_macro, DPI, DPISEL, ERASE, ERASEPROFILE, FEAT_ANSI, FEAT_BIND, FEAT_ISO, FEAT_LMASK, FEAT_MOUSEACCEL, FEAT_NOTIFY, usbdevice::features, lighting::forceupdate, FPS, FWUPDATE, GET, HAS_FEATURES, HWLOAD, HWSAVE, IAUTO, ID, IDLE, INDEX_OF, INOTIFY, IOFF, ION, IS_FULLRANGE, IS_MOUSE_DEV, keymap, LAYOUT, left, LIFT, usbmode::light, MACRO, mknotifynode(), MODE, usbprofile::mode, MODE_COUNT, N_KEYS_EXTENDED, NAME, NEEDS_FW_UPDATE, NONE, NOTIFY, NOTIFYOFF, NOTIFYON, OUTFIFO_MAX, POLLRATE, usbdevice::profile, PROFILEID, PROFILENAME, REBIND, RESTART, RGB, right(), rmnotifynode(), SCROLL_ACCELERATED, SCROLL_MAX, SCROLL_MIN, SCROLLSPEED, SNAP, SWITCH, TRY_WITH_RESET, UNBIND, usbdevice::usbdelay, and usbdevice::vtable.

Referenced by devmain().

```
68                                          {
69     char* word = malloc(strlen(line) + 1);
70     int wordlen;
71     const char* newline = 0;
72     const devcmd* vt = kb->vtable;
73     usbprofile* profile = kb->profile;
74     usbmode* mode = 0;
75     int notifynumber = 0;
76     // Read words from the input
77     cmd command = NONE;
78     while(sscanf(line, "%s%n", word, &wordlen) == 1){
79         line += wordlen;
80         // If we passed a newline, reset the context
81         if(line > newline){
82             mode = profile->currentmode;
83             command = NONE;
84             notifynumber = 0;
85             newline = strchr(line, '\n');
86             if(!newline)
87                 newline = line + strlen(line);
88         }
89         // Check for a command word
90         for(int i = 0; i < CMD_COUNT - 1; i++){
91             if(!strcmp(word, cmd_strings[i])){
92                 command = i + CMD_FIRST;
93 #ifndef OS_MAC
94                 // Layout and mouse acceleration aren't used on Linux; ignore
95                 if(command == LAYOUT || command == ACCEL || command ==
     SCROLLSPEED)
96                     command = NONE;
97 #endif
98                 // Most commands require parameters, but a few are actions in and of themselves
99                 if(command != SWITCH
100                         && command != HWLOAD && command != HWSAVE
101                         && command != ACTIVE && command != IDLE
102                         && command != ERASE && command != ERASEPROFILE
103                         && command != RESTART)
```

```
                    goto next_loop;
                break;
            }
        }

        // Set current notification node when given @number
        int newnotify;
        if(sscanf(word, "@%u", &newnotify) == 1 && newnotify < OUTFIFO_MAX){
            notifynumber = newnotify;
            continue;
        }

        // Reject unrecognized commands. Reject bind or notify related commands if the keyboard doesn't have the feature enabled.
        if(command == NONE
                || ((!HAS_FEATURES(kb, FEAT_BIND) && (command == BIND || command == UNBIND || command == REBIND || command == MACRO || command == DELAY))
                            || (!HAS_FEATURES(kb, FEAT_NOTIFY) && command == NOTIFY))){
            next_loop:
            continue;
        }
        // Reject anything not related to fwupdate if device has a bricked FW
        if(NEEDS_FW_UPDATE(kb) && command != FWUPDATE && command != NOTIFYON && command != NOTIFYOFF)
            continue;

        // Specially handled commands - these are available even when keyboard is IDLE
        switch(command){
        case NOTIFYON: {
            // Notification node on
            int notify;
            if(sscanf(word, "%u", &notify) == 1)
                mknotifynode(kb, notify);
            continue;
        } case NOTIFYOFF: {
            // Notification node off
            int notify;
            if(sscanf(word, "%u", &notify) == 1 && notify != 0) // notify0 can't be removed
                rmnotifynode(kb, notify);
            continue;
        } case GET:
            // Output data to notification node
            vt->get(kb, mode, notifynumber, 0, word);
            continue;
        case LAYOUT:
            // OSX: switch ANSI/ISO keyboard layout
            if(!strcmp(word, "ansi"))
                kb->features = (kb->features & ~FEAT_LMASK) | FEAT_ANSI;
            else if(!strcmp(word, "iso"))
                kb->features = (kb->features & ~FEAT_LMASK) | FEAT_ISO;
            continue;
#ifdef OS_MAC
        case ACCEL:
            // OSX mouse acceleration on/off
            if(!strcmp(word, "on"))
                kb->features |= FEAT_MOUSEACCEL;
            else if(!strcmp(word, "off"))
                kb->features &= ~FEAT_MOUSEACCEL;
            continue;
        case SCROLLSPEED:{
            int newscroll;
            if(sscanf(word, "%d", &newscroll) != 1)
                break;
            if(newscroll < SCROLL_MIN)
                newscroll = SCROLL_ACCELERATED;
            if(newscroll > SCROLL_MAX)
                newscroll = SCROLL_MAX;
            kb->scroll_rate = newscroll;
            continue;
        }
#endif
        case MODE: {
            // Select a mode number (1 - 6)
            int newmode;
            if(sscanf(word, "%u", &newmode) == 1 && newmode > 0 && newmode <= MODE_COUNT)
                mode = profile->mode + newmode - 1;
            continue;
        }
        case FPS: {
            // USB command delay (2 - 10ms)
            uint framerate;
            if(sscanf(word, "%u", &framerate) == 1 && framerate > 0){
```

```
                // Not all devices require the same number of messages per frame; select delay appropriately
                uint per_frame = IS_MOUSE_DEV(kb) ? 2 : IS_FULLRANGE(kb) ? 14 : 5;
                uint delay = 1000 / framerate / per_frame;
                if(delay < 2)
                    delay = 2;
                else if(delay > 10)
                    delay = 10;
                kb->usbdelay = delay;
            }
            continue;
        }
        case DITHER: {
            // 0: No dither, 1: Ordered dither.
            uint dither;
            if(sscanf(word, "%u", &dither) == 1 && dither <= 1){
                kb->dither = dither;
                profile->currentmode->light.forceupdate = 1;
                mode->light.forceupdate = 1;
            }
            continue;
        }
        case DELAY: {
            long int delay;
            if(sscanf(word, "%ld", &delay) == 1 && 0 <= delay && delay < UINT_MAX) {
                // Add delay of `newdelay` microseconds to macro playback
                kb->delay = (unsigned int)delay;
            } else if(strcmp(word, "on") == 0) {
                // allow previous syntax, `delay on` means use old `long macro delay`
                kb->delay = UINT_MAX;
            } else {
                // bad parameter to handle false commands like "delay off"
                kb->delay = 0; // No delay.
            }
            continue;
        }
        case RESTART: {
            char mybuffer[] = "no reason specified";
            if (sscanf(line, " %[^\n]", word) == -1) {
                word = mybuffer;
            }
            vt->do_cmd[command](kb, mode, notifynumber, 0, word);
            continue;
        }
        default:;
        }

        // If a keyboard is inactive, it must be activated before receiving any other commands
        if(!kb->active){
            if(command == ACTIVE)
                TRY_WITH_RESET(vt->active(kb, mode, notifynumber, 0, 0));
            continue;
        }
        // Specially handled commands only available when keyboard is ACTIVE
        switch(command){
        case IDLE:
            TRY_WITH_RESET(vt->idle(kb, mode, notifynumber, 0, 0));
            continue;
        case SWITCH:
            if(profile->currentmode != mode){
                profile->currentmode = mode;
                // Set mode light for non-RGB K95
                int index = INDEX_OF(mode, profile->mode);
                vt->setmodeindex(kb, index);
            }
            continue;
        case HWLOAD: case HWSAVE:{
            char delay = kb->usbdelay;
            // Ensure delay of at least 10ms as the device can get overwhelmed otherwise
            if(delay < 10)
                kb->usbdelay = 10;
            // Try to load/save the hardware profile. Reset on failure, disconnect if reset fails.
            TRY_WITH_RESET(vt->do_io[command](kb, mode, notifynumber, 1, 0));
            // Re-send the current RGB state as it sometimes gets scrambled
            TRY_WITH_RESET(vt->updatergb(kb, 1));
            kb->usbdelay = delay;
            continue;
        }
        case FWUPDATE:
            // FW update parses a whole word. Unlike hwload/hwsave, there's no try again on failure.
            if(vt->fwupdate(kb, mode, notifynumber, 0, word)){
                free(word);
                return 1;
            }
            continue;
        case POLLRATE: {
            uint rate;
```

```
            if(sscanf(word, "%u", &rate) == 1 && (rate == 1 || rate == 2 || rate == 4 || rate == 8))
                TRY_WITH_RESET(vt->pollrate(kb, mode, notifynumber, rate, 0));
            continue;
        }
        case ERASEPROFILE:
            // Erase the current profile
            vt->eraseprofile(kb, mode, notifynumber, 0, 0);
            // Update profile/mode pointers
            profile = kb->profile;
            mode = profile->currentmode;
            continue;
        case ERASE: case NAME: case IOFF: case ION: case IAUTO: case INOTIFY: case PROFILENAME: case ID: case PROFILEID: case DPISEL: case LIFT: case SNAP:
            // All of the above just parse the whole word
            vt->do_cmd[command](kb, mode, notifynumber, 0, word);
            continue;
        case RGB: {
            // RGB command has a special response for a single hex constant
            int r, g, b;
            if(sscanf(word, "%02x%02x%02x", &r, &g, &b) == 3){
                // Set all keys
                for(int i = 0; i < N_KEYS_EXTENDED; i++)
                    vt->rgb(kb, mode, notifynumber, i, word);
                continue;
            }
            break;
        }
        case MACRO:
            if(!strcmp(word, "clear")){
                // Macro has a special clear command
                vt->macro(kb, mode, notifynumber, 0, 0);
                continue;
            }
            break;
        default:;
        }
        // For anything else, split the parameter at the colon
        int left = -1;
        sscanf(word, "%*[^:]%n", &left);
        if(left <= 0)
            continue;
        const char* right = word + left;
        if(right[0] == ':')
            right++;
        // Macros and DPI have a separate left-side handler
        if(command == MACRO || command == DPI){
            word[left] = 0;
            vt->do_macro[command](kb, mode, notifynumber, word, right);
            continue;
        }
        // Scan the left side for key names and run the requested command
        int position = 0, field = 0;
        char keyname[11];
        while(position < left && sscanf(word + position, "%10[^:,]%n", keyname, &field) == 1){
            int keycode;
            if(!strcmp(keyname, "all")){
                // Set all keys
                for(int i = 0; i < N_KEYS_EXTENDED; i++)
                    vt->do_cmd[command](kb, mode, notifynumber, i, right);
            } else if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode < N_KEYS_EXTENDED)
                      || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode < N_KEYS_EXTENDED)){
                // Set a key numerically
                vt->do_cmd[command](kb, mode, notifynumber, keycode, right);
            } else {
                // Find this key in the keymap
                for(unsigned i = 0; i < N_KEYS_EXTENDED; i++){
                    if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
                        vt->do_cmd[command](kb, mode, notifynumber, i, right);
                        break;
                    }
                }
            }
            if(word[position += field] == ',')
                position++;
        }
    }

    // Finish up
    if(!NEEDS_FW_UPDATE(kb)){
        TRY_WITH_RESET(vt->updatergb(kb, 0));
        TRY_WITH_RESET(vt->updatedpi(kb, 0));
    }
    free(word);
```

```
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.7 src/ckb-daemon/device.c File Reference

```
#include "command.h"
#include "device.h"
#include "firmware.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device.c:

Functions

- int _start_dev (usbdevice *kb, int makeactive)
- int start_dev (usbdevice *kb, int makeactive)

Variables

- int hwload_mode = 1

  hwload_mode = 1 means read hardware once. should be enough
- usbdevice keyboard [9]

  remember all usb devices. Needed for closeusb().
- pthread_mutex_t devlistmutex = PTHREAD_MUTEX_INITIALIZER
- pthread_mutex_t devmutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Mutex for handling the usbdevice structure.
- pthread_mutex_t inputmutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Mutex for dealing with usb input frames.
- pthread_mutex_t macromutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Protecting macros against lightning: Both use usb_send.
- pthread_mutex_t macromutex2 [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Protecting the single link list of threads and the macrovar.
- pthread_cond_t macrovar [9] = { [0 ... 9 -1] = PTHREAD_COND_INITIALIZER }

  This variable is used to stop and wakeup all macro threads which have to wait.

13.7.1 Function Documentation

13.7.1.1 int _start_dev (usbdevice * *kb*, int *makeactive*)

_start_dev get fw-info and pollrate; if available, install new firmware; get all hardware profiles.

Parameters

kb	the normal kb pointer to the usbdevice. Is also valid for mice.
makeactive	if set to 1, activate the device via setactive()

Returns

0 if success, other else

- This hacker code is tricky in mutliple aspects. What it means is:

  if hwload_mode == 0: just set pollrate to 0 and clear features in the bottom lines of the if-block.

  if hwload_mode == 1: if the device has FEAT_HWLOAD active, call getfwversion(). If it returns true, there was an error while detecting fw-version. Put error message, reset FEAT_HWLOAD and finalize as above.

  if hwload_mode == 2: if the device has FEAT_HWLOAD active, call getfwversion(). If it returns true, there was an error while detecting fw-version. Put error message and return directly from function with error.

  Why do not you just write it down?
- Now check if device needs a firmware update. If so, set it up and leave the function without error.
- Device needs a firmware update. Finish setting up but don't do anything.
- Load profile from device if the hw-pointer is not set yet and hw-loading is possible and allowed.

  return error if mode == 2 (load always) and loading got an error. Else reset HWLOAD feature, because hwload must be 1.

  That is real Horror code.

Definition at line 25 of file device.c.

References usbdevice::active, ckb_info, ckb_warn, FEAT_ADJRATE, FEAT_FWUPDATE, FEAT_FWVERSION, FEAT_HWLOAD, FEAT_POLLRATE, FEAT_RGB, usbdevice::features, usbdevice::fwversion, getfwversion(), HAS_FEATURES, usbdevice::hw, hwload_mode, hwloadprofile, NEEDS_FW_UPDATE, usbdevice::pollrate, and setactive.

Referenced by start_dev().

```
25                                          {
26     // Get the firmware version from the device
27     if(kb->pollrate == 0){
35         if(!hwload_mode || (HAS_FEATURES(kb, FEAT_HWLOAD) &&
       getfwversion(kb))){
36             if(hwload_mode == 2)
37                 // hwload=always. Report setup failure.
38                 return -1;
39             else if(hwload_mode){
40                 // hwload=once. Log failure, prevent trying again, and continue.
41                 ckb_warn("Unable to load firmware version/poll rate\n");
42                 kb->features &= ~FEAT_HWLOAD;
43             }
44             kb->pollrate = 0;
45             kb->features &= ~(FEAT_POLLRATE | FEAT_ADJRATE);
46             if(kb->fwversion == 0)
47                 kb->features &= ~(FEAT_FWVERSION |
       FEAT_FWUPDATE);
48         }
49     }
54     if(NEEDS_FW_UPDATE(kb)){
56         ckb_info("Device needs a firmware update. Please issue a fwupdate command.\n");
57         kb->features = FEAT_RGB | FEAT_FWVERSION |
       FEAT_FWUPDATE;
58         kb->active = 1;
59         return 0;
60     }
66     if(!kb->hw && hwload_mode && HAS_FEATURES(kb,
       FEAT_HWLOAD)){
67         if(hwloadprofile(kb, 1)){
68             if(hwload_mode == 2)
69                 return -1;
70             ckb_warn("Unable to load hardware profile\n");
71             kb->features &= ~FEAT_HWLOAD;
72         }
73     }
74     // Active software mode if requested
75     if(makeactive)
76         return setactive(kb, 1);
77     return 0;
78 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.7.1.2 int start_dev (usbdevice * *kb*, int *makeactive*)

Definition at line 80 of file device.c.

References _start_dev(), USB_DELAY_DEFAULT, and usbdevice::usbdelay.

```
{
    // Force USB interval to 10ms during initial setup phase; return to nominal 5ms after setup completes.
    kb->usbdelay = 10;
    int res = _start_dev(kb, makeactive);
    kb->usbdelay = USB_DELAY_DEFAULT;
    return res;
}
```

Here is the call graph for this function:

13.7.2 Variable Documentation

13.7.2.1 pthread_mutex_t devlistmutex = PTHREAD_MUTEX_INITIALIZER

Definition at line 11 of file device.c.

13.7.2.2 pthread_mutex_t devmutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 12 of file device.c.

Referenced by _updateconnected(), quitWithLock(), and usb_rm_device().

13.7.2.3 int hwload_mode = 1

hwload_mode is defined in device.c

Definition at line 7 of file device.c.

Referenced by _start_dev(), _usbrecv(), _usbsend(), and main().

13.7.2.4 pthread_mutex_t inputmutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 13 of file device.c.

13.7.2.5 usbdevice keyboard[9]

Definition at line 10 of file device.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), quitWithLock(), rmdevpath(), usb_rm_device(), and usbadd().

13.7.2.6 pthread_mutex_t macromutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 14 of file device.c.

13.7.2.7 pthread_mutex_t macromutex2[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 15 of file device.c.

13.7.2.8 pthread_cond_t macrovar[9] = { [0 ... 9 -1] = PTHREAD_COND_INITIALIZER }

Definition at line 16 of file device.c.

13.8 src/ckb-daemon/device.h File Reference

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for device.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define DEV_MAX 9
- #define IS_CONNECTED(kb) ((kb) && (kb)->handle && (kb)->uinput_kb && (kb)->uinput_mouse)
- #define dmutex(kb) (devmutex + INDEX_OF(kb, keyboard))
- #define imutex(kb) (inputmutex + INDEX_OF(kb, keyboard))
- #define mmutex(kb) (macromutex + INDEX_OF(kb, keyboard))
- #define mmutex2(kb) (macromutex2 + INDEX_OF(kb, keyboard))
- #define mvar(kb) (macrovar + INDEX_OF(kb, keyboard))
- #define setactive(kb, makeactive) ((makeactive) ? (kb)->vtable->active((kb), 0, 0, 0, 0) : (kb)->vtable->idle((kb), 0, 0, 0, 0))

  setactive() calls via the corresponding kb->vtable either the active() or the idle() function.
  active() is called if the parameter makeactive is true, idle if it is false.
  What function is called effectively is device dependent. Have a look at device_vtable.c for more information.
- #define IN_HID 0x80
- #define IN_CORSAIR 0x40
- #define ACT_LIGHT 1
- #define ACT_NEXT 3
- #define ACT_NEXT_NOWRAP 5
- #define ACT_LOCK 8
- #define ACT_MR_RING 9

- #define ACT_M1 10
- #define ACT_M2 11
- #define ACT_M3 12

Functions

- int start_dev (usbdevice *kb, int makeactive)
- int start_kb_nrgb (usbdevice *kb, int makeactive)
- int setactive_kb (usbdevice *kb, int active)
- int setactive_mouse (usbdevice *kb, int active)
- int cmd_active_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_active_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_pollrate (usbdevice *kb, usbmode *dummy1, int dummy2, int rate, const char *dummy3)
- void setmodeindex_nrgb (usbdevice *kb, int index)

Variables

- usbdevice keyboard [9]

  remember all usb devices. Needed for closeusb().
- pthread_mutex_t devmutex [9]

  Mutex for handling the usbdevice structure.
- pthread_mutex_t inputmutex [9]

  Mutex for dealing with usb input frames.
- pthread_mutex_t macromutex [9]

  Protecting macros against lightning: Both use usb_send.
- pthread_mutex_t macromutex2 [9]

  Protecting the single link list of threads and the macrovar.
- pthread_cond_t macrovar [9]

  This variable is used to stop and wakeup all macro threads which have to wait.

13.8.1 Macro Definition Documentation

13.8.1.1 #define ACT_LIGHT 1

Definition at line 68 of file device.h.

Referenced by setactive_kb().

13.8.1.2 #define ACT_LOCK 8

Definition at line 71 of file device.h.

Referenced by setactive_kb().

13.8.1.3 #define ACT_M1 10

Definition at line 73 of file device.h.

Referenced by setactive_kb().

13.8.1.4 #define ACT_M2 11

Definition at line 74 of file device.h.

Referenced by setactive_kb().

13.8.1.5 #define ACT_M3 12

Definition at line 75 of file device.h.

Referenced by setactive_kb().

13.8.1.6 #define ACT_MR_RING 9

Definition at line 72 of file device.h.

Referenced by setactive_kb().

13.8.1.7 #define ACT_NEXT 3

Definition at line 69 of file device.h.

13.8.1.8 #define ACT_NEXT_NOWRAP 5

Definition at line 70 of file device.h.

13.8.1.9 #define DEV_MAX 9

Definition at line 8 of file device.h.

Referenced by _updateconnected(), quitWithLock(), usb_rm_device(), and usbadd().

13.8.1.10 #define dmutex(*kb*) (devmutex + INDEX_OF(kb, keyboard))

Definition at line 18 of file device.h.

Referenced by _ledthread(), _setupusb(), closeusb(), devmain(), and usbadd().

13.8.1.11 #define imutex(*kb*) (inputmutex + INDEX_OF(kb, keyboard))

Definition at line 22 of file device.h.

Referenced by _setupusb(), closeusb(), cmd_bind(), cmd_erase(), cmd_eraseprofile(), cmd_get(), cmd_macro(), cmd_notify(), cmd_rebind(), cmd_unbind(), os_inputmain(), setactive_kb(), setactive_mouse(), and setupusb().

13.8.1.12 #define IN_CORSAIR 0x40

Definition at line 65 of file device.h.

Referenced by setactive_kb(), and setactive_mouse().

13.8.1.13 #define IN_HID 0x80

Definition at line 64 of file device.h.

Referenced by setactive_kb(), and setactive_mouse().

13.8.1.14 #define IS_CONNECTED(*kb*) ((kb) && (kb)->handle && (kb)->uinput_kb && (kb)->uinput_mouse)

Definition at line 12 of file device.h.

Referenced by _updateconnected(), devmain(), quitWithLock(), and usbadd().

13.8.1.15 #define mmutex(*kb*) (macromutex + INDEX_OF(kb, keyboard))

Definition at line 26 of file device.h.

Referenced by _usbrecv(), _usbsend(), and play_macro().

13.8.1.16 #define mmutex2(*kb*) (macromutex2 + INDEX_OF(kb, keyboard))

Definition at line 28 of file device.h.

Referenced by play_macro().

13.8.1.17 #define mvar(*kb*) (macrovar + INDEX_OF(kb, keyboard))

Definition at line 30 of file device.h.

Referenced by play_macro().

13.8.1.18 #define setactive(*kb, makeactive*) ((makeactive) ? (kb)->vtable->active((kb), 0, 0, 0, 0) : (kb)->vtable->idle((kb), 0, 0, 0, 0))

Definition at line 44 of file device.h.

Referenced by _start_dev(), and revertusb().

13.8.2 Function Documentation

13.8.2.1 int cmd_active_kb (usbdevice * *kb,* usbmode * *dummy1,* int *dummy2,* int *dummy3,* const char * *dummy4*)

Definition at line 114 of file device_keyboard.c.

References setactive_kb().

```
114                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
115     (void)dummy1;
116     (void)dummy2;
117     (void)dummy3;
118     (void)dummy4;
119
120     return setactive_kb(kb, 1);
121 }
```

Here is the call graph for this function:

13.8.2.2 int cmd_active_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 44 of file device_mouse.c.

References setactive_mouse().

```
44                                                                                                  {
45     (void)dummy1;
46     (void)dummy2;
47     (void)dummy3;
48     (void)dummy4;
49
50     return setactive_mouse(kb, 1);
51 }
```

Here is the call graph for this function:

13.8.2.3 int cmd_idle_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 123 of file device_keyboard.c.

References setactive_kb().

```
123                                                                                                 {
124     (void)dummy1;
125     (void)dummy2;
126     (void)dummy3;
127     (void)dummy4;
128
129     return setactive_kb(kb, 0);
130 }
```

Here is the call graph for this function:

13.8.2.4 int cmd_idle_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 53 of file device_mouse.c.

References setactive_mouse().

```
53                                                                                                                  {
54     (void)dummy1;
55     (void)dummy2;
56     (void)dummy3;
57     (void)dummy4;
58
59     return setactive_mouse(kb, 0);
60 }
```

Here is the call graph for this function:

13.8.2.5 int cmd_pollrate (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *rate*, const char * *dummy3*)

Definition at line 62 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
62                                                                                                                  {
63     (void)dummy1;
64     (void)dummy2;
65     (void)dummy3;
66
67     uchar msg[MSG_SIZE] = {
68         0x07, 0x0a, 0, 0, (uchar)rate
69     };
70     if(!usbsend(kb, msg, 1))
71         return -1;
72     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
73     kb->pollrate = rate;
74     return 0;
75 }
```

13.8.2.6 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 20 of file device_keyboard.c.

References ACT_LIGHT, ACT_LOCK, ACT_M1, ACT_M2, ACT_M3, ACT_MR_RING, usbdevice::active, DELAY_-MEDIUM, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), keymap, usbinput-::keys, usbprofile::lastlight, MSG_SIZE, N_KEYS_HW, NEEDS_FW_UPDATE, usbdevice::profile, usbsend, and usbdevice::vtable.

Referenced by cmd_active_kb(), and cmd_idle_kb().

```
20                                          {
21     if(NEEDS_FW_UPDATE(kb))
22         return 0;
23
24     pthread_mutex_lock(imutex(kb));
25     kb->active = !!active;
26     kb->profile->lastlight.forceupdate = 1;
27     // Clear input
28     memset(&kb->input.keys, 0, sizeof(kb->input.keys));
29     inputupdate(kb);
30     pthread_mutex_unlock(imutex(kb));
31
32     uchar msg[3][MSG_SIZE] = {
33         { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
34         { 0x07, 0x40, 0 },                  // Selects key input
35         { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
36     };
37     if(active){
38         // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
39         msg[0][2] = 2;
40         if(!usbsend(kb, msg[0], 1))
41             return -1;
42         DELAY_MEDIUM(kb);
43         // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
44         // Keys are referenced in byte pairs, with the first byte representing the key and the second byte
       representing the mode.
45         for(int key = 0; key < N_KEYS_HW; ){
46             int pair;
47             for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
48                 // Select both standard and Corsair input. The standard input will be ignored except in
       BIOS mode.
49                 uchar action = IN_HID | IN_CORSAIR;
50                 // Additionally, make MR activate the MR ring (this is disabled for now, may be back later)
51                 //if(keymap[key].name && !strcmp(keymap[key].name, "mr"))
52                 //    action |= ACT_MR_RING;
53                 msg[1][4 + pair * 2] = key;
54                 msg[1][5 + pair * 2] = action;
55             }
56             // Byte 2 = pair count (usually 30, less on final message)
57             msg[1][2] = pair;
58             if(!usbsend(kb, msg[1], 1))
59                 return -1;
60         }
61         // Commit new input settings
62         if(!usbsend(kb, msg[2], 1))
63             return -1;
64         DELAY_MEDIUM(kb);
65     } else {
66         // Set the M-keys back into hardware mode, restore hardware RGB profile. It has to be sent twice
       for some reason.
67         msg[0][2] = 1;
68         if(!usbsend(kb, msg[0], 1))
69             return -1;
70         DELAY_MEDIUM(kb);
71         if(!usbsend(kb, msg[0], 1))
72             return -1;
73         DELAY_MEDIUM(kb);
74 #ifdef OS_LINUX
75         // On OSX the default key mappings are fine. On Linux, the G keys will freeze the keyboard. Set the
       keyboard entirely to HID input.
76         for(int key = 0; key < N_KEYS_HW; ){
77             int pair;
78             for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
79                 uchar action = IN_HID;
80                 // Enable hardware actions
81                 if(keymap[key].name){
82                     if(!strcmp(keymap[key].name, "mr"))
83                         action = ACT_MR_RING;
84                     else if(!strcmp(keymap[key].name, "m1"))
85                         action = ACT_M1;
86                     else if(!strcmp(keymap[key].name, "m2"))
87                         action = ACT_M2;
88                     else if(!strcmp(keymap[key].name, "m3"))
```

```
                        action = ACT_M3;
                    else if(!strcmp(keymap[key].name, "light"))
                        action = ACT_LIGHT;
                    else if(!strcmp(keymap[key].name, "lock"))
                        action = ACT_LOCK;
                }
                msg[1][4 + pair * 2] = key;
                msg[1][5 + pair * 2] = action;
            }
            // Byte 2 = pair count (usually 30, less on final message)
            msg[1][2] = pair;
             if(!usbsend(kb, msg[1], 1))
                 return -1;
        }
        // Commit new input settings
        if(!usbsend(kb, msg[2], 1))
            return -1;
        DELAY_MEDIUM(kb);
#endif
    }
    // Update indicator LEDs if the profile contains settings for them
    kb->vtable->updateindicators(kb, 0);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.8.2.7 int setactive_mouse (usbdevice * *kb*, int *active*)

Definition at line 9 of file device_mouse.c.

References usbdevice::active, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), usbinput::keys, usbprofile::lastlight, MSG_SIZE, NEEDS_FW_UPDATE, usbdevice::profile, and usbsend.

Referenced by cmd_active_mouse(), and cmd_idle_mouse().

```
{
    if(NEEDS_FW_UPDATE(kb))
        return 0;
    const int keycount = 20;
    uchar msg[2][MSG_SIZE] = {
        { 0x07, 0x04, 0 },                  // Disables or enables HW control for DPI and Sniper button
        { 0x07, 0x40, keycount, 0 },        // Select button input (simlilar to the packet sent to keyboards, but lacks a commit packet)
    };
    if(active)
        // Put the mouse into SW mode
        msg[0][2] = 2;
    else
        // Restore HW mode
        msg[0][2] = 1;
    pthread_mutex_lock(imutex(kb));
    kb->active = !!active;
    kb->profile->lastlight.forceupdate = 1;
    // Clear input
    memset(&kb->input.keys, 0, sizeof(kb->input.keys));
    inputupdate(kb);
    pthread_mutex_unlock(imutex(kb));
    if(!usbsend(kb, msg[0], 1))
        return -1;
    if(active){
        // Set up key input
        if(!usbsend(kb, msg[1], 1))
            return -1;
        for(int i = 0; i < keycount; i++){
            msg[1][i * 2 + 4] = i + 1;
            msg[1][i * 2 + 5] = (i < 6 ? IN_HID : IN_CORSAIR);
        }
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.8.2.8 void setmodeindex_nrgb (usbdevice * kb, int index)

Definition at line 132 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
132                                                 {
133     switch(index % 3){
134     case 0:
135         nk95cmd(kb, NK95_M1);
136         break;
137     case 1:
138         nk95cmd(kb, NK95_M2);
139         break;
140     case 2:
141         nk95cmd(kb, NK95_M3);
142         break;
143     }
144 }
```

13.8.2.9 int start_dev (usbdevice * kb, int makeactive)

Definition at line 80 of file device.c.

References _start_dev(), USB_DELAY_DEFAULT, and usbdevice::usbdelay.

```
80                                              {
81     // Force USB interval to 10ms during initial setup phase; return to nominal 5ms after setup completes.
82     kb->usbdelay = 10;
83     int res = _start_dev(kb, makeactive);
84     kb->usbdelay = USB_DELAY_DEFAULT;
85     return res;
86 }
```

Here is the call graph for this function:

13.8.2.10 int start_kb_nrgb (usbdevice * kb, int makeactive)

Definition at line 9 of file device_keyboard.c.

References usbdevice::active, NK95_HWOFF, nk95cmd, and usbdevice::pollrate.

```
9                                               {
10     (void)makeactive;
11
12     // Put the non-RGB K95 into software mode. Nothing else needs to be done hardware wise
13     nk95cmd(kb, NK95_HWOFF);
14     // Fill out RGB features for consistency, even though the keyboard doesn't have them
15     kb->active = 1;
16     kb->pollrate = -1;
17     return 0;
18 }
```

13.8.3 Variable Documentation

13.8.3.1 pthread_mutex_t devmutex[9]

Definition at line 12 of file device.c.

Referenced by _updateconnected(), quitWithLock(), and usb_rm_device().

13.8.3.2 pthread_mutex_t inputmutex[9]

Definition at line 13 of file device.c.

13.8.3.3 usbdevice keyboard[9]

Definition at line 10 of file device.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), quitWithLock(), rmdevpath(), usb_rm_device(), and usbadd().

13.8.3.4 pthread_mutex_t macromutex[9]

Definition at line 14 of file device.c.

13.8.3.5 pthread_mutex_t macromutex2[9]

Definition at line 15 of file device.c.

13.8.3.6 pthread_cond_t macrovar[9]

Definition at line 16 of file device.c.

13.9 src/ckb-daemon/device_keyboard.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device_keyboard.c:

Functions

- int start_kb_nrgb (usbdevice ∗kb, int makeactive)
- int setactive_kb (usbdevice ∗kb, int active)
- int cmd_active_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- int cmd_idle_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- void setmodeindex_nrgb (usbdevice ∗kb, int index)

13.9.1 Function Documentation

13.9.1.1 int cmd_active_kb (usbdevice ∗ *kb,* usbmode ∗ *dummy1,* int *dummy2,* int *dummy3,* const char ∗ *dummy4*)

Definition at line 114 of file device_keyboard.c.

References setactive_kb().

```
114                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
115     (void)dummy1;
116     (void)dummy2;
117     (void)dummy3;
118     (void)dummy4;
119
120     return setactive_kb(kb, 1);
121 }
```

Here is the call graph for this function:

13.9.1.2 int cmd_idle_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 123 of file device_keyboard.c.

References setactive_kb().

```
123                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
124     (void)dummy1;
125     (void)dummy2;
126     (void)dummy3;
127     (void)dummy4;
128
129     return setactive_kb(kb, 0);
130 }
```

Here is the call graph for this function:

13.9.1.3 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 20 of file device_keyboard.c.

References ACT_LIGHT, ACT_LOCK, ACT_M1, ACT_M2, ACT_M3, ACT_MR_RING, usbdevice::active, DELAY_-MEDIUM, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), keymap, usbinput-::keys, usbprofile::lastlight, MSG_SIZE, N_KEYS_HW, NEEDS_FW_UPDATE, usbdevice::profile, usbsend, and usbdevice::vtable.

Referenced by cmd_active_kb(), and cmd_idle_kb().

```
20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
21     if(NEEDS_FW_UPDATE(kb))
22         return 0;
23
24     pthread_mutex_lock(imutex(kb));
25     kb->active = !!active;
26     kb->profile->lastlight.forceupdate = 1;
27     // Clear input
28     memset(&kb->input.keys, 0, sizeof(kb->input.keys));
29     inputupdate(kb);
30     pthread_mutex_unlock(imutex(kb));
31
32     uchar msg[3][MSG_SIZE] = {
33         { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
34         { 0x07, 0x40, 0 },                  // Selects key input
35         { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
36     };
37     if(active){
38         // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
39         msg[0][2] = 2;
40         if(!usbsend(kb, msg[0], 1))
41             return -1;
42         DELAY_MEDIUM(kb);
43         // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
44         // Keys are referenced in byte pairs, with the first byte representing the key and the second byte
       representing the mode.
45         for(int key = 0; key < N_KEYS_HW; ){
46             int pair;
47             for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
48                 // Select both standard and Corsair input. The standard input will be ignored except in
```

```
BIOS mode.
                uchar action = IN_HID | IN_CORSAIR;
                // Additionally, make MR activate the MR ring (this is disabled for now, may be back later)
                //if(keymap[key].name && !strcmp(keymap[key].name, "mr"))
                //    action |= ACT_MR_RING;
                msg[1][4 + pair * 2] = key;
                msg[1][5 + pair * 2] = action;
            }
            // Byte 2 = pair count (usually 30, less on final message)
            msg[1][2] = pair;
            if(!usbsend(kb, msg[1], 1))
                return -1;
        }
        // Commit new input settings
        if(!usbsend(kb, msg[2], 1))
            return -1;
        DELAY_MEDIUM(kb);
    } else {
        // Set the M-keys back into hardware mode, restore hardware RGB profile. It has to be sent twice for some reason.
        msg[0][2] = 1;
        if(!usbsend(kb, msg[0], 1))
            return -1;
        DELAY_MEDIUM(kb);
        if(!usbsend(kb, msg[0], 1))
            return -1;
        DELAY_MEDIUM(kb);
#ifdef OS_LINUX
        // On OSX the default key mappings are fine. On Linux, the G keys will freeze the keyboard. Set the keyboard entirely to HID input.
        for(int key = 0; key < N_KEYS_HW; ){
            int pair;
            for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
                uchar action = IN_HID;
                // Enable hardware actions
                if(keymap[key].name){
                    if(!strcmp(keymap[key].name, "mr"))
                        action = ACT_MR_RING;
                    else if(!strcmp(keymap[key].name, "m1"))
                        action = ACT_M1;
                    else if(!strcmp(keymap[key].name, "m2"))
                        action = ACT_M2;
                    else if(!strcmp(keymap[key].name, "m3"))
                        action = ACT_M3;
                    else if(!strcmp(keymap[key].name, "light"))
                        action = ACT_LIGHT;
                    else if(!strcmp(keymap[key].name, "lock"))
                        action = ACT_LOCK;
                }
                msg[1][4 + pair * 2] = key;
                msg[1][5 + pair * 2] = action;
            }
            // Byte 2 = pair count (usually 30, less on final message)
            msg[1][2] = pair;
             if(!usbsend(kb, msg[1], 1))
                 return -1;
        }
        // Commit new input settings
        if(!usbsend(kb, msg[2], 1))
            return -1;
        DELAY_MEDIUM(kb);
#endif
    }
    // Update indicator LEDs if the profile contains settings for them
    kb->vtable->updateindicators(kb, 0);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.9.1.4 void setmodeindex_nrgb (usbdevice * *kb*, int *index*)

Definition at line 132 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
132                                                 {
133     switch(index % 3){
134     case 0:
135         nk95cmd(kb, NK95_M1);
136         break;
137     case 1:
138         nk95cmd(kb, NK95_M2);
139         break;
140     case 2:
141         nk95cmd(kb, NK95_M3);
142         break;
143     }
144 }
```

13.9.1.5 int start_kb_nrgb (usbdevice * *kb*, int *makeactive*)

Definition at line 9 of file device_keyboard.c.

References usbdevice::active, NK95_HWOFF, nk95cmd, and usbdevice::pollrate.

```
9                                                   {
10      (void)makeactive;
11
```

```
    // Put the non-RGB K95 into software mode. Nothing else needs to be done hardware wise
    nk95cmd(kb, NK95_HWOFF);
    // Fill out RGB features for consistency, even though the keyboard doesn't have them
    kb->active = 1;
    kb->pollrate = -1;
    return 0;
}
```

13.10 src/ckb-daemon/device_mouse.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device_mouse.c:

Functions

- int setactive_mouse (usbdevice *kb, int active)
- int cmd_active_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_pollrate (usbdevice *kb, usbmode *dummy1, int dummy2, int rate, const char *dummy3)

13.10.1 Function Documentation

13.10.1.1 int cmd_active_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 44 of file device_mouse.c.

References setactive_mouse().

```
44                                                                                                  {
45     (void)dummy1;
46     (void)dummy2;
47     (void)dummy3;
48     (void)dummy4;
49
50     return setactive_mouse(kb, 1);
51 }
```

Here is the call graph for this function:

13.10.1.2 int cmd_idle_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 53 of file device_mouse.c.

References setactive_mouse().

```
53                                                                                                                  {
54     (void)dummy1;
55     (void)dummy2;
56     (void)dummy3;
57     (void)dummy4;
58
59     return setactive_mouse(kb, 0);
60 }
```

Here is the call graph for this function:

13.10.1.3 int cmd_pollrate (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *rate*, const char * *dummy3*)

Definition at line 62 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
62                                                                                                                  {
63     (void)dummy1;
64     (void)dummy2;
65     (void)dummy3;
66
67     uchar msg[MSG_SIZE] = {
68         0x07, 0x0a, 0, 0, (uchar)rate
69     };
70     if(!usbsend(kb, msg, 1))
71         return -1;
72     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
73     kb->pollrate = rate;
74     return 0;
75 }
```

13.10.1.4 int setactive_mouse (usbdevice * *kb*, int *active*)

Definition at line 9 of file device_mouse.c.

References usbdevice::active, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), usbinput::keys, usbprofile::lastlight, MSG_SIZE, NEEDS_FW_UPDATE, usbdevice::profile, and usbsend.

Referenced by cmd_active_mouse(), and cmd_idle_mouse().

```
9                                                   {
10      if(NEEDS_FW_UPDATE(kb))
11          return 0;
12      const int keycount = 20;
13      uchar msg[2][MSG_SIZE] = {
14          { 0x07, 0x04, 0 },                  // Disables or enables HW control for DPI and Sniper button
15          { 0x07, 0x40, keycount, 0 },        // Select button input (simlilar to the packet sent to
        keyboards, but lacks a commit packet)
16      };
17      if(active)
18          // Put the mouse into SW mode
19          msg[0][2] = 2;
20      else
21          // Restore HW mode
22          msg[0][2] = 1;
23      pthread_mutex_lock(imutex(kb));
24      kb->active = !!active;
25      kb->profile->lastlight.forceupdate = 1;
26      // Clear input
27      memset(&kb->input.keys, 0, sizeof(kb->input.keys));
28      inputupdate(kb);
29      pthread_mutex_unlock(imutex(kb));
30      if(!usbsend(kb, msg[0], 1))
31          return -1;
32      if(active){
33          // Set up key input
34          if(!usbsend(kb, msg[1], 1))
35              return -1;
36          for(int i = 0; i < keycount; i++){
37              msg[1][i * 2 + 4] = i + 1;
38              msg[1][i * 2 + 5] = (i < 6 ? IN_HID : IN_CORSAIR);
39          }
40      }
41      return 0;
42  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.11 src/ckb-daemon/device_vtable.c File Reference

```
#include "command.h"
#include "device.h"
#include "dpi.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for device_vtable.c:

Functions

- static void cmd_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- static int cmd_io_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- static void cmd_macro_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, const char ∗dummy3, const char ∗dummy4)
- static int loadprofile_none (usbdevice ∗kb)
- static void int1_void_none (usbdevice ∗kb, int dummy)
- static int int1_int_none (usbdevice ∗kb, int dummy)

Variables

- const devcmd vtable_keyboard

RGB keyboard vtable holds functions for each device type.

- const devcmd vtable_keyboard_nonrgb
- const devcmd vtable_mouse

13.11.1 Function Documentation

13.11.1.1 static int cmd_io_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*) [static]

Definition at line 18 of file device_vtable.c.

```
18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
19     (void)kb;
20     (void)dummy1;
21     (void)dummy2;
22     (void)dummy3;
23     (void)dummy4;
24
25     return 0;
26 }
```

13.11.1.2 static void cmd_macro_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, const char * *dummy3*, const char * *dummy4*) [static]

Definition at line 27 of file device_vtable.c.

```
27
28     (void)kb;
29     (void)dummy1;
30     (void)dummy2;
31     (void)dummy3;
32     (void)dummy4;
33 }
```

13.11.1.3 static void cmd_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*) [static]

Definition at line 11 of file device_vtable.c.

```
11
12     (void)kb;
13     (void)dummy1;
14     (void)dummy2;
15     (void)dummy3;
16     (void)dummy4;
17 }
```

13.11.1.4 static int int1_int_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 43 of file device_vtable.c.

```
43
44     (void)kb;
45     (void)dummy;
46
47     return 0;
48 }
```

13.11.1.5 static void int1_void_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 39 of file device_vtable.c.

```
39                                                      {
40      (void)kb;
41      (void)dummy;
42  }
```

13.11.1.6 static int loadprofile_none (usbdevice * *kb*) [static]

Definition at line 34 of file device_vtable.c.

```
34                                              {
35      (void)kb;
36
37      return 0;
38  }
```

13.11.2 Variable Documentation

13.11.2.1 const devcmd vtable_keyboard

Definition at line 52 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.2 const devcmd vtable_keyboard_nonrgb

Definition at line 99 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.3 const devcmd vtable_mouse

Definition at line 146 of file device_vtable.c.

Referenced by get_vtable().

13.12 src/ckb-daemon/devnode.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for devnode.c:

Data Structures

- struct _readlines_ctx

Macros

- #define S_GID_READ (gid >= 0 ? S_CUSTOM_R : S_READ)
- #define MAX_BUFFER (1024 ∗ 1024 - 1)

Functions

- int rm_recursive (const char ∗path)
- void _updateconnected ()

  _updateconnected Update the list of connected devices.
- void updateconnected ()

  Update the list of connected devices.
- int _mknotifynode (usbdevice ∗kb, int notify)
- int mknotifynode (usbdevice ∗kb, int notify)

  Creates a notification node for the specified keyboard.
- int _rmnotifynode (usbdevice ∗kb, int notify)
- int rmnotifynode (usbdevice ∗kb, int notify)

  Removes a notification node for the specified keyboard.
- static int _mkdevpath (usbdevice ∗kb)
- int mkdevpath (usbdevice ∗kb)

  Create a dev path for the keyboard at index. Returns 0 on success.
- int rmdevpath (usbdevice ∗kb)

  Remove the dev path for the keyboard at index. Returns 0 on success.
- int mkfwnode (usbdevice ∗kb)

  Writes a keyboard's firmware version and poll rate to its device node.
- void readlines_ctx_init (readlines_ctx ∗ctx)
- void readlines_ctx_free (readlines_ctx ctx)
- unsigned readlines (int fd, readlines_ctx ctx, const char ∗∗input)

Variables

- const char ∗const devpath = "/dev/input/ckb"
- long gid = -1

  Group ID for the control nodes. -1 to give read/write access to everybody.

13.12.1 Data Structure Documentation

13.12.1.1 struct _readlines_ctx

Definition at line 335 of file devnode.c.

Collaboration diagram for _readlines_ctx:

Data Fields

char *	buffer	
int	buffersize	
int	leftover	
int	leftoverlen	

13.12.2 Macro Definition Documentation

13.12.2.1 #define MAX_BUFFER (1024 * 1024 - 1)

Definition at line 334 of file devnode.c.

Referenced by readlines().

13.12.2.2 #define S_GID_READ (gid >= 0 ? S_CUSTOM_R : S_READ)

Definition at line 17 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), and mkfwnode().

13.12.3 Function Documentation

13.12.3.1 static int _mkdevpath (usbdevice * kb) [static]

Definition at line 136 of file devnode.c.

References _mknotifynode(), _updateconnected(), ckb_err, ckb_warn, devpath, FEAT_ADJRATE, FEAT_BIND, FEAT_FWUPDATE, FEAT_FWVERSION, FEAT_MONOCHROME, FEAT_NOTIFY, FEAT_POLLRATE, FEAT_RGB, gid, HAS_FEATURES, INDEX_OF, usbdevice::infifo, keyboard, mkfwnode(), usbdevice::name, usbdevice::product, product_str(), rm_recursive(), S_CUSTOM, S_GID_READ, S_READ, S_READDIR, S_READWRITE, usbdevice::serial, usbdevice::vendor, and vendor_str().

Referenced by mkdevpath().

```
136                                     {
137     int index = INDEX_OF(kb, keyboard);
138     // Create the control path
139     char path[strlen(devpath) + 2];
140     snprintf(path, sizeof(path), "%s%d", devpath, index);
141     if(rm_recursive(path) != 0 && errno != ENOENT){
142         ckb_err("Unable to delete %s: %s\n", path, strerror(errno));
143         return -1;
144     }
145     if(mkdir(path, S_READDIR) != 0){
146         ckb_err("Unable to create %s: %s\n", path, strerror(errno));
147         rm_recursive(path);
148         return -1;
149     }
150     if(gid >= 0)
151         chown(path, 0, gid);
152
153     if(kb == keyboard + 0){
154         // Root keyboard: write a list of devices
155         _updateconnected();
156         // Write version number
157         char vpath[sizeof(path) + 8];
158         snprintf(vpath, sizeof(vpath), "%s/version", path);
159         FILE* vfile = fopen(vpath, "w");
160         if(vfile){
161             fprintf(vfile, "%s\n", CKB_VERSION_STR);
162             fclose(vfile);
163             chmod(vpath, S_GID_READ);
164             if(gid >= 0)
165                 chown(vpath, 0, gid);
166         } else {
167             ckb_warn("Unable to create %s: %s\n", vpath, strerror(errno));
168             remove(vpath);
169         }
170         // Write PID
171         char ppath[sizeof(path) + 4];
172         snprintf(ppath, sizeof(ppath), "%s/pid", path);
173         FILE* pfile = fopen(ppath, "w");
174         if(pfile){
175             fprintf(pfile, "%u\n", getpid());
176             fclose(pfile);
177             chmod(ppath, S_READ);
178             if(gid >= 0)
179                 chown(vpath, 0, gid);
180         } else {
181             ckb_warn("Unable to create %s: %s\n", ppath, strerror(errno));
182             remove(ppath);
183         }
184     } else {
185         // Create command FIFO
186         char inpath[sizeof(path) + 4];
187         snprintf(inpath, sizeof(inpath), "%s/cmd", path);
188         if(mkfifo(inpath, gid >= 0 ? S_CUSTOM : S_READWRITE) != 0
189                 // Open the node in RDWR mode because RDONLY will lock the thread
190                 || (kb->infifo = open(inpath, O_RDWR) + 1) == 0){
191             // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
192             ckb_err("Unable to create %s: %s\n", inpath, strerror(errno));
193             rm_recursive(path);
194             kb->infifo = 0;
195             return -1;
196         }
197         if(gid >= 0)
198             fchown(kb->infifo - 1, 0, gid);
199
200         // Create notification FIFO
201         _mknotifynode(kb, 0);
202
203         // Write the model and serial to files
204         char mpath[sizeof(path) + 6], spath[sizeof(path) + 7];
205         snprintf(mpath, sizeof(mpath), "%s/model", path);
206         snprintf(spath, sizeof(spath), "%s/serial", path);
```

```
        FILE* mfile = fopen(mpath, "w");
        if(mfile){
            fputs(kb->name, mfile);
            fputc('\n', mfile);
            fclose(mfile);
            chmod(mpath, S_GID_READ);
            if(gid >= 0)
                chown(mpath, 0, gid);
        } else {
            ckb_warn("Unable to create %s: %s\n", mpath, strerror(errno));
            remove(mpath);
        }
        FILE* sfile = fopen(spath, "w");
        if(sfile){
            fputs(kb->serial, sfile);
            fputc('\n', sfile);
            fclose(sfile);
            chmod(spath, S_GID_READ);
            if(gid >= 0)
                chown(spath, 0, gid);
        } else {
            ckb_warn("Unable to create %s: %s\n", spath, strerror(errno));
            remove(spath);
        }
        // Write the keyboard's features
        char fpath[sizeof(path) + 9];
        snprintf(fpath, sizeof(fpath), "%s/features", path);
        FILE* ffile = fopen(fpath, "w");
        if(ffile){
            fprintf(ffile, "%s %s", vendor_str(kb->vendor),
    product_str(kb->product));
            if(HAS_FEATURES(kb, FEAT_MONOCHROME))
                fputs(" monochrome", ffile);
            if(HAS_FEATURES(kb, FEAT_RGB))
                fputs(" rgb", ffile);
            if(HAS_FEATURES(kb, FEAT_POLLRATE))
                fputs(" pollrate", ffile);
            if(HAS_FEATURES(kb, FEAT_ADJRATE))
                fputs(" adjrate", ffile);
            if(HAS_FEATURES(kb, FEAT_BIND))
                fputs(" bind", ffile);
            if(HAS_FEATURES(kb, FEAT_NOTIFY))
                fputs(" notify", ffile);
            if(HAS_FEATURES(kb, FEAT_FWVERSION))
                fputs(" fwversion", ffile);
            if(HAS_FEATURES(kb, FEAT_FWUPDATE))
                fputs(" fwupdate", ffile);
            fputc('\n', ffile);
            fclose(ffile);
            chmod(fpath, S_GID_READ);
            if(gid >= 0)
                chown(fpath, 0, gid);
        } else {
            ckb_warn("Unable to create %s: %s\n", fpath, strerror(errno));
            remove(fpath);
        }
        // Write firmware version and poll rate
        mkfwnode(kb);
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.3.2 int _mknotifynode (usbdevice * *kb*, int *notify*)

Definition at line 87 of file devnode.c.

References ckb_warn, devpath, gid, INDEX_OF, keyboard, usbdevice::outfifo, OUTFIFO_MAX, and S_GID_READ.

Referenced by _mkdevpath(), and mknotifynode().

```
87                                          {
88     if(notify < 0 || notify >= OUTFIFO_MAX)
89         return -1;
90     if(kb->outfifo[notify] != 0)
91         return 0;
92     // Create the notification node
93     int index = INDEX_OF(kb, keyboard);
94     char outpath[strlen(devpath) + 10];
95     snprintf(outpath, sizeof(outpath), "%s%d/notify%d", devpath, index, notify);
96     if(mkfifo(outpath, S_GID_READ) != 0 || (kb->outfifo[notify] = open(outpath, O_RDWR |
      O_NONBLOCK) + 1) == 0){
97         // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
98         ckb_warn("Unable to create %s: %s\n", outpath, strerror(errno));
99         kb->outfifo[notify] = 0;
100         remove(outpath);
101         return -1;
102     }
103     if(gid >= 0)
104         fchown(kb->outfifo[notify] - 1, 0, gid);
105     return 0;
106 }
```

Here is the caller graph for this function:

13.12.3.3 int _rmnotifynode (usbdevice * *kb*, int *notify*)

Definition at line 115 of file devnode.c.

References devpath, INDEX_OF, keyboard, usbdevice::outfifo, and OUTFIFO_MAX.

Referenced by rmdevpath(), and rmnotifynode().

```
115                                         {
116     if(notify < 0 || notify >= OUTFIFO_MAX || !kb->outfifo[notify])
117         return -1;
118     int index = INDEX_OF(kb, keyboard);
119     char outpath[strlen(devpath) + 10];
120     snprintf(outpath, sizeof(outpath), "%s%d/notify%d", devpath, index, notify);
121     // Close FIFO
122     close(kb->outfifo[notify] - 1);
123     kb->outfifo[notify] = 0;
124     // Delete node
125     int res = remove(outpath);
126     return res;
127 }
```

Here is the caller graph for this function:

13.12.3.4 void _updateconnected ( )

<devicepath> normally is /dev/input/ckb or /input/ckb.

Open the normal file under <devicepath>0/connected for writing. For each device connected, print its devicepath+number, the serial number of the usb device and the usb name of the device connected to that usb interface.

eg:

/dev/input/ckb1 0F022014ABABABABABABABABABABA999 Corsair K95 RGB Gaming Keyboard

/dev/input/ckb2 0D02303DBACBACBACBACBACBACBAC998 Corsair M65 RGB Gaming Mouse

Set the file ownership to root. If the glob var gid is explicitly set to something different from -1 (the initial value), set file permission to 640, else to 644. This is used if you start the daemon with –gid=<GID> Parameter.

Because several independent threads may call updateconnected(), protect that procedure with locking/unlocking of **devmutex**.

Definition at line 55 of file devnode.c.

References ckb_warn, DEV_MAX, devmutex, devpath, gid, IS_CONNECTED, keyboard, and S_GID_READ.

Referenced by _mkdevpath(), and updateconnected().

```
                        {
    pthread_mutex_lock(devmutex);
    char cpath[strlen(devpath) + 12];
    snprintf(cpath, sizeof(cpath), "%s0/connected", devpath);
    FILE* cfile = fopen(cpath, "w");
    if(!cfile){
        ckb_warn("Unable to update %s: %s\n", cpath, strerror(errno));
        pthread_mutex_unlock(devmutex);
        return;
    }
    int written = 0;
    for(int i = 1; i < DEV_MAX; i++){
        if(IS_CONNECTED(keyboard + i)){
            written = 1;
            fprintf(cfile, "%s%d %s %s\n", devpath, i, keyboard[i].serial,
    keyboard[i].name);
        }
    }
    if(!written)
        fputc('\n', cfile);
    fclose(cfile);
    chmod(cpath, S_GID_READ);
    if(gid >= 0)
        chown(cpath, 0, gid);
    pthread_mutex_unlock(devmutex);
}
```

Here is the caller graph for this function:

13.12.3.5 int mkdevpath (usbdevice * *kb*)

Definition at line 268 of file devnode.c.

References _mkdevpath(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and main().

```
                        {
    euid_guard_start;
    int res = _mkdevpath(kb);
    euid_guard_stop;
    return res;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.3.6 int mkfwnode (usbdevice * *kb*)

Definition at line 299 of file devnode.c.

References ckb_warn, devpath, usbdevice::fwversion, gid, INDEX_OF, keyboard, usbdevice::pollrate, and S_GID_READ.

Referenced by _mkdevpath(), and fwupdate().

```
299                             {
300     int index = INDEX_OF(kb, keyboard);
301     char fwpath[strlen(devpath) + 12];
302     snprintf(fwpath, sizeof(fwpath), "%s%d/fwversion", devpath, index);
303     FILE* fwfile = fopen(fwpath, "w");
304     if(fwfile){
305         fprintf(fwfile, "%04x", kb->fwversion);
306         fputc('\n', fwfile);
307         fclose(fwfile);
308         chmod(fwpath, S_GID_READ);
309         if(gid >= 0)
310             chown(fwpath, 0, gid);
311     } else {
312         ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
313         remove(fwpath);
314         return -1;
315     }
316     char ppath[strlen(devpath) + 11];
317     snprintf(ppath, sizeof(ppath), "%s%d/pollrate", devpath, index);
318     FILE* pfile = fopen(ppath, "w");
```

```
    if(pfile){
        fprintf(pfile, "%d ms", kb->pollrate);
        fputc('\n', pfile);
        fclose(pfile);
        chmod(ppath, S_GID_READ);
        if(gid >= 0)
            chown(ppath, 0, gid);
    } else {
        ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
        remove(ppath);
        return -2;
    }
    return 0;
}
```

Here is the caller graph for this function:

13.12.3.7 int mknotifynode (usbdevice * *kb*, int *notify*)

Definition at line 108 of file devnode.c.

References _mknotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
108                                         {
109     euid_guard_start;
110     int res = _mknotifynode(kb, notify);
111     euid_guard_stop;
112     return res;
113 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.3.8 unsigned readlines (int *fd*, readlines_ctx *ctx*, const char ** *input*)

Definition at line 353 of file devnode.c.

References _readlines_ctx::buffer, _readlines_ctx::buffersize, ckb_warn, _readlines_ctx::leftover, _readlines_ctx::leftoverlen, and MAX_BUFFER.

Referenced by devmain().

```
353                                                                 {
354     // Move any data left over from a previous read to the start of the buffer
355     char* buffer = ctx->buffer;
356     int buffersize = ctx->buffersize;
357     int leftover = ctx->leftover, leftoverlen = ctx->leftoverlen;
358     memcpy(buffer, buffer + leftover, leftoverlen);
359     // Read data from the file
360     ssize_t length = read(fd, buffer + leftoverlen, buffersize - leftoverlen);
361     length = (length < 0 ? 0 : length) + leftoverlen;
362     leftover = ctx->leftover = leftoverlen = ctx->leftoverlen = 0;
363     if(length <= 0){
364         *input = 0;
365         return 0;
366     }
367     // Continue buffering until all available input is read or there's no room left
368     while(length == buffersize){
369         if(buffersize == MAX_BUFFER)
370             break;
371         int oldsize = buffersize;
372         buffersize += 4096;
373         ctx->buffersize = buffersize;
374         buffer = ctx->buffer = realloc(buffer, buffersize + 1);
375         ssize_t length2 = read(fd, buffer + oldsize, buffersize - oldsize);
376         if(length2 <= 0)
377             break;
378         length += length2;
379     }
380     buffer[length] = 0;
381     // Input should be issued one line at a time and should end with a newline.
382     char* lastline = memrchr(buffer, '\n', length);
383     if(lastline == buffer + length - 1){
384         // If the buffer ends in a newline, process the whole string
385         *input = buffer;
386         return length;
387     } else if(lastline){
388         // Otherwise, chop off the last line but process everything else
389         *lastline = 0;
390         leftover = ctx->leftover = lastline + 1 - buffer;
391         leftoverlen = ctx->leftoverlen = length - leftover;
392         *input = buffer;
393         return leftover - 1;
394     } else {
395         // If a newline wasn't found at all, process the whole buffer next time
396         *input = 0;
397         if(length == MAX_BUFFER){
398             // Unless the buffer is completely full, in which case discard it
399             ckb_warn("Too much input (1MB). Dropping.\n");
400             return 0;
401         }
402         leftoverlen = ctx->leftoverlen = length;
403         return 0;
404     }
405 }
```

Here is the caller graph for this function:

13.12.3.9 void readlines_ctx_free (readlines_ctx *ctx*)

Definition at line 348 of file devnode.c.

References _readlines_ctx::buffer.

Referenced by devmain().

```
348                                                 {
```

```
    free(ctx->buffer);
    free(ctx);
}
```

Here is the caller graph for this function:

13.12.3.10 void readlines_ctx_init (readlines_ctx * *ctx*)

Definition at line 341 of file devnode.c.

Referenced by devmain().

```
                                        {
    // Allocate buffers to store data
    *ctx = calloc(1, sizeof(struct _readlines_ctx));
    int buffersize = (*ctx)->buffersize = 4095;
    (*ctx)->buffer = malloc(buffersize + 1);
}
```

Here is the caller graph for this function:

13.12.3.11 int rm_recursive (const char * *path*)

Definition at line 19 of file devnode.c.

Referenced by _mkdevpath(), and rmdevpath().

```
                                    {
    DIR* dir = opendir(path);
    if(!dir)
        return remove(path);
    struct dirent* file;
    while((file = readdir(dir)))
    {
        if(!strcmp(file->d_name, ".") || !strcmp(file->d_name, ".."))
            continue;
        char path2[FILENAME_MAX];
        snprintf(path2, FILENAME_MAX, "%s/%s", path, file->d_name);
        int stat = rm_recursive(path2);
        if(stat != 0)
            return stat;
    }
    closedir(dir);
    return remove(path);
}
```

Here is the caller graph for this function:

13.12.3.12 int rmdevpath (usbdevice * *kb*)

Definition at line 275 of file devnode.c.

References _rmnotifynode(), ckb_info, ckb_warn, devpath, euid_guard_start, euid_guard_stop, INDEX_OF, usbdevice::infifo, keyboard, OUTFIFO_MAX, and rm_recursive().

Referenced by closeusb(), and quitWithLock().

```
275                                 {
276     euid_guard_start;
277     int index = INDEX_OF(kb, keyboard);
278     if(kb->infifo != 0){
279 #ifdef OS_LINUX
280         write(kb->infifo - 1, "\n", 1); // hack to prevent the FIFO thread from perma-blocking
281 #endif
282         close(kb->infifo - 1);
283         kb->infifo = 0;
284     }
285     for(int i = 0; i < OUTFIFO_MAX; i++)
286         _rmnotifynode(kb, i);
287     char path[strlen(devpath) + 2];
288     snprintf(path, sizeof(path), "%s%d", devpath, index);
289     if(rm_recursive(path) != 0 && errno != ENOENT){
290         ckb_warn("Unable to delete %s: %s\n", path, strerror(errno));
291         euid_guard_stop;
292         return -1;
293     }
294     ckb_info("Removed device path %s\n", path);
295     euid_guard_stop;
296     return 0;
297 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.3.13 int rmnotifynode (usbdevice * *kb*, int *notify*)

Definition at line 129 of file devnode.c.

References _rmnotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
129                                                 {
130     euid_guard_start;
131     int res = _rmnotifynode(kb, notify);
132     euid_guard_stop;
133     return res;
134 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.3.14 void updateconnected ( )

Definition at line 81 of file devnode.c.

References _updateconnected(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and closeusb().

```
81                                  {
82     euid_guard_start;
83     _updateconnected();
84     euid_guard_stop;
85 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.12.4 Variable Documentation

13.12.4.1 const char∗ const devpath = "/dev/input/ckb"

Definition at line 11 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _updateconnected(), mkfwnode(), and rmdevpath().

13.12.4.2 long gid = -1

Definition at line 16 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), main(), and mkfwnode().

13.13 src/ckb-daemon/devnode.h File Reference

```
#include "includes.h"
#include "usb.h"
```

Include dependency graph for devnode.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define S_READDIR (S_IRWXU | S_IRGRP | S_IROTH | S_IXGRP | S_IXOTH)
- #define S_READ (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR)
- #define S_READWRITE (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR | S_IWGRP | S_IWOTH)
- #define S_CUSTOM (S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP)
- #define S_CUSTOM_R (S_IRUSR | S_IWUSR | S_IRGRP)

Typedefs

- typedef struct _readlines_ctx * readlines_ctx

  Custom readline is needed for FIFOs. fopen()/getline() will die if the data is sent in too fast.

Functions

- void updateconnected ()

  Update the list of connected devices.
- int mkdevpath (usbdevice *kb)

  Create a dev path for the keyboard at index. Returns 0 on success.
- int rmdevpath (usbdevice *kb)

  Remove the dev path for the keyboard at index. Returns 0 on success.
- int mknotifynode (usbdevice *kb, int notify)

  Creates a notification node for the specified keyboard.
- int rmnotifynode (usbdevice *kb, int notify)

  Removes a notification node for the specified keyboard.
- int mkfwnode (usbdevice *kb)

  Writes a keyboard's firmware version and poll rate to its device node.
- void readlines_ctx_init (readlines_ctx *ctx)
- void readlines_ctx_free (readlines_ctx ctx)
- unsigned readlines (int fd, readlines_ctx ctx, const char **input)

Variables

- const char *const devpath

  Device path base ("/dev/input/ckb" or "/var/run/ckb")
- long gid

  Group ID for the control nodes. -1 to give read/write access to everybody.

13.13.1 Macro Definition Documentation

13.13.1.1 #define S_CUSTOM (S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP)

Definition at line 17 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.2 #define S_CUSTOM_R (S_IRUSR | S_IWUSR | S_IRGRP)

Definition at line 18 of file devnode.h.

13.13.1.3 #define S_READ (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR)

Definition at line 15 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.4 #define S_READDIR (S_IRWXU | S_IRGRP | S_IROTH | S_IXGRP | S_IXOTH)

Definition at line 14 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.5 #define S_READWRITE (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR | S_IWGRP | S_IWOTH)

Definition at line 16 of file devnode.h.

Referenced by _mkdevpath().

13.13.2 Typedef Documentation

13.13.2.1 typedef struct _readlines_ctx* readlines_ctx

Definition at line 39 of file devnode.h.

13.13.3 Function Documentation

13.13.3.1 int mkdevpath (usbdevice * *kb*)

Definition at line 268 of file devnode.c.

References _mkdevpath(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and main().

```
                                {
    euid_guard_start;
    int res = _mkdevpath(kb);
    euid_guard_stop;
    return res;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.13.3.2 int mkfwnode (usbdevice * *kb*)

Definition at line 299 of file devnode.c.

References ckb_warn, devpath, usbdevice::fwversion, gid, INDEX_OF, keyboard, usbdevice::pollrate, and S_GID_-READ.

Referenced by _mkdevpath(), and fwupdate().

```
                                {
    int index = INDEX_OF(kb, keyboard);
    char fwpath[strlen(devpath) + 12];
    snprintf(fwpath, sizeof(fwpath), "%s%d/fwversion", devpath, index);
    FILE* fwfile = fopen(fwpath, "w");
    if(fwfile){
        fprintf(fwfile, "%04x", kb->fwversion);
        fputc('\n', fwfile);
        fclose(fwfile);
        chmod(fwpath, S_GID_READ);
        if(gid >= 0)
```

```
            chown(fwpath, 0, gid);
    } else {
        ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
        remove(fwpath);
        return -1;
    }
    char ppath[strlen(devpath) + 11];
    snprintf(ppath, sizeof(ppath), "%s%d/pollrate", devpath, index);
    FILE* pfile = fopen(ppath, "w");
    if(pfile){
        fprintf(pfile, "%d ms", kb->pollrate);
        fputc('\n', pfile);
        fclose(pfile);
        chmod(ppath, S_GID_READ);
        if(gid >= 0)
            chown(ppath, 0, gid);
    } else {
        ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
        remove(ppath);
        return -2;
    }
    return 0;
}
```

Here is the caller graph for this function:

13.13.3.3 int mknotifynode (usbdevice * *kb*, int *notify*)

Definition at line 108 of file devnode.c.

References _mknotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
                                        {
    euid_guard_start;
    int res = _mknotifynode(kb, notify);
    euid_guard_stop;
    return res;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.13.3.4 unsigned readlines (int *fd*, readlines_ctx *ctx*, const char ** *input*)

Definition at line 353 of file devnode.c.

References _readlines_ctx::buffer, _readlines_ctx::buffersize, ckb_warn, _readlines_ctx::leftover, _readlines_ctx::leftoverlen, and MAX_BUFFER.

Referenced by devmain().

```
353                                                                 {
354     // Move any data left over from a previous read to the start of the buffer
355     char* buffer = ctx->buffer;
356     int buffersize = ctx->buffersize;
357     int leftover = ctx->leftover, leftoverlen = ctx->leftoverlen;
358     memcpy(buffer, buffer + leftover, leftoverlen);
359     // Read data from the file
360     ssize_t length = read(fd, buffer + leftoverlen, buffersize - leftoverlen);
361     length = (length < 0 ? 0 : length) + leftoverlen;
362     leftover = ctx->leftover = leftoverlen = ctx->leftoverlen = 0;
363     if(length <= 0){
364         *input = 0;
365         return 0;
366     }
367     // Continue buffering until all available input is read or there's no room left
368     while(length == buffersize){
369         if(buffersize == MAX_BUFFER)
370             break;
371         int oldsize = buffersize;
372         buffersize += 4096;
373         ctx->buffersize = buffersize;
374         buffer = ctx->buffer = realloc(buffer, buffersize + 1);
375         ssize_t length2 = read(fd, buffer + oldsize, buffersize - oldsize);
376         if(length2 <= 0)
377             break;
378         length += length2;
379     }
380     buffer[length] = 0;
381     // Input should be issued one line at a time and should end with a newline.
382     char* lastline = memrchr(buffer, '\n', length);
383     if(lastline == buffer + length - 1){
384         // If the buffer ends in a newline, process the whole string
385         *input = buffer;
386         return length;
387     } else if(lastline){
388         // Otherwise, chop off the last line but process everything else
389         *lastline = 0;
390         leftover = ctx->leftover = lastline + 1 - buffer;
391         leftoverlen = ctx->leftoverlen = length - leftover;
392         *input = buffer;
393         return leftover - 1;
394     } else {
395         // If a newline wasn't found at all, process the whole buffer next time
396         *input = 0;
397         if(length == MAX_BUFFER){
398             // Unless the buffer is completely full, in which case discard it
399             ckb_warn("Too much input (1MB). Dropping.\n");
400             return 0;
401         }
402         leftoverlen = ctx->leftoverlen = length;
403         return 0;
404     }
405 }
```

Here is the caller graph for this function:

13.13.3.5 void readlines_ctx_free (readlines_ctx *ctx*)

Definition at line 348 of file devnode.c.

References _readlines_ctx::buffer.

Referenced by devmain().

```
348                                         {
349     free(ctx->buffer);
350     free(ctx);
351 }
```

Here is the caller graph for this function:

13.13.3.6 void readlines_ctx_init (readlines_ctx * *ctx*)

Definition at line 341 of file devnode.c.

Referenced by devmain().

```
341                                         {
342     // Allocate buffers to store data
343     *ctx = calloc(1, sizeof(struct _readlines_ctx));
344     int buffersize = (*ctx)->buffersize = 4095;
345     (*ctx)->buffer = malloc(buffersize + 1);
346 }
```

Here is the caller graph for this function:

13.13.3.7 int rmdevpath (usbdevice * *kb*)

Definition at line 275 of file devnode.c.

References _rmnotifynode(), ckb_info, ckb_warn, devpath, euid_guard_start, euid_guard_stop, INDEX_OF, usbdevice::infifo, keyboard, OUTFIFO_MAX, and rm_recursive().

Referenced by closeusb(), and quitWithLock().

```
275                                 {
276     euid_guard_start;
277     int index = INDEX_OF(kb, keyboard);
278     if(kb->infifo != 0){
279 #ifdef OS_LINUX
280         write(kb->infifo - 1, "\n", 1); // hack to prevent the FIFO thread from perma-blocking
281 #endif
282         close(kb->infifo - 1);
283         kb->infifo = 0;
284     }
285     for(int i = 0; i < OUTFIFO_MAX; i++)
286         _rmnotifynode(kb, i);
287     char path[strlen(devpath) + 2];
288     snprintf(path, sizeof(path), "%s%d", devpath, index);
289     if(rm_recursive(path) != 0 && errno != ENOENT){
290         ckb_warn("Unable to delete %s: %s\n", path, strerror(errno));
291         euid_guard_stop;
292         return -1;
293     }
294     ckb_info("Removed device path %s\n", path);
295     euid_guard_stop;
296     return 0;
297 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.13.3.8 int rmnotifynode (usbdevice * *kb*, int *notify*)

Definition at line 129 of file devnode.c.

References _rmnotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
129                                                 {
130     euid_guard_start;
131     int res = _rmnotifynode(kb, notify);
132     euid_guard_stop;
133     return res;
134 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.13.3.9 void updateconnected ( )

Definition at line 81 of file devnode.c.

References _updateconnected(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and closeusb().

```
81                          {
82      euid_guard_start;
83      _updateconnected();
84      euid_guard_stop;
85  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.13.4 Variable Documentation

13.13.4.1 const char* const devpath

Definition at line 8 of file devnode.h.

13.13.4.2 long gid

Definition at line 16 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), main(), and mkfwnode().

13.14 src/ckb-daemon/dpi.c File Reference

```
#include "dpi.h"
#include "usb.h"
```

Include dependency graph for dpi.c:

Functions

- void cmd_dpi (usbdevice ∗kb, usbmode ∗mode, int dummy, const char ∗stages, const char ∗values)
- void cmd_dpisel (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗stage)
- void cmd_lift (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗height)
- void cmd_snap (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗enable)
- char ∗ printdpi (const dpiset ∗dpi, const usbdevice ∗kb)
- int updatedpi (usbdevice ∗kb, int force)
- int savedpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)
- int loaddpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)

13.14.1 Function Documentation

13.14.1.1 void cmd_dpi (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *dummy*, const char ∗ *stages*, const char ∗ *values*)

Definition at line 4 of file dpi.c.

References usbmode::dpi, DPI_COUNT, dpiset::enabled, left, dpiset::x, x, dpiset::y, and y.

```
4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
5     (void)kb;
6     (void)dummy;
7
8     int disable = 0;
9     ushort x, y;
10     // Try to scan X,Y values
11     if(sscanf(values, "%hu,%hu", &x, &y) != 2){
12         // If that doesn't work, scan single number
13         if(sscanf(values, "%hu", &x) == 1)
14             y = x;
15         else if(!strncmp(values, "off", 3))
16             // If the right side says "off", disable the level(s)
17             disable = 1;
18         else
19             // Otherwise, quit
20             return;
21     }
22     if((x == 0 || y == 0) && !disable)
23         return;
24     // Scan the left side for stage numbers (comma-separated)
25     int left = strlen(stages);
26     int position = 0, field = 0;
27     char stagename[3];
28     while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
29         uchar stagenum;
30         if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
31             // Set DPI for this stage
32             if(disable){
33                 mode->dpi.enabled &= ~(1 << stagenum);
34                 mode->dpi.x[stagenum] = 0;
35                 mode->dpi.y[stagenum] = 0;
```

```
            } else {
                mode->dpi.enabled |= 1 << stagenum;
                mode->dpi.x[stagenum] = x;
                mode->dpi.y[stagenum] = y;
            }
        }
        if(stages[position += field] == ',')
            position++;
    }
}
```

13.14.1.2 void cmd_dpisel (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *stage*)

Definition at line 47 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
47                                                                                                  {
48     (void)kb;
49     (void)dummy1;
50     (void)dummy2;
51
52     uchar stagenum;
53     if(sscanf(stage, "%hhu", &stagenum) != 1)
54         return;
55     if(stagenum > DPI_COUNT)
56         return;
57     mode->dpi.current = stagenum;
58 }
```

13.14.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 60 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
60                                                                                                  {
61     (void)kb;
62     (void)dummy1;
63     (void)dummy2;
64
65     uchar heightnum;
66     if(sscanf(height, "%hhu", &heightnum) != 1)
67         return;
68     if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
69         return;
70     mode->dpi.lift = heightnum;
71 }
```

13.14.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 73 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
73                                                                                                  {
74     (void)kb;
75     (void)dummy1;
76     (void)dummy2;
77
78     if(!strcmp(enable, "on"))
79         mode->dpi.snap = 1;
80     if(!strcmp(enable, "off"))
81         mode->dpi.snap = 0;
82 }
```

13.14.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 222 of file dpi.c.

References lighting::b, ckb_err, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, LIFT_MAX, LIFT_MIN, MSG_SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbrecv, dpiset::x, and dpiset::y.

Referenced by cmd_hwload_mouse().

```
222                                                         {
223     // Ask for settings
224     uchar data_pkt[4][MSG_SIZE] = {
225         { 0x0e, 0x13, 0x05, 1, },
226         { 0x0e, 0x13, 0x02, 1, },
227         { 0x0e, 0x13, 0x03, 1, },
228         { 0x0e, 0x13, 0x04, 1, }
229     };
230     uchar in_pkt[4][MSG_SIZE];
231     for(int i = 0; i < 4; i++){
232         if(!usbrecv(kb, data_pkt[i], in_pkt[i]))
233             return -2;
234         if(memcmp(in_pkt[i], data_pkt[i], 4)){
235             ckb_err("Bad input header\n");
236             return -3;
237         }
238     }
239     // Copy data from device
240     dpi->enabled = in_pkt[0][4];
241     dpi->enabled &= (1 << DPI_COUNT) - 1;
242     dpi->current = in_pkt[1][4];
243     if(dpi->current >= DPI_COUNT)
244         dpi->current = 0;
245     dpi->lift = in_pkt[2][4];
246     if(dpi->lift < LIFT_MIN || dpi->lift > LIFT_MAX)
247         dpi->lift = LIFT_MIN;
248     dpi->snap = !!in_pkt[3][4];
249
250     // Get X/Y DPIs
251     for(int i = 0; i < DPI_COUNT; i++){
252         uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0xd0, 1 };
253         uchar in_pkt[MSG_SIZE];
254         data_pkt[2] |= i;
255         if(!usbrecv(kb, data_pkt, in_pkt))
256             return -2;
257         if(memcmp(in_pkt, data_pkt, 4)){
258             ckb_err("Bad input header\n");
259             return -3;
260         }
261         // Copy to profile
262         dpi->x[i] = *(ushort*)(in_pkt + 5);
263         dpi->y[i] = *(ushort*)(in_pkt + 7);
264         light->r[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[9];
265         light->g[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[10];
266         light->b[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[11];
267     }
268     // Finished. Set SW DPI light to the current hardware level
269     light->r[LED_MOUSE + 2] = light->r[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
270     light->g[LED_MOUSE + 2] = light->g[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
271     light->b[LED_MOUSE + 2] = light->b[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
272     return 0;
273 }
```

Here is the caller graph for this function:

13.14.1.6 char* printdpi (const dpiset * dpi, const usbdevice * kb)

Definition at line 84 of file dpi.c.

References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
84                                                      {
85     (void)kb;
86
87     // Print all DPI settings
88     const int BUFFER_LEN = 100;
89     char* buffer = malloc(BUFFER_LEN);
90     int length = 0;
91     for(int i = 0; i < DPI_COUNT; i++){
92         // Print the stage number
93         int newlen = 0;
94         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%d%n" : " %d%n", i, &newlen);
95         length += newlen;
96         // Print the DPI settings
97         if(!(dpi->enabled & (1 << i)))
98             snprintf(buffer + length, BUFFER_LEN - length, ":off%n", &newlen);
99         else
100            snprintf(buffer + length, BUFFER_LEN - length, ":%u,%u%n", dpi->x[i], dpi->
      y[i], &newlen);
101        length += newlen;
102    }
103    return buffer;
104 }
```

Here is the caller graph for this function:

13.14.1.7 int savedpi (usbdevice * kb, dpiset * dpi, lighting * light)

Definition at line 194 of file dpi.c.

References lighting::b, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, MSG_-SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

Referenced by cmd_hwsave_mouse().

```
194                                                      {
195     // Send X/Y DPIs
196     for(int i = 0; i < DPI_COUNT; i++){
197         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
198         data_pkt[2] |= i;
199         *(ushort*)(data_pkt + 5) = dpi->x[i];
200         *(ushort*)(data_pkt + 7) = dpi->y[i];
201         // Save the RGB value for this setting too
202         data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
203         data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
204         data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
205         if(!usbsend(kb, data_pkt, 1))
206             return -1;
207     }
208
209     // Send settings
210     uchar data_pkt[4][MSG_SIZE] = {
211         { 0x07, 0x13, 0x05, 1, dpi->enabled },
212         { 0x07, 0x13, 0x02, 1, dpi->current },
213         { 0x07, 0x13, 0x03, 1, dpi->lift },
```

```
        { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
    };
    if(!usbsend(kb, data_pkt[0], 4))
        return -2;
    // Finished
    return 0;
}
```

Here is the caller graph for this function:

13.14.1.8 int updatedpi (usbdevice * *kb*, int *force*)

Definition at line 106 of file dpi.c.

References usbdevice::active, dpiset::current, usbprofile::currentmode, usbmode::dpi, DPI_COUNT, dpiset::enabled, dpiset::forceupdate, usbprofile::lastdpi, dpiset::lift, MSG_SIZE, usbdevice::profile, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

```
106                                         {
107     if(!kb->active)
108         return 0;
109     dpiset* lastdpi = &kb->profile->lastdpi;
110     dpiset* newdpi = &kb->profile->currentmode->dpi;
111     // Don't do anything if the settings haven't changed
112     if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
113             && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
114         return 0;
115     lastdpi->forceupdate = newdpi->forceupdate = 0;
116
117     if (newdpi->current != lastdpi->current) {
118         // Before we switch the current DPI stage, make sure the stage we are
119         // switching to is both enabled and configured to the correct DPI.
120
121         // Enable the stage if necessary.
122         if ((lastdpi->enabled & 1 << newdpi->current) == 0) {
123             uchar newenabled;
124             // If the new enabled flags contain both the current and previous
125             // stages, use it.
126             if (newdpi->enabled & 1 << newdpi->current &&
127                 newdpi->enabled & 1 << lastdpi->current) {
128                 newenabled = newdpi->enabled;
129             } else {
130                 // Otherwise just enable the new stage. We'll write the actual
131                 // requested flags after switching stages.
132                 newenabled = lastdpi->enabled | 1 << newdpi->current;
133             }
134             uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x05, 0, newenabled };
135             if(!usbsend(kb, data_pkt, 1))
136                 return -2;
137             // Cache the flags we wrote.
138             lastdpi->enabled = newenabled;
139         }
140         // Set the DPI for the new stage if necessary.
141         if (newdpi->x[newdpi->current] != lastdpi->x[newdpi->current] ||
142             newdpi->y[newdpi->current] != lastdpi->y[newdpi->current]) {
143             uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
144             data_pkt[2] |= newdpi->current;
145             *(ushort*)(data_pkt + 5) = newdpi->x[newdpi->current];
146             *(ushort*)(data_pkt + 7) = newdpi->y[newdpi->current];
147             if(!usbsend(kb, data_pkt, 1))
148                 return -1;
149             // Set these values in the cache so we don't rewrite them.
150             lastdpi->x[newdpi->current] = newdpi->x[newdpi->current];
151             lastdpi->y[newdpi->current] = newdpi->y[newdpi->current];
```

```
        }
        // Set current DPI stage.
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x02, 0, newdpi->current };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }

    // Send X/Y DPIs. We've changed to the new stage already so these can be set
    // safely.
    for(int i = 0; i < DPI_COUNT; i++){
        if (newdpi->x[i] == lastdpi->x[i] && newdpi->y[i] == lastdpi->y[i])
            continue;
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
        data_pkt[2] |= i;
        *(ushort*)(data_pkt + 5) = newdpi->x[i];
        *(ushort*)(data_pkt + 7) = newdpi->y[i];
        if(!usbsend(kb, data_pkt, 1))
            return -1;
    }

    // Send settings
    if (newdpi->enabled != lastdpi->enabled) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x05, 0, newdpi->enabled };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }
    if (newdpi->lift != lastdpi->lift) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x03, 0, newdpi->lift };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }
    if (newdpi->snap != lastdpi->snap) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }

    // Finished
    memcpy(lastdpi, newdpi, sizeof(dpiset));
    return 0;
}
```

13.15 src/ckb-daemon/dpi.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for dpi.h:

This graph shows which files directly or indirectly include this file:

Functions

- int updatedpi (usbdevice *kb, int force)
- int savedpi (usbdevice *kb, dpiset *dpi, lighting *light)
- int loaddpi (usbdevice *kb, dpiset *dpi, lighting *light)
- char * printdpi (const dpiset *dpi, const usbdevice *kb)
- void cmd_dpi (usbdevice *kb, usbmode *mode, int dummy, const char *stages, const char *values)
- void cmd_dpisel (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *stage)
- void cmd_lift (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *height)
- void cmd_snap (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *enable)

13.15.1 Function Documentation

13.15.1.1 void cmd_dpi (usbdevice * *kb*, usbmode * *mode*, int *dummy*, const char * *stages*, const char * *values*)

Definition at line 4 of file dpi.c.

References usbmode::dpi, DPI_COUNT, dpiset::enabled, left, dpiset::x, x, dpiset::y, and y.

```
4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
5     (void)kb;
6     (void)dummy;
7
8     int disable = 0;
9     ushort x, y;
10     // Try to scan X,Y values
11     if(sscanf(values, "%hu,%hu", &x, &y) != 2){
12         // If that doesn't work, scan single number
13         if(sscanf(values, "%hu", &x) == 1)
14             y = x;
15         else if(!strncmp(values, "off", 3))
16             // If the right side says "off", disable the level(s)
17             disable = 1;
18         else
19             // Otherwise, quit
20             return;
21     }
22     if((x == 0 || y == 0) && !disable)
23         return;
24     // Scan the left side for stage numbers (comma-separated)
25     int left = strlen(stages);
26     int position = 0, field = 0;
27     char stagename[3];
28     while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
29         uchar stagenum;
30         if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
31             // Set DPI for this stage
32             if(disable){
33                 mode->dpi.enabled &= ~(1 << stagenum);
34                 mode->dpi.x[stagenum] = 0;
35                 mode->dpi.y[stagenum] = 0;
36             } else {
37                 mode->dpi.enabled |= 1 << stagenum;
38                 mode->dpi.x[stagenum] = x;
39                 mode->dpi.y[stagenum] = y;
40             }
41         }
```

```
        if(stages[position += field] == ',')
            position++;
    }
}
```

13.15.1.2 void cmd_dpisel (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *stage*)

Definition at line 47 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
47                                                                                  {
48     (void)kb;
49     (void)dummy1;
50     (void)dummy2;
51
52     uchar stagenum;
53     if(sscanf(stage, "%hhu", &stagenum) != 1)
54         return;
55     if(stagenum > DPI_COUNT)
56         return;
57     mode->dpi.current = stagenum;
58 }
```

13.15.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 60 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
60                                                                                  {
61     (void)kb;
62     (void)dummy1;
63     (void)dummy2;
64
65     uchar heightnum;
66     if(sscanf(height, "%hhu", &heightnum) != 1)
67         return;
68     if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
69         return;
70     mode->dpi.lift = heightnum;
71 }
```

13.15.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 73 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
73                                                                                  {
74     (void)kb;
75     (void)dummy1;
76     (void)dummy2;
77
78     if(!strcmp(enable, "on"))
79         mode->dpi.snap = 1;
80     if(!strcmp(enable, "off"))
81         mode->dpi.snap = 0;
82 }
```

13.15.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 222 of file dpi.c.

References lighting::b, ckb_err, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, LIFT_MAX, LIFT_MIN, MSG_SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbrecv, dpiset::x, and dpiset::y.

Referenced by cmd_hwload_mouse().

```
{
    // Ask for settings
    uchar data_pkt[4][MSG_SIZE] = {
        { 0x0e, 0x13, 0x05, 1, },
        { 0x0e, 0x13, 0x02, 1, },
        { 0x0e, 0x13, 0x03, 1, },
        { 0x0e, 0x13, 0x04, 1, }
    };
    uchar in_pkt[4][MSG_SIZE];
    for(int i = 0; i < 4; i++){
        if(!usbrecv(kb, data_pkt[i], in_pkt[i]))
            return -2;
        if(memcmp(in_pkt[i], data_pkt[i], 4)){
            ckb_err("Bad input header\n");
            return -3;
        }
    }
    // Copy data from device
    dpi->enabled = in_pkt[0][4];
    dpi->enabled &= (1 << DPI_COUNT) - 1;
    dpi->current = in_pkt[1][4];
    if(dpi->current >= DPI_COUNT)
        dpi->current = 0;
    dpi->lift = in_pkt[2][4];
    if(dpi->lift < LIFT_MIN || dpi->lift > LIFT_MAX)
        dpi->lift = LIFT_MIN;
    dpi->snap = !!in_pkt[3][4];

    // Get X/Y DPIs
    for(int i = 0; i < DPI_COUNT; i++){
        uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0xd0, 1 };
        uchar in_pkt[MSG_SIZE];
        data_pkt[2] |= i;
        if(!usbrecv(kb, data_pkt, in_pkt))
            return -2;
        if(memcmp(in_pkt, data_pkt, 4)){
            ckb_err("Bad input header\n");
            return -3;
        }
        // Copy to profile
        dpi->x[i] = *(ushort*)(in_pkt + 5);
        dpi->y[i] = *(ushort*)(in_pkt + 7);
        light->r[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[9];
        light->g[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[10];
        light->b[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[11];
    }
    // Finished. Set SW DPI light to the current hardware level
    light->r[LED_MOUSE + 2] = light->r[LED_MOUSE + N_MOUSE_ZONES + dpi->current];
    light->g[LED_MOUSE + 2] = light->g[LED_MOUSE + N_MOUSE_ZONES + dpi->current];
    light->b[LED_MOUSE + 2] = light->b[LED_MOUSE + N_MOUSE_ZONES + dpi->current];
    return 0;
}
```

Here is the caller graph for this function:

13.15.1.6 char* printdpi (const dpiset * *dpi*, const usbdevice * *kb*)

Definition at line 84 of file dpi.c.

References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
                                                    {
    (void)kb;

    // Print all DPI settings
    const int BUFFER_LEN = 100;
    char* buffer = malloc(BUFFER_LEN);
    int length = 0;
    for(int i = 0; i < DPI_COUNT; i++){
        // Print the stage number
        int newlen = 0;
        snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%d%n" : " %d%n", i, &newlen);
        length += newlen;
        // Print the DPI settings
        if(!(dpi->enabled & (1 << i)))
            snprintf(buffer + length, BUFFER_LEN - length, ":off%n", &newlen);
        else
             snprintf(buffer + length, BUFFER_LEN - length, ":%u,%u%n", dpi->x[i], dpi->
    y[i], &newlen);
         length += newlen;
    }
    return buffer;
}
```

Here is the caller graph for this function:

13.15.1.7 int savedpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 194 of file dpi.c.

References lighting::b, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, MSG_SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

Referenced by cmd_hwsave_mouse().

```
                                                    {
    // Send X/Y DPIs
    for(int i = 0; i < DPI_COUNT; i++){
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
        data_pkt[2] |= i;
        *(ushort*)(data_pkt + 5) = dpi->x[i];
        *(ushort*)(data_pkt + 7) = dpi->y[i];
        // Save the RGB value for this setting too
        data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
        data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
        data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
        if(!usbsend(kb, data_pkt, 1))
            return -1;
    }

    // Send settings
    uchar data_pkt[4][MSG_SIZE] = {
        { 0x07, 0x13, 0x05, 1, dpi->enabled },
        { 0x07, 0x13, 0x02, 1, dpi->current },
        { 0x07, 0x13, 0x03, 1, dpi->lift },
        { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
    };
    if(!usbsend(kb, data_pkt[0], 4))
        return -2;
    // Finished
    return 0;
}
```

Here is the caller graph for this function:

13.15.1.8 int updatedpi (usbdevice * *kb*, int *force*)

Definition at line 106 of file dpi.c.

References usbdevice::active, dpiset::current, usbprofile::currentmode, usbmode::dpi, DPI_COUNT, dpiset::enabled, dpiset::forceupdate, usbprofile::lastdpi, dpiset::lift, MSG_SIZE, usbdevice::profile, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

```
106                                         {
107     if(!kb->active)
108         return 0;
109     dpiset* lastdpi = &kb->profile->lastdpi;
110     dpiset* newdpi = &kb->profile->currentmode->dpi;
111     // Don't do anything if the settings haven't changed
112     if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
113             && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
114         return 0;
115     lastdpi->forceupdate = newdpi->forceupdate = 0;
116
117     if (newdpi->current != lastdpi->current) {
118         // Before we switch the current DPI stage, make sure the stage we are
119         // switching to is both enabled and configured to the correct DPI.
120
121         // Enable the stage if necessary.
122         if ((lastdpi->enabled & 1 << newdpi->current) == 0) {
123             uchar newenabled;
124             // If the new enabled flags contain both the current and previous
125             // stages, use it.
126             if (newdpi->enabled & 1 << newdpi->current &&
127                 newdpi->enabled & 1 << lastdpi->current) {
128                 newenabled = newdpi->enabled;
129             } else {
130                 // Otherwise just enable the new stage. We'll write the actual
131                 // requested flags after switching stages.
132                 newenabled = lastdpi->enabled | 1 << newdpi->current;
133             }
134             uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x05, 0, newenabled };
135             if(!usbsend(kb, data_pkt, 1))
136                 return -2;
137             // Cache the flags we wrote.
138             lastdpi->enabled = newenabled;
139         }
140         // Set the DPI for the new stage if necessary.
141         if (newdpi->x[newdpi->current] != lastdpi->x[newdpi->current] ||
142             newdpi->y[newdpi->current] != lastdpi->y[newdpi->current]) {
143             uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
144             data_pkt[2] |= newdpi->current;
145             *(ushort*)(data_pkt + 5) = newdpi->x[newdpi->current];
146             *(ushort*)(data_pkt + 7) = newdpi->y[newdpi->current];
147             if(!usbsend(kb, data_pkt, 1))
148                 return -1;
149             // Set these values in the cache so we don't rewrite them.
150             lastdpi->x[newdpi->current] = newdpi->x[newdpi->current];
151             lastdpi->y[newdpi->current] = newdpi->y[newdpi->current];
152         }
153         // Set current DPI stage.
154         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x02, 0, newdpi->
    current };
155         if(!usbsend(kb, data_pkt, 1))
156             return -2;
157     }
158
159     // Send X/Y DPIs. We've changed to the new stage already so these can be set
```

```
    // safely.
    for(int i = 0; i < DPI_COUNT; i++){
        if (newdpi->x[i] == lastdpi->x[i] && newdpi->y[i] == lastdpi->y[i])
            continue;
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
        data_pkt[2] |= i;
        *(ushort*)(data_pkt + 5) = newdpi->x[i];
        *(ushort*)(data_pkt + 7) = newdpi->y[i];
        if(!usbsend(kb, data_pkt, 1))
            return -1;
    }

    // Send settings
    if (newdpi->enabled != lastdpi->enabled) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x05, 0, newdpi->enabled };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }
    if (newdpi->lift != lastdpi->lift) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x03, 0, newdpi->lift };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }
    if (newdpi->snap != lastdpi->snap) {
        uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 };
        if(!usbsend(kb, data_pkt, 1))
            return -2;
    }

    // Finished
    memcpy(lastdpi, newdpi, sizeof(dpiset));
    return 0;
}
```

13.16 src/ckb-daemon/extra_mac.c File Reference

```
#include "includes.h"
```

Include dependency graph for extra_mac.c:

13.17 src/ckb-daemon/firmware.c File Reference

```
#include "devnode.h"
#include "firmware.h"
#include "notify.h"
#include "usb.h"
```

Include dependency graph for firmware.c:

Macros

- #define FW_OK 0
- #define FW_NOFILE -1
- #define FW_WRONGDEV -2
- #define FW_USBFAIL -3
- #define FW_MAXSIZE (255 ∗ 256)

Functions

- int getfwversion (usbdevice ∗kb)
- int fwupdate (usbdevice ∗kb, const char ∗path, int nnumber)
- int cmd_fwupdate (usbdevice ∗kb, usbmode ∗dummy1, int nnumber, int dummy2, const char ∗path)

13.17.1 Macro Definition Documentation

13.17.1.1 #define FW_MAXSIZE (255 ∗ 256)

Definition at line 51 of file firmware.c.

Referenced by fwupdate().

13.17.1.2 #define FW_NOFILE -1

Definition at line 7 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.3 #define FW_OK 0

Definition at line 6 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.4 #define FW_USBFAIL -3

Definition at line 9 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.5 #define FW_WRONGDEV -2

Definition at line 8 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.2 Function Documentation

13.17.2.1 int cmd_fwupdate (usbdevice * *kb*, usbmode * *dummy1*, int *nnumber*, int *dummy2*, const char * *path*)

Definition at line 154 of file firmware.c.

References FEAT_FWUPDATE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, fwupdate(), HAS_FEATURES, nprintf(), and usb_tryreset().

```
154                                                                                                    {
155     (void)dummy1;
156     (void)dummy2;
157
158     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
159         return 0;
160     // Update the firmware
161     int ret = fwupdate(kb, path, nnumber);
162     while(ret == FW_USBFAIL){
163         // Try to reset the device if it fails
164         if(usb_tryreset(kb))
165             break;
166         ret = fwupdate(kb, path, nnumber);
167     }
168     switch(ret){
169     case FW_OK:
170         nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
171         break;
172     case FW_NOFILE:
173     case FW_WRONGDEV:
174         nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
175         break;
176     case FW_USBFAIL:
177         nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
178         return -1;
179     }
180     return 0;
181 }
```

Here is the call graph for this function:

13.17.2.2 int fwupdate (usbdevice * *kb*, const char * *path*, int *nnumber*)

Definition at line 55 of file firmware.c.

References ckb_err, ckb_info, FW_MAXSIZE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, usbdevice::fwversion, mkfwnode(), MSG_SIZE, nprintf(), usbdevice::product, usbdevice::usbdelay, usbsend, and usbdevice::vendor.

Referenced by cmd_fwupdate().

```
{
    // Read the firmware from the given path
    char* fwdata = calloc(1, FW_MAXSIZE + 256);
    int fd = open(path, O_RDONLY);
    if(fd == -1){
        ckb_err("Failed to open firmware file %s: %s\n", path, strerror(errno));
        return FW_NOFILE;
    }
    ssize_t length = read(fd, fwdata, FW_MAXSIZE + 1);
    if(length <= 0x108 || length > FW_MAXSIZE){
        ckb_err("Failed to read firmware file %s: %s\n", path, length <= 0 ? strerror(errno) : "Wrong size");
        close(fd);
        return FW_NOFILE;
    }
    close(fd);

    short vendor, product, version;
    // Copy the vendor ID, product ID, and version from the firmware file
    memcpy(&vendor, fwdata + 0x102, 2);
    memcpy(&product, fwdata + 0x104, 2);
    memcpy(&version, fwdata + 0x106, 2);
    // Check against the actual device
    if(vendor != kb->vendor || product != kb->product){
        ckb_err("Firmware file %s doesn't match device (V: %04x P: %04x)\n", path, vendor, product);
        return FW_WRONGDEV;
    }
    ckb_info("Loading firmware version %04x from %s\n", version, path);
    nprintf(kb, nnumber, 0, "fwupdate %s 0/%d\n", path, (int)length);
    // Force the device to 10ms delay (we need to deliver packets very slowly to make sure it doesn't get overwhelmed)
    kb->usbdelay = 10;
    // Send the firmware messages (256 bytes at a time)
    uchar data_pkt[7][MSG_SIZE] = {
        { 0x07, 0x0c, 0xf0, 0x01, 0 },
        { 0x07, 0x0d, 0xf0, 0 },
        { 0x7f, 0x01, 0x3c, 0 },
        { 0x7f, 0x02, 0x3c, 0 },
        { 0x7f, 0x03, 0x3c, 0 },
        { 0x7f, 0x04, 0x3c, 0 },
        { 0x7f, 0x05, 0x10, 0 }
    };
    int output = 0, last = 0;
    int index = 0;
    while(output < length){
        int npackets = 1;
        // Packet 1: data position
        data_pkt[1][6] = index++;
        while(output < length){
            npackets++;
            if(npackets != 6){
                // Packets 2-5: 60 bytes of data
                memcpy(data_pkt[npackets] + 4, fwdata + output, 60);
                last = output;
                output += 60;
            } else {
                // Packet 6: 16 bytes
                memcpy(data_pkt[npackets] + 4, fwdata + output, 16);
                last = output;
                output += 16;
                break;
            }
        }
        if(index == 1){
            if(!usbsend(kb, data_pkt[0], 1)){
                ckb_err("Firmware update failed\n");
                return FW_USBFAIL;
            }
            // The above packet can take a lot longer to process, so wait for a while
            sleep(3);
            if(!usbsend(kb, data_pkt[2], npackets - 1)){
                ckb_err("Firmware update failed\n");
                return FW_USBFAIL;
            }
        } else {
            // If the output ends here, set the length byte appropriately
            if(output >= length)
                data_pkt[npackets][2] = length - last;
            if(!usbsend(kb, data_pkt[1], npackets)){
                ckb_err("Firmware update failed\n");
```

```
                return FW_USBFAIL;
            }
        }
        nprintf(kb, nnumber, 0, "fwupdate %s %d/%d\n", path, output, (int)length);
    }
    // Send the final pair of messages
    uchar data_pkt2[2][MSG_SIZE] = {
        { 0x07, 0x0d, 0xf0, 0x00, 0x00, 0x00, index },
        { 0x07, 0x02, 0xf0, 0 }
    };
    if(!usbsend(kb, data_pkt2[0], 2)){
        ckb_err("Firmware update failed\n");
        return FW_USBFAIL;
    }
    // Updated successfully
    kb->fwversion = version;
    mkfwnode(kb);
    ckb_info("Firmware update complete\n");
    return FW_OK;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.17.2.3 int getfwversion (usbdevice * *kb*)

Definition at line 11 of file firmware.c.

References ckb_err, ckb_warn, FEAT_POLLRATE, usbdevice::features, usbdevice::fwversion, MSG_SIZE, usbdevice::pollrate, usbdevice::product, usbrecv, and usbdevice::vendor.

Referenced by _start_dev().

```
11                                  {
12      // Ask board for firmware info
13      uchar data_pkt[MSG_SIZE] = { 0x0e, 0x01, 0 };
14      uchar in_pkt[MSG_SIZE];
15      if(!usbrecv(kb, data_pkt, in_pkt))
16          return -1;
17      if(in_pkt[0] != 0x0e || in_pkt[1] != 0x01){
18          ckb_err("Bad input header\n");
```

```
        return -1;
    }
    short vendor, product, version, bootloader;
    // Copy the vendor ID, product ID, version, and poll rate from the firmware data
    memcpy(&version, in_pkt + 8, 2);
    memcpy(&bootloader, in_pkt + 10, 2);
    memcpy(&vendor, in_pkt + 12, 2);
    memcpy(&product, in_pkt + 14, 2);
    char poll = in_pkt[16];
    if(poll <= 0){
        poll = -1;
        kb->features &= ~FEAT_POLLRATE;
    }
    // Print a warning if the message didn't match the expected data
    if(vendor != kb->vendor)
        ckb_warn("Got vendor ID %04x (expected %04x)\n", vendor, kb->vendor);
    if(product != kb->product)
        ckb_warn("Got product ID %04x (expected %04x)\n", product, kb->product);
    // Set firmware version and poll rate
    if(version == 0 || bootloader == 0){
        // Needs firmware update
        kb->fwversion = 0;
        kb->pollrate = -1;
    } else {
        if(version != kb->fwversion && kb->fwversion != 0)
            ckb_warn("Got firmware version %04x (expected %04x)\n", version, kb->fwversion);
        kb->fwversion = version;
        kb->pollrate = poll;
    }
    return 0;
}
```

Here is the caller graph for this function:

13.18 src/ckb-daemon/firmware.h File Reference

`#include "includes.h"`

Include dependency graph for firmware.h:

This graph shows which files directly or indirectly include this file:

Functions

- int getfwversion (usbdevice ∗kb)
- int cmd_fwupdate (usbdevice ∗kb, usbmode ∗dummy1, int nnumber, int dummy2, const char ∗path)

13.18.1 Function Documentation

13.18.1.1 int cmd_fwupdate (usbdevice ∗ *kb*, usbmode ∗ *dummy1*, int *nnumber*, int *dummy2*, const char ∗ *path*)

Definition at line 154 of file firmware.c.

References FEAT_FWUPDATE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, fwupdate(), HAS_FEATURES, nprintf(), and usb_tryreset().

```
154                                                                                                    {
155     (void)dummy1;
156     (void)dummy2;
157
158     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
159         return 0;
160     // Update the firmware
161     int ret = fwupdate(kb, path, nnumber);
162     while(ret == FW_USBFAIL){
163         // Try to reset the device if it fails
164         if(usb_tryreset(kb))
165             break;
166         ret = fwupdate(kb, path, nnumber);
167     }
168     switch(ret){
169     case FW_OK:
170         nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
171         break;
172     case FW_NOFILE:
173     case FW_WRONGDEV:
174         nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
175         break;
176     case FW_USBFAIL:
177         nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
178         return -1;
179     }
180     return 0;
181 }
```

Here is the call graph for this function:

13.18.1.2 int getfwversion (usbdevice * *kb*)

Definition at line 11 of file firmware.c.

References ckb_err, ckb_warn, FEAT_POLLRATE, usbdevice::features, usbdevice::fwversion, MSG_SIZE, usbdevice::pollrate, usbdevice::product, usbrecv, and usbdevice::vendor.

Referenced by _start_dev().

```
11                                {
12     // Ask board for firmware info
13     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x01, 0 };
14     uchar in_pkt[MSG_SIZE];
15     if(!usbrecv(kb, data_pkt, in_pkt))
16         return -1;
17     if(in_pkt[0] != 0x0e || in_pkt[1] != 0x01){
18         ckb_err("Bad input header\n");
19         return -1;
20     }
21     short vendor, product, version, bootloader;
22     // Copy the vendor ID, product ID, version, and poll rate from the firmware data
23     memcpy(&version, in_pkt + 8, 2);
24     memcpy(&bootloader, in_pkt + 10, 2);
25     memcpy(&vendor, in_pkt + 12, 2);
26     memcpy(&product, in_pkt + 14, 2);
27     char poll = in_pkt[16];
28     if(poll <= 0){
29         poll = -1;
30         kb->features &= ~FEAT_POLLRATE;
31     }
32     // Print a warning if the message didn't match the expected data
33     if(vendor != kb->vendor)
34         ckb_warn("Got vendor ID %04x (expected %04x)\n", vendor, kb->
    vendor);
35     if(product != kb->product)
36         ckb_warn("Got product ID %04x (expected %04x)\n", product, kb->
    product);
37     // Set firmware version and poll rate
38     if(version == 0 || bootloader == 0){
39         // Needs firmware update
40         kb->fwversion = 0;
41         kb->pollrate = -1;
42     } else {
43         if(version != kb->fwversion && kb->fwversion != 0)
44             ckb_warn("Got firmware version %04x (expected %04x)\n", version, kb->
    fwversion);
45         kb->fwversion = version;
46         kb->pollrate = poll;
47     }
48     return 0;
49 }
```

Here is the caller graph for this function:

13.19 src/ckb-daemon/includes.h File Reference

```
#include "os.h"
#include <ctype.h>
#include <dirent.h>
#include <fcntl.h>
#include <iconv.h>
#include <pthread.h>
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include <time.h>
#include <unistd.h>
#include <sys/errno.h>
#include <sys/ioctl.h>
#include <sys/signal.h>
#include <sys/stat.h>
#include <sys/time.h>
#include "structures.h"
```

Include dependency graph for includes.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define INDEX_OF(entry, array) (int)(entry - array)
- #define ckb_s_out stdout

- #define ckb_s_err stdout
- #define __FILE_NOPATH__ (strrchr(__FILE__, '/') ? strrchr(__FILE__, '/') + 1 : __FILE__)
- #define ckb_fatal_nofile(fmt, args...) fprintf(ckb_s_err, "[F] " fmt, ## args)
- #define ckb_fatal_fn(fmt, file, line, args...) fprintf(ckb_s_err, "[F] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_fatal(fmt, args...) fprintf(ckb_s_err, "[F] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_err_nofile(fmt, args...) fprintf(ckb_s_err, "[E] " fmt, ## args)
- #define ckb_err_fn(fmt, file, line, args...) fprintf(ckb_s_err, "[E] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_err(fmt, args...) fprintf(ckb_s_err, "[E] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_warn_nofile(fmt, args...) fprintf(ckb_s_out, "[W] " fmt, ## args)
- #define ckb_warn_fn(fmt, file, line, args...) fprintf(ckb_s_out, "[W] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_warn(fmt, args...) fprintf(ckb_s_out, "[W] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_info_nofile(fmt, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define ckb_info_fn(fmt, file, line, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define ckb_info(fmt, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define timespec_gt(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec > (right).tv_nsec))
- #define timespec_eq(left, right) ((left).tv_sec == (right).tv_sec && (left).tv_nsec == (right).tv_nsec)
- #define timespec_ge(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec >= (right).tv_nsec))
- #define timespec_lt(left, right) (!timespec_ge(left, right))
- #define timespec_le(left, right) (!timespec_gt(left, right))

Typedefs

- typedef unsigned char uchar
- typedef unsigned short ushort

Functions

- void timespec_add (struct timespec *timespec, long nanoseconds)

13.19.1 Macro Definition Documentation

13.19.1.1 #define __FILE_NOPATH__ (strrchr(__FILE__, '/') ? strrchr(__FILE__, '/') + 1 : __FILE__)

Definition at line 40 of file includes.h.

13.19.1.2 #define ckb_err(*fmt, args...*) fprintf(ckb_s_err, "[E] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 49 of file includes.h.

Referenced by _mkdevpath(), fwupdate(), getfwversion(), loaddpi(), loadrgb_kb(), loadrgb_mouse(), macro_pt_dequeue(), os_inputmain(), os_sendindicators(), os_setupusb(), restart(), setupusb(), uinputopen(), usb_tryreset(), usbadd(), and usbclaim().

13.19.1.3 #define ckb_err_fn(*fmt, file, line, args...*) fprintf(ckb_s_err, "[E] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 48 of file includes.h.

Referenced by _nk95cmd(), _usbrecv(), os_usbrecv(), and os_usbsend().

13.19.1.4 #define ckb_err_nofile(*fmt, args...*) fprintf(ckb_s_err, "[E] " fmt, ## args)

Definition at line 47 of file includes.h.

13.19.1.5 #define ckb_fatal(*fmt, args...*) fprintf(ckb_s_err, "[F] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 46 of file includes.h.

Referenced by usbmain().

13.19.1.6 #define ckb_fatal_fn(*fmt, file, line, args...*) fprintf(ckb_s_err, "[F] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 45 of file includes.h.

13.19.1.7 #define ckb_fatal_nofile(*fmt, args...*) fprintf(ckb_s_err, "[F] " fmt, ## args)

Definition at line 44 of file includes.h.

Referenced by main().

13.19.1.8 #define ckb_info(*fmt, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 55 of file includes.h.

Referenced by _setupusb(), _start_dev(), closeusb(), cmd_restart(), fwupdate(), os_inputmain(), os_setupusb(), rmdevpath(), usb_tryreset(), usbadd(), and usbclaim().

13.19.1.9 #define ckb_info_fn(*fmt, file, line, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 54 of file includes.h.

13.19.1.10 #define ckb_info_nofile(*fmt, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 53 of file includes.h.

Referenced by main().

13.19.1.11 #define ckb_s_err stdout

Definition at line 36 of file includes.h.

13.19.1.12 #define ckb_s_out stdout

Definition at line 35 of file includes.h.

13.19.1.13 #define ckb_warn(*fmt, args...*) fprintf(ckb_s_out, "[W] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 52 of file includes.h.

Referenced by _mkdevpath(), _mknotifynode(), _start_dev(), _updateconnected(), getfwversion(), hid_kb_translate(), isync(), mkfwnode(), os_inputclose(), os_keypress(), os_mousemove(), readlines(), rmdevpath(), uinputopen(), and usbmain().

13.19.1.14 #define ckb_warn_fn(*fmt, file, line, args...*) fprintf(ckb_s_out, "[W] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 51 of file includes.h.

Referenced by os_usbrecv(), and os_usbsend().

13.19.1.15 #define ckb_warn_nofile(*fmt, args...*) fprintf(ckb_s_out, "[W] " fmt, ## args)

Definition at line 50 of file includes.h.

Referenced by main().

13.19.1.16 #define INDEX_OF(*entry, array*) (int)(entry - array)

Definition at line 27 of file includes.h.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), closeusb(), mkfwnode(), nprintf(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), readcmd(), and rmdevpath().

13.19.1.17 #define timespec_eq(left, right) ((left).tv_sec == (right).tv_sec && (left).tv_nsec == (right).tv_nsec)

Definition at line 60 of file includes.h.

13.19.1.18 #define timespec_ge(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec >= (right).tv_nsec))

Definition at line 61 of file includes.h.

13.19.1.19 #define timespec_gt(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec > (right).tv_nsec))

Definition at line 59 of file includes.h.

13.19.1.20 #define timespec_le(left, right) (!timespec_gt(left, right))

Definition at line 63 of file includes.h.

13.19.1.21 #define timespec_lt(left, right) (!timespec_ge(left, right))

Definition at line 62 of file includes.h.

13.19.2 Typedef Documentation

13.19.2.1 typedef unsigned char uchar

Definition at line 24 of file includes.h.

13.19.2.2 typedef unsigned short ushort

Definition at line 25 of file includes.h.

13.19.3 Function Documentation

13.19.3.1 void timespec_add (struct timespec * *timespec,* long *nanoseconds*)

Definition at line 19 of file main.c.

```
19                                                          {
20     nanoseconds += timespec->tv_nsec;
21     timespec->tv_sec += nanoseconds / 1000000000;
22     timespec->tv_nsec = nanoseconds % 1000000000;
23 }
```

13.20 src/ckb-daemon/input.c File Reference

```
#include <limits.h>
#include "device.h"
#include "input.h"
#include "notify.h"
```

Include dependency graph for input.c:

Macros

- #define IS_WHEEL(scan, kb) (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP || (scan) == BTN_WHEELDOWN) && (!IS_K65(kb) && !IS_K63(kb)))

Functions

- int macromask (const uchar *key1, const uchar *key2)
- static void macro_pt_enqueue ()

  macro_pt_enqueue Save the new thread in the single linked list (FIFO).

- static pthread_t macro_pt_dequeue ()

  macro_pt_dequeue gets the first thread id of the list and returns the thread_id stored in it.
- static pthread_t macro_pt_first ()

  macro_pt_first returns the first pthread_id but does not remove the first entry.
- static void * play_macro (void *param)

  play_macro is the code for all threads started to play a macro.
- static void inputupdate_keys (usbdevice *kb)

  inputupdate_keys Handle input from Keyboard or mouse; start Macrof if detected.
- void inputupdate (usbdevice *kb)
- void updateindicators_kb (usbdevice *kb, int force)
- void initbind (binding *bind)
- void freebind (binding *bind)
- void cmd_bind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- void cmd_unbind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- void cmd_rebind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- static void _cmd_macro (usbmode *mode, const char *keys, const char *assignment)
- void cmd_macro (usbdevice *kb, usbmode *mode, const int notifynumber, const char *keys, const char *assignment)

Variables

- static ptlist_t * pt_head = 0

  pt_head is the head pointer for the single linked thread list managed by macro_pt_en/dequeue().
- static ptlist_t * pt_tail = 0

  pt_tail is the tail pointer for the single linked thread list managed by macro_pt_en/dequeue().

13.20.1 Macro Definition Documentation

13.20.1.1 #define IS_WHEEL(*scan*, *kb*) (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP || (scan) == BTN_WHEELDOWN) && (!IS_K65(kb) && !IS_K63(kb)))

Referenced by inputupdate_keys().

13.20.2 Function Documentation

13.20.2.1 static void _cmd_macro (usbmode * *mode*, const char * *keys*, const char * *assignment*) [static]

Definition at line 353 of file input.c.

References keymacro::actioncount, keymacro::actions, usbmode::bind, keymacro::combo, macroaction::delay, macroaction::down, keymap, left, MACRO_MAX, binding::macrocap, binding::macrocount, binding::macros, N_KEYBYTES_INPUT, N_KEYS_INPUT, right(), macroaction::scan, key::scan, and SET_KEYBIT.

Referenced by cmd_macro().

```
353                                                                                 {
354     binding* bind = &mode->bind;
355     if(!keys && !assignment){
356         // Null strings = "macro clear" -> erase the whole thing
357         for(int i = 0; i < bind->macrocount; i++)
358             free(bind->macros[i].actions);
359         bind->macrocount = 0;
360         return;
361     }
362     if(bind->macrocount >= MACRO_MAX)
363         return;
364     // Create a key macro
365     keymacro macro;
366     memset(&macro, 0, sizeof(macro));
```

```
    // Scan the left side for key names, separated by +
    int empty = 1;
    int left = strlen(keys), right = strlen(assignment);
    int position = 0, field = 0;
    char keyname[24];
    while(position < left && sscanf(keys + position, "%10[^+]%n", keyname, &field) == 1){
        int keycode;
        if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode < N_KEYS_INPUT)
                || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode < N_KEYS_INPUT)){
            // Set a key numerically
            SET_KEYBIT(macro.combo, keycode);
            empty = 0;
        } else {
            // Find this key in the keymap
            for(unsigned i = 0; i < N_KEYS_INPUT; i++){
                if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
                    macro.combo[i / 8] |= 1 << (i % 8);
                    empty = 0;
                    break;
                }
            }
        }
        if(keys[position += field] == '+')
            position++;
    }
    if(empty)
        return;
    // Count the number of actions (comma separated)
    int count = 1;
    for(const char* c = assignment; *c != 0; c++){
        if(*c == ',')
            count++;
    }
    // Allocate a buffer for them
    macro.actions = calloc(count, sizeof(macroaction));
    macro.actioncount = 0;
    // Scan the actions
    position = 0;
    field = 0;
    // max action = old 11 chars plus 12 chars which is the max 32-bit int 4294967295 size
    while(position < right && sscanf(assignment + position, "%23[^,]%n", keyname, &field) == 1){
        if(!strcmp(keyname, "clear"))
            break;

        // Check for local key delay of the form '[+-]<key>=<delay>'
        long int long_delay;    // scanned delay value, used to keep delay in range.
        unsigned int delay = UINT_MAX; // computed delay value. UINT_MAX means use global delay value.
        char real_keyname[12];  // temp to hold the left side (key) of the <key>=<delay>
        int scan_matches = sscanf(keyname, "%11[^=]=%ld", real_keyname, &long_delay);
        if (scan_matches == 2) {
            if (0 <= long_delay && long_delay < UINT_MAX) {
                delay = (unsigned int)long_delay;
                strcpy(keyname, real_keyname); // keyname[24], real_keyname[12]
            }
        }

        int down = (keyname[0] == '+');
        if(down || keyname[0] == '-'){
            int keycode;
            if((sscanf(keyname + 1, "#%d", &keycode) && keycode >= 0 && keycode < N_KEYS_INPUT)
                    || (sscanf(keyname + 1, "#x%x", &keycode) && keycode >= 0 && keycode < N_KEYS_INPUT)){
                // Set a key numerically
                macro.actions[macro.actioncount].scan = keymap[keycode].scan;
                macro.actions[macro.actioncount].down = down;
                macro.actions[macro.actioncount].delay = delay;
                macro.actioncount++;
            } else {
                // Find this key in the keymap
                for(unsigned i = 0; i < N_KEYS_INPUT; i++){
                    if(keymap[i].name && !strcmp(keyname + 1, keymap[i].name)){
                        macro.actions[macro.actioncount].scan = keymap[i].scan;
                        macro.actions[macro.actioncount].down = down;
                        macro.actions[macro.actioncount].delay = delay;
                        macro.actioncount++;
                        break;
                    }
                }
            }
        }
        if(assignment[position += field] == ',')
            position++;
    }
```

```

    // See if there's already a macro with this trigger
    keymacro* macros = bind->macros;
    for(int i = 0; i < bind->macrocount; i++){
        if(!memcmp(macros[i].combo, macro.combo, N_KEYBYTES_INPUT)){
            free(macros[i].actions);
            // If the new macro has no actions, erase the existing one
            if(!macro.actioncount){
                for(int j = i + 1; j < bind->macrocount; j++)
                    memcpy(macros + j - 1, macros + j, sizeof(keymacro));
                bind->macrocount--;
            } else
                // If there are actions, replace the existing with the new
                memcpy(macros + i, &macro, sizeof(keymacro));
            return;
        }
    }

    // Add the macro to the device settings if not empty
    if(macro.actioncount < 1)
        return;
    memcpy(bind->macros + (bind->macrocount++), &macro, sizeof(keymacro));
    if(bind->macrocount >= bind->macrocap)
        bind->macros = realloc(bind->macros, (bind->macrocap += 16) * sizeof(keymacro));
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.20.2.2 void cmd_bind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 307 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
307                                                                                 {
308     (void)dummy;
309
310     if(keyindex >= N_KEYS_INPUT)
311         return;
312     // Find the key to bind to
313     int tocode = 0;
314     if(sscanf(to, "#x%ux", &tocode) != 1 && sscanf(to, "#%u", &tocode) == 1 && tocode < N_KEYS_INPUT){
```

```
        pthread_mutex_lock(imutex(kb));
        mode->bind.base[keyindex] = tocode;
        pthread_mutex_unlock(imutex(kb));
        return;
    }
    // If not numeric, look it up
    for(int i = 0; i < N_KEYS_INPUT; i++){
        if(keymap[i].name && !strcmp(to, keymap[i].name)){
            pthread_mutex_lock(imutex(kb));
            mode->bind.base[keyindex] = keymap[i].scan;
            pthread_mutex_unlock(imutex(kb));
            return;
        }
    }
}
```

13.20.2.3 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 475 of file input.c.

References _cmd_macro(), and imutex.

```
475                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
         {
    (void)notifynumber;

    pthread_mutex_lock(imutex(kb));
    _cmd_macro(mode, keys, assignment);
    pthread_mutex_unlock(imutex(kb));
}
```

Here is the call graph for this function:

13.20.2.4 void cmd_rebind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 342 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
    (void)dummy;
    (void)to;

    if(keyindex >= N_KEYS_INPUT)
        return;
    pthread_mutex_lock(imutex(kb));
    mode->bind.base[keyindex] = keymap[keyindex].scan;
    pthread_mutex_unlock(imutex(kb));
}
```

13.20.2.5 void cmd_unbind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 331 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
{
    (void)dummy;
    (void)to;

    if(keyindex >= N_KEYS_INPUT)
        return;
    pthread_mutex_lock(imutex(kb));
    mode->bind.base[keyindex] = KEY_UNBOUND;
    pthread_mutex_unlock(imutex(kb));
}
```

13.20.2.6 void freebind (binding * *bind*)

Definition at line 300 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
{
    for(int i = 0; i < bind->macrocount; i++)
        free(bind->macros[i].actions);
    free(bind->macros);
    memset(bind, 0, sizeof(*bind));
}
```

Here is the caller graph for this function:

13.20.2.7 void initbind (binding * *bind*)

Definition at line 292 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
{
    for(int i = 0; i < N_KEYS_INPUT; i++)
        bind->base[i] = keymap[i].scan;
    bind->macros = calloc(32, sizeof(keymacro));
    bind->macrocap = 32;
    bind->macrocount = 0;
}
```

Here is the caller graph for this function:

13.20.2.8 void inputupdate (usbdevice * *kb*)

Definition at line 241 of file input.c.

References usbdevice::input, inputupdate_keys(), os_mousemove(), usbdevice::profile, usbinput::rel_x, usbinput::rel_y, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by os_inputmain(), setactive_kb(), and setactive_mouse().

```
241                                 {
242 #ifdef OS_LINUX
243     if((!kb->uinput_kb || !kb->uinput_mouse)
244 #else
245     if(!kb->event
246 #endif
247             || !kb->profile)
248         return;
249     // Process key/button input
250     inputupdate_keys(kb);
251     // Process mouse movement
252     usbinput* input = &kb->input;
253     if(input->rel_x != 0 || input->rel_y != 0){
254         os_mousemove(kb, input->rel_x, input->rel_y);
255         input->rel_x = input->rel_y = 0;
256     }
257     // Finish up
258     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
259 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.20.2.9 static void inputupdate_keys (usbdevice * *kb*) [static]

Parameters

kb	

Process all queued keypresses if no macro is running yet.

Todo If we want to get all keys typed while a macro is played, add the code for it here.

Definition at line 134 of file input.c.

References usbdevice::active, binding::base, usbmode::bind, keymacro::combo, usbprofile::currentmode, usbdevice::input, IS_MOD, IS_WHEEL, parameter::kb, keymap, usbinput::keys, parameter::macro, macro_pt_first(), binding::macrocount, macromask(), binding::macros, N_KEYBYTES_INPUT, N_KEYS_INPUT, usbmode::notify, nprintkey(), os_keypress(), OUTFIFO_MAX, play_macro(), usbinput::prevkeys, usbdevice::profile, key::scan, SCAN_SILENT, and keymacro::triggered.

Referenced by inputupdate().

```
134                                                 {
135     usbmode* mode = kb->profile->currentmode;
136     binding* bind = &mode->bind;
137     usbinput* input = &kb->input;
138
139     // Don't do anything if the state hasn't changed
140     if(!memcmp(input->prevkeys, input->keys, N_KEYBYTES_INPUT))
141         return;
142     // Look for macros matching the current state
143     if (kb->active) {
144         for (int i = 0; i < bind->macrocount; i++) {
145             keymacro* macro = &bind->macros[i];
146             if (macromask(input->keys, macro->combo)) {
147                 if (!macro->triggered) {
148                     parameter_t* params = malloc(sizeof(parameter_t));
149                     if (params == 0) {
150                         perror("inputupdate_keys got no more mem:");
151                     } else {
152                         pthread_t thread = 0;
153                         params->kb = kb;
154                         params->macro = macro;
155                         int retval = pthread_create(&thread, 0, play_macro, (void*)params);
156                         if (retval) {
157                             perror("inputupdate_keys: Creating thread returned not null");
158                         } else {
159                             macro->triggered = 1;
160                         }
161                     }
162                 }
163             } else macro->triggered = 0;
164         }
165     }
166     // Make a list of keycodes to send. Rearrange them so that modifier keydowns always come first
167     // and modifier keyups always come last. This ensures that shortcut keys will register properly
168     // even if both keydown events happen at once.
169     // N_KEYS + 4 is used because the volume wheel generates keydowns and keyups at the same time
170     // (it's currently impossible to press all four at once, but safety first)
171     int events[N_KEYS_INPUT + 4];
172     int modcount = 0, keycount = 0, rmodcount = 0;
173     for(int byte = 0; byte < N_KEYBYTES_INPUT; byte++){
174         char oldb = input->prevkeys[byte], newb = input->keys[byte];
175         if(oldb == newb)
```

```
            continue;
        for(int bit = 0; bit < 8; bit++){
            int keyindex = byte * 8 + bit;
            if(keyindex >= N_KEYS_INPUT)
                break;
            const key* map = keymap + keyindex;
            int scancode = (kb->active) ? bind->base[keyindex] : map->scan;
            char mask = 1 << bit;
            char old = oldb & mask, new = newb & mask;
            // If the key state changed, send it to the input device
            if(old != new){
                // Don't echo a key press if there's no scancode associated
                if(!(scancode & SCAN_SILENT)){
                    if(IS_MOD(scancode)){
                        if(new){
                            // Modifier down: Add to the end of modifier keys
                            for(int i = keycount + rmodcount; i > 0; i--)
                                events[modcount + i] = events[modcount + i - 1];
                            // Add 1 to the scancode because A is zero on OSX
                            // Positive code = keydown, negative code = keyup
                            events[modcount++] = scancode + 1;
                        } else {
                            // Modifier up: Add to the end of everything
                            events[modcount + keycount + rmodcount++] = -(scancode + 1);
                        }
                    } else {
                        // Regular keypress: add to the end of regular keys
                        for(int i = rmodcount; i > 0; i--)
                            events[modcount + keycount + i] = events[modcount + keycount + i - 1];
                        events[modcount + keycount++] = new ? (scancode + 1) : -(scancode + 1);
                        // The volume wheel and the mouse wheel don't generate keyups, so create them automatically
#define IS_WHEEL(scan, kb)  (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP || (scan) == BTN_WHEELDOWN) && (!IS_K65(kb) && !IS_K63(kb)))
                        if(new && IS_WHEEL(map->scan, kb)){
                            for(int i = rmodcount; i > 0; i--)
                                events[modcount + keycount + i] = events[modcount + keycount + i - 1];
                            events[modcount + keycount++] = -(scancode + 1);
                            input->keys[byte] &= ~mask;
                        }
                    }
                }
                // Print notifications if desired
                if(kb->active){
                    for(int notify = 0; notify < OUTFIFO_MAX; notify++){
                        if(mode->notify[notify][byte] & mask){
                            nprintkey(kb, notify, keyindex, new);
                            // Wheels doesn't generate keyups
                            if(new && IS_WHEEL(map->scan, kb))
                                nprintkey(kb, notify, keyindex, 0);
                        }
                    }
                }
            }
        }
    }
    if (!macro_pt_first()) {
        int totalkeys = modcount + keycount + rmodcount;
        for(int i = 0; i < totalkeys; i++){
            int scancode = events[i];
            os_keypress(kb, (scancode < 0 ? -scancode : scancode) - 1, scancode > 0);
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.20.2.10 static pthread_t macro_pt_dequeue ( ) [static]

Returns

the ptread_id of the first element. If list is empty, return 0.

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex.

< why are we called?

< Was last element in the list, so clear tail.

< save the return value before deleting element

Definition at line 49 of file input.c.

References ckb_err, ptlist::next, pt_head, and ptlist::thread_id.

Referenced by play_macro().

```
49                                      {
50     pthread_t retval = 0;
51     ptlist_t* elem = 0;
52     if (pt_head == 0 && pt_tail == 0) {
53         ckb_err("macro_pt_dequeue: called on empty list.\n");
54         return 0;
55     }
56     elem = pt_head;
57     pt_head = pt_head->next;
```

```
    if (pt_head == 0) pt_tail = 0;
    retval = elem->thread_id;
    free(elem);
    return retval;
}
```

Here is the caller graph for this function:

13.20.2.11 static void macro_pt_enqueue ( ) [static]

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex.

< exit on critical situation;

Todo find a better exit strategy if no more mem available.

< The element knows its ID byself

< new list, first element

< existing list, append on last element (FIFO)

Definition at line 27 of file input.c.

References ptlist::next, and ptlist::thread_id.

Referenced by play_macro().

```
27                                {
28     ptlist_t* new_elem = malloc(sizeof(ptlist_t));
29     if (!new_elem) {
30         perror("macro_pt_enqueue: ");
31         exit (-1);
32     }
33     new_elem->next = 0;
34     new_elem->thread_id = pthread_self();
35     if (pt_head == 0) {
36         pt_head = pt_tail = new_elem;
37     } else {
38         pt_tail->next = new_elem;
39         pt_tail = new_elem;
40     }
41 }
```

Here is the caller graph for this function:

13.20.2.12 static pthread_t macro_pt_first ( ) [static]

Returns

the pthread_id of the first element in the list or 0 if list is empty.

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex (avoid NIL-ptr)

Definition at line 70 of file input.c.

References ptlist::thread_id.

Referenced by inputupdate_keys(), and play_macro().

```
70                                      {
71     return pt_head? pt_head->thread_id : 0;
72 }
```

Here is the caller graph for this function:

13.20.2.13 int macromask (const uchar * *key1*, const uchar * *key2*)

Definition at line 6 of file input.c.

References N_KEYBYTES_INPUT.

Referenced by inputupdate_keys().

```
6                                                   {
7     // Scan a macro against key input. Return 0 if any of them don't match
8     for(int i = 0; i < N_KEYBYTES_INPUT; i++){
9         // if((key1[i] & key2[i]) != key2[i])
10         if(key1[i] != key2[i])  // Changed to detect G-keys + modifiers
11             return 0;
12     }
13     return 1;
14 }
```

Here is the caller graph for this function:

13.20.2.14 static void* play_macro (void * *param*) [static]

Parameters

param	*parameter_t* to store Kb-ptr and macro-ptr (thread may get only one user-parameter)

Returns

0 on success, -1 else (no one is interested in it except the kernel...)

First have a look if we are the first and only macro-thread to run. If not, wait. So enqueue our thread first, so it is remembered for us and can be seen by all others.

< If the first thread in the list is not our, another one is running

< Give all new threads the chance to enter the block.

Send events for each keypress in the macro

< Synchonization between macro output and color information

< use this unlock / relock for enablling the parallel running colorization

< local delay set

< use default global delay

< use delays depending on macro length

< protect the linked list and the mvar

< Wake up all waiting threads

< for the linked list and the mvar

< Sync keyboard input/output and colorization

Definition at line 79 of file input.c.

References keymacro::actioncount, keymacro::actions, macroaction::delay, usbdevice::delay, macroaction::down, parameter::kb, parameter::macro, macro_pt_dequeue(), macro_pt_enqueue(), macro_pt_first(), mmutex, mmutex2, mvar, os_keypress(), os_mousemove(), macroaction::rel_x, macroaction::rel_y, and macroaction::scan.

Referenced by inputupdate_keys().

```
79                                      {
80      parameter_t* ptr = (parameter_t*) param;
81      usbdevice* kb = ptr->kb;
82      keymacro* macro = ptr->macro;
83
86      pthread_mutex_lock(mmutex2(kb));
87      macro_pt_enqueue();
88      // ckb_info("Entering critical section with 0x%lx. Queue head is 0x%lx\n",  (unsigned long
        int)pthread_self(), (unsigned long int)macro_pt_first());
89      while (macro_pt_first() != pthread_self()) {
90          // ckb_info("Now waiting with 0x%lx because of 0x%lx\n", (unsigned long int)pthread_self(),
        (unsigned long int)macro_pt_first());
91          pthread_cond_wait(mvar(kb), mmutex2(kb));
92          // ckb_info("Waking up with 0x%lx\n", (unsigned long int)pthread_self());
93      }
94      pthread_mutex_unlock(mmutex2(kb));
95
97      pthread_mutex_lock(mmutex(kb));
98      for (int a = 0; a < macro->actioncount; a++) {
99          macroaction* action = macro->actions + a;
100         if (action->rel_x != 0 || action->rel_y != 0)
101             os_mousemove(kb, action->rel_x, action->rel_y);
102         else {
103             os_keypress(kb, action->scan, action->down);
104             pthread_mutex_unlock(mmutex(kb));
105             if (action->delay != UINT_MAX && action->delay) {
106                 clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = action->
        delay * 1000}, NULL);
107             } else if (kb->delay != UINT_MAX && kb->delay) {
108                 clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = kb->
        delay * 1000}, NULL);
109             } else if (a < (macro->actioncount - 1)) {
110                 if (a > 200) {
111                     clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = action->
        delay * 100000}, NULL);
```

```
                } else if (a > 20) {
                    clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = 30000}, NULL);
                }
            }
            pthread_mutex_lock(mmutex(kb));
        }
    }

    pthread_mutex_lock(mmutex2(kb));
    // ckb_info("Now leaving 0x%lx and waking up all others\n", (unsigned long int)pthread_self());
    macro_pt_dequeue();
    pthread_cond_broadcast(mvar(kb));
    pthread_mutex_unlock(mmutex2(kb));

    pthread_mutex_unlock(mmutex(kb));
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.20.2.15 void updateindicators_kb (usbdevice * *kb*, int *force*)

Definition at line 261 of file input.c.

References usbdevice::active, usbprofile::currentmode, DELAY_SHORT, usbdevice::hw_ileds, usbdevice::hw_ileds_old, I_CAPS, I_NUM, I_SCROLL, usbdevice::ileds, usbmode::inotify, usbmode::ioff, usbmode::ion, nprintind(), os_sendindicators(), OUTFIFO_MAX, and usbdevice::profile.

```
261                                                 {
262     // Read current hardware indicator state (set externally)
263     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
```

```
    uchar new = kb->hw_ileds, hw_new = new;
    // Update them if needed
    if(kb->active){
        usbmode* mode = kb->profile->currentmode;
        new = (new & ~mode->ioff) | mode->ion;
    }
    kb->ileds = new;
    kb->hw_ileds_old = hw_new;
    if(old != new || force){
        DELAY_SHORT(kb);
        os_sendindicators(kb);
    }
    // Print notifications if desired
    if(!kb->active)
        return;
    usbmode* mode = kb->profile->currentmode;
    uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
    for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
        uchar mask = indicators[i];
        if((hw_old & mask) == (hw_new & mask))
            continue;
        for(int notify = 0; notify < OUTFIFO_MAX; notify++){
            if(mode->inotify[notify] & mask)
                nprintind(kb, notify, mask, hw_new & mask);
        }
    }
}
```

Here is the call graph for this function:

13.20.3 Variable Documentation

13.20.3.1 ptlist_t* pt_head = 0 [static]

Definition at line 18 of file input.c.

Referenced by macro_pt_dequeue().

13.20.3.2 ptlist_t* pt_tail = 0 [static]

Definition at line 20 of file input.c.

13.21 src/ckb-daemon/input.h File Reference

```
#include "includes.h"
#include "usb.h"
```

Include dependency graph for input.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct parameter

  struct parameter contains the values for a fresh started macro_play thread. parameter_t is the typedef for it. More...
- struct ptlist

  struct ptlist is one element in the single linked list to store macro_play threads waiting for their execution ptlist_t is the typedef for it. More...

Macros

- #define IS_MOD(s) ((s) == KEY_CAPSLOCK || (s) == KEY_NUMLOCK || (s) == KEY_SCROLLLOCK || (s) == KEY_LEFTSHIFT || (s) == KEY_RIGHTSHIFT || (s) == KEY_LEFTCTRL || (s) == KEY_RIGHTCTRL || (s) == KEY_LEFTMETA || (s) == KEY_RIGHTMETA || (s) == KEY_LEFTALT || (s) == KEY_RIGHTALT || (s) == KEY_FN)

Typedefs

- typedef struct parameter parameter_t

  struct parameter contains the values for a fresh started macro_play thread. parameter_t is the typedef for it.
- typedef struct ptlist ptlist_t

  struct ptlist is one element in the single linked list to store macro_play threads waiting for their execution ptlist_t is the typedef for it.

Functions

- int os_inputopen (usbdevice *kb)

  os_inputopen
- void os_inputclose (usbdevice *kb)
- void inputupdate (usbdevice *kb)
- void updateindicators_kb (usbdevice *kb, int force)
- void initbind (binding *bind)

- void freebind (binding ∗bind)
- void cmd_bind (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗to)
- void cmd_unbind (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗ignored)
- void cmd_rebind (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗ignored)
- void cmd_macro (usbdevice ∗kb, usbmode ∗mode, const int notifynumber, const char ∗keys, const char ∗assignment)
- void os_keypress (usbdevice ∗kb, int scancode, int down)
- void os_mousemove (usbdevice ∗kb, int x, int y)
- int os_setupindicators (usbdevice ∗kb)

13.21.1 Data Structure Documentation

13.21.1.1 struct parameter

Definition at line 54 of file input.h.

Collaboration diagram for parameter:

Data Fields

usbdevice ∗	kb	
keymacro ∗	macro	

13.21.1.2 struct ptlist

Definition at line 62 of file input.h.

Collaboration diagram for ptlist:

Data Fields

struct ptlist *	next	
pthread_t	thread_id	

13.21.2 Macro Definition Documentation

13.21.2.1 #define IS_MOD(s) ((s) == KEY_CAPSLOCK || (s) == KEY_NUMLOCK || (s) == KEY_SCROLLLOCK || (s) == KEY_LEFTSHIFT || (s) == KEY_RIGHTSHIFT || (s) == KEY_LEFTCTRL || (s) == KEY_RIGHTCTRL || (s) == KEY_LEFTMETA || (s) == KEY_RIGHTMETA || (s) == KEY_LEFTALT || (s) == KEY_RIGHTALT || (s) == KEY_FN)

Definition at line 34 of file input.h.

Referenced by inputupdate_keys().

13.21.3 Typedef Documentation

13.21.3.1 typedef struct parameter parameter_t

13.21.3.2 typedef struct ptlist ptlist_t

13.21.4 Function Documentation

13.21.4.1 void cmd_bind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 307 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
307                                                                    {
308     (void)dummy;
309
310     if(keyindex >= N_KEYS_INPUT)
311         return;
```

```
    // Find the key to bind to
    int tocode = 0;
    if(sscanf(to, "#x%ux", &tocode) != 1 && sscanf(to, "#%u", &tocode) == 1 && tocode < N_KEYS_INPUT){
        pthread_mutex_lock(imutex(kb));
        mode->bind.base[keyindex] = tocode;
        pthread_mutex_unlock(imutex(kb));
        return;
    }
    // If not numeric, look it up
    for(int i = 0; i < N_KEYS_INPUT; i++){
        if(keymap[i].name && !strcmp(to, keymap[i].name)){
            pthread_mutex_lock(imutex(kb));
            mode->bind.base[keyindex] = keymap[i].scan;
            pthread_mutex_unlock(imutex(kb));
            return;
        }
    }
}
```

13.21.4.2 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 475 of file input.c.

References _cmd_macro(), and imutex.

```
475
         {
476     (void)notifynumber;
477
478     pthread_mutex_lock(imutex(kb));
479     _cmd_macro(mode, keys, assignment);
480     pthread_mutex_unlock(imutex(kb));
481 }
```

Here is the call graph for this function:

13.21.4.3 void cmd_rebind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 342 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
342                                                                                 {
343     (void)dummy;
344     (void)to;
345
346     if(keyindex >= N_KEYS_INPUT)
347         return;
348     pthread_mutex_lock(imutex(kb));
349     mode->bind.base[keyindex] = keymap[keyindex].scan;
350     pthread_mutex_unlock(imutex(kb));
351 }
```

13.21.4.4 void cmd_unbind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 331 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
331                                                                                                    {
332     (void)dummy;
333     (void)to;
334
335     if(keyindex >= N_KEYS_INPUT)
336         return;
337     pthread_mutex_lock(imutex(kb));
338     mode->bind.base[keyindex] = KEY_UNBOUND;
339     pthread_mutex_unlock(imutex(kb));
340 }
```

13.21.4.5 void freebind (binding * *bind*)

Definition at line 300 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
300                                 {
301     for(int i = 0; i < bind->macrocount; i++)
302         free(bind->macros[i].actions);
303     free(bind->macros);
304     memset(bind, 0, sizeof(*bind));
305 }
```

Here is the caller graph for this function:

13.21.4.6 void initbind (binding * *bind*)

Definition at line 292 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
292                                 {
293     for(int i = 0; i < N_KEYS_INPUT; i++)
294         bind->base[i] = keymap[i].scan;
295     bind->macros = calloc(32, sizeof(keymacro));
296     bind->macrocap = 32;
297     bind->macrocount = 0;
298 }
```

Here is the caller graph for this function:

13.21.4.7 void inputupdate (usbdevice * *kb*)

Definition at line 241 of file input.c.

References usbdevice::input, inputupdate_keys(), os_mousemove(), usbdevice::profile, usbinput::rel_x, usbinput::rel_y, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by os_inputmain(), setactive_kb(), and setactive_mouse().

```
241                                 {
242 #ifdef OS_LINUX
243     if((!kb->uinput_kb || !kb->uinput_mouse)
244 #else
245     if(!kb->event
246 #endif
247             || !kb->profile)
248         return;
249     // Process key/button input
250     inputupdate_keys(kb);
251     // Process mouse movement
252     usbinput* input = &kb->input;
253     if(input->rel_x != 0 || input->rel_y != 0){
254         os_mousemove(kb, input->rel_x, input->rel_y);
255         input->rel_x = input->rel_y = 0;
256     }
257     // Finish up
258     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
259 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.4.8 void os_inputclose (usbdevice * *kb*)

Definition at line 76 of file input_linux.c.

References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by closeusb().

```
76                                  {
77     if(kb->uinput_kb <= 0 || kb->uinput_mouse <= 0)
78         return;
79     // Set all keys released
80     struct input_event event;
81     memset(&event, 0, sizeof(event));
82     event.type = EV_KEY;
83     for(int key = 0; key < KEY_CNT; key++){
84         event.code = key;
85         if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
86             ckb_warn("uinput write failed: %s\n", strerror(errno));
87         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
88             ckb_warn("uinput write failed: %s\n", strerror(errno));
89     }
90     event.type = EV_SYN;
91     event.code = SYN_REPORT;
92     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
93         ckb_warn("uinput write failed: %s\n", strerror(errno));
94     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
95         ckb_warn("uinput write failed: %s\n", strerror(errno));
96     // Close the keyboard
97     ioctl(kb->uinput_kb - 1, UI_DEV_DESTROY);
98     close(kb->uinput_kb - 1);
99     kb->uinput_kb = 0;
100     // Close the mouse
101     ioctl(kb->uinput_mouse - 1, UI_DEV_DESTROY);
102     close(kb->uinput_mouse - 1);
103     kb->uinput_mouse = 0;
104 }
```

Here is the caller graph for this function:

13.21.4.9 int os_inputopen (usbdevice * *kb*)

Parameters

kb	

Returns

Some tips on using `uinput_user_dev in`

Definition at line 55 of file input_linux.c.

References usbdevice::fwversion, INDEX_OF, keyboard, usbdevice::name, usbdevice::product, usbdevice::uinput_kb, usbdevice::uinput_mouse, uinputopen(), and usbdevice::vendor.

Referenced by _setupusb().

```
55                                {
56     // Create the new input device
57     int index = INDEX_OF(kb, keyboard);
58     struct uinput_user_dev indev;
59     memset(&indev, 0, sizeof(indev));
60     snprintf(indev.name, UINPUT_MAX_NAME_SIZE, "ckb%d: %s", index, kb->name);
61     indev.id.bustype = BUS_USB;
62     indev.id.vendor = kb->vendor;
63     indev.id.product = kb->product;
64     indev.id.version = kb->fwversion;
65     // Open keyboard
66     int fd = uinputopen(&indev, 0);
67     kb->uinput_kb = fd;
68     if(fd <= 0)
69         return 0;
70     // Open mouse
71     fd = uinputopen(&indev, 1);
72     kb->uinput_mouse = fd;
73     return fd <= 0;
74 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.4.10 void os_keypress (usbdevice * *kb*, int *scancode*, int *down*)

Definition at line 118 of file input_linux.c.

References BTN_WHEELDOWN, BTN_WHEELUP, ckb_warn, isync(), SCAN_MOUSE, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by inputupdate_keys(), and play_macro().

```
{
    struct input_event event;
    memset(&event, 0, sizeof(event));
    int is_mouse = 0;
    if(scancode == BTN_WHEELUP || scancode == BTN_WHEELDOWN){
        // The mouse wheel is a relative axis
        if(!down)
            return;
        event.type = EV_REL;
        event.code = REL_WHEEL;
        event.value = (scancode == BTN_WHEELUP ? 1 : -1);
        is_mouse = 1;
    } else {
        // Mouse buttons and key events are both EV_KEY. The scancodes are already correct, just remove the ckb bit
        event.type = EV_KEY;
        event.code = scancode & ~SCAN_MOUSE;
        event.value = down;
        is_mouse = !!(scancode & SCAN_MOUSE);
    }
    if(write((is_mouse ? kb->uinput_mouse : kb->uinput_kb) - 1, &event, sizeof(event)) <= 0)
        ckb_warn("uinput write failed: %s\n", strerror(errno));
    else
        isync(kb);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.4.11 void os_mousemove (usbdevice * *kb*, int *x*, int *y*)

Definition at line 143 of file input_linux.c.

References ckb_warn, isync(), usbdevice::uinput_mouse, x, and y.

Referenced by inputupdate(), and play_macro().

```
{
    struct input_event event;
    memset(&event, 0, sizeof(event));
    event.type = EV_REL;
    if(x != 0){
        event.code = REL_X;
        event.value = x;
        if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
            ckb_warn("uinput write failed: %s\n", strerror(errno));
        else
            isync(kb);
    }
    if(y != 0){
```

```
        event.code = REL_Y;
        event.value = y;
        if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
            ckb_warn("uinput write failed: %s\n", strerror(errno));
        else
            isync(kb);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.4.12 int os_setupindicators (usbdevice * *kb*)

Definition at line 189 of file input_linux.c.

References _ledthread(), usbdevice::hw_ileds, usbdevice::hw_ileds_old, and usbdevice::ileds.

Referenced by _setupusb().

```
189                                     {
190     // Initialize LEDs to all off
191     kb->hw_ileds = kb->hw_ileds_old = kb->ileds = 0;
192     // Create and detach thread to read LED events
193     pthread_t thread;
194     int err = pthread_create(&thread, 0, _ledthread, kb);
195     if(err != 0)
196         return err;
197     pthread_detach(thread);
198     return 0;
199 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.4.13 void updateindicators_kb (usbdevice * *kb*, int *force*)

Definition at line 261 of file input.c.

References usbdevice::active, usbprofile::currentmode, DELAY_SHORT, usbdevice::hw_ileds, usbdevice::hw_ileds_old, I_CAPS, I_NUM, I_SCROLL, usbdevice::ileds, usbmode::inotify, usbmode::ioff, usbmode::ion, nprintind(), os_sendindicators(), OUTFIFO_MAX, and usbdevice::profile.

```
261                                                 {
262     // Read current hardware indicator state (set externally)
263     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
264     uchar new = kb->hw_ileds, hw_new = new;
265     // Update them if needed
266     if(kb->active){
267         usbmode* mode = kb->profile->currentmode;
268         new = (new & ~mode->ioff) | mode->ion;
269     }
270     kb->ileds = new;
271     kb->hw_ileds_old = hw_new;
272     if(old != new || force){
273         DELAY_SHORT(kb);
274         os_sendindicators(kb);
275     }
276     // Print notifications if desired
277     if(!kb->active)
278         return;
279     usbmode* mode = kb->profile->currentmode;
280     uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
281     for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
282         uchar mask = indicators[i];
283         if((hw_old & mask) == (hw_new & mask))
284             continue;
285         for(int notify = 0; notify < OUTFIFO_MAX; notify++){
286             if(mode->inotify[notify] & mask)
287                 nprintind(kb, notify, mask, hw_new & mask);
288         }
289     }
290 }
```

Here is the call graph for this function:

13.22 src/ckb-daemon/input_linux.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
```

Include dependency graph for input_linux.c:

Functions

- int uinputopen (struct uinput_user_dev ∗indev, int mouse)
- int os_inputopen (usbdevice ∗kb)

  os_inputopen
- void os_inputclose (usbdevice ∗kb)
- static void isync (usbdevice ∗kb)
- void os_keypress (usbdevice ∗kb, int scancode, int down)
- void os_mousemove (usbdevice ∗kb, int x, int y)
- void ∗ _ledthread (void ∗ctx)
- int os_setupindicators (usbdevice ∗kb)

13.22.1 Function Documentation

13.22.1.1 void∗ _ledthread (void ∗ *ctx*)

Definition at line 165 of file input_linux.c.

References dmutex, usbdevice::hw_ileds, usbdevice::uinput_kb, and usbdevice::vtable.

Referenced by os_setupindicators().

```
165                         {
166     usbdevice* kb = ctx;
167     uchar ileds = 0;
168     // Read LED events from the uinput device
169     struct input_event event;
170     while (read(kb->uinput_kb - 1, &event, sizeof(event)) > 0) {
171         if (event.type == EV_LED && event.code < 8){
172             char which = 1 << event.code;
173             if(event.value)
174                 ileds |= which;
175             else
176                 ileds &= ~which;
177         }
178         // Update them if needed
179         pthread_mutex_lock(dmutex(kb));
180         if(kb->hw_ileds != ileds){
181             kb->hw_ileds = ileds;
182             kb->vtable->updateindicators(kb, 0);
183         }
184         pthread_mutex_unlock(dmutex(kb));
185     }
186     return 0;
187 }
```

Here is the caller graph for this function:

13.22.1.2 static void isync (usbdevice * *kb*) [static]

Definition at line 107 of file input_linux.c.

References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by os_keypress(), and os_mousemove().

```
107                                 {
108     struct input_event event;
109     memset(&event, 0, sizeof(event));
110     event.type = EV_SYN;
111     event.code = SYN_REPORT;
112     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
113         ckb_warn("uinput write failed: %s\n", strerror(errno));
114     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
115         ckb_warn("uinput write failed: %s\n", strerror(errno));
116 }
```

Here is the caller graph for this function:

13.22.1.3 void os_inputclose (usbdevice * *kb*)

Definition at line 76 of file input_linux.c.

References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by closeusb().

```
76                                  {
77     if(kb->uinput_kb <= 0 || kb->uinput_mouse <= 0)
78         return;
79     // Set all keys released
80     struct input_event event;
81     memset(&event, 0, sizeof(event));
82     event.type = EV_KEY;
83     for(int key = 0; key < KEY_CNT; key++){
84         event.code = key;
85         if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
86             ckb_warn("uinput write failed: %s\n", strerror(errno));
87         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
88             ckb_warn("uinput write failed: %s\n", strerror(errno));
89     }
90     event.type = EV_SYN;
91     event.code = SYN_REPORT;
92     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
93         ckb_warn("uinput write failed: %s\n", strerror(errno));
94     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
95         ckb_warn("uinput write failed: %s\n", strerror(errno));
96     // Close the keyboard
97     ioctl(kb->uinput_kb - 1, UI_DEV_DESTROY);
98     close(kb->uinput_kb - 1);
99     kb->uinput_kb = 0;
100     // Close the mouse
```

```
    ioctl(kb->uinput_mouse - 1, UI_DEV_DESTROY);
    close(kb->uinput_mouse - 1);
    kb->uinput_mouse = 0;
}
```

Here is the caller graph for this function:

13.22.1.4 int os_inputopen (usbdevice * kb)

Parameters

kb	

Returns

Some tips on using `uinput_user_dev in`

Definition at line 55 of file input_linux.c.

References usbdevice::fwversion, INDEX_OF, keyboard, usbdevice::name, usbdevice::product, usbdevice::uinput_kb, usbdevice::uinput_mouse, uinputopen(), and usbdevice::vendor.

Referenced by _setupusb().

```
55                                  {
56     // Create the new input device
57     int index = INDEX_OF(kb, keyboard);
58     struct uinput_user_dev indev;
59     memset(&indev, 0, sizeof(indev));
60     snprintf(indev.name, UINPUT_MAX_NAME_SIZE, "ckb%d: %s", index, kb->name);
61     indev.id.bustype = BUS_USB;
62     indev.id.vendor = kb->vendor;
63     indev.id.product = kb->product;
64     indev.id.version = kb->fwversion;
65     // Open keyboard
66     int fd = uinputopen(&indev, 0);
67     kb->uinput_kb = fd;
68     if(fd <= 0)
69         return 0;
70     // Open mouse
71     fd = uinputopen(&indev, 1);
72     kb->uinput_mouse = fd;
73     return fd <= 0;
74 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.22.1.5 void os_keypress (usbdevice * *kb*, int *scancode*, int *down*)

Definition at line 118 of file input_linux.c.

References BTN_WHEELDOWN, BTN_WHEELUP, ckb_warn, isync(), SCAN_MOUSE, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by inputupdate_keys(), and play_macro().

```
118                                                         {
119     struct input_event event;
120     memset(&event, 0, sizeof(event));
121     int is_mouse = 0;
122     if(scancode == BTN_WHEELUP || scancode == BTN_WHEELDOWN){
123         // The mouse wheel is a relative axis
124         if(!down)
125             return;
126         event.type = EV_REL;
127         event.code = REL_WHEEL;
128         event.value = (scancode == BTN_WHEELUP ? 1 : -1);
129         is_mouse = 1;
130     } else {
131         // Mouse buttons and key events are both EV_KEY. The scancodes are already correct, just remove the
        ckb bit
132         event.type = EV_KEY;
133         event.code = scancode & ~SCAN_MOUSE;
134         event.value = down;
135         is_mouse = !!(scancode & SCAN_MOUSE);
136     }
137     if(write((is_mouse ? kb->uinput_mouse : kb->uinput_kb) - 1, &event, sizeof(event))
        <= 0)
138         ckb_warn("uinput write failed: %s\n", strerror(errno));
139     else
140         isync(kb);
141 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.22.1.6 void os_mousemove (usbdevice * *kb*, int *x*, int *y*)

Definition at line 143 of file input_linux.c.

References ckb_warn, isync(), usbdevice::uinput_mouse, x, and y.

Referenced by inputupdate(), and play_macro().

```
143                                                 {
144     struct input_event event;
145     memset(&event, 0, sizeof(event));
146     event.type = EV_REL;
147     if(x != 0){
148         event.code = REL_X;
149         event.value = x;
150         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
151             ckb_warn("uinput write failed: %s\n", strerror(errno));
152         else
153             isync(kb);
154     }
155     if(y != 0){
156         event.code = REL_Y;
157         event.value = y;
158         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
159             ckb_warn("uinput write failed: %s\n", strerror(errno));
160         else
161             isync(kb);
162     }
163 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.22.1.7 int os_setupindicators (usbdevice * *kb*)

Definition at line 189 of file input_linux.c.

References _ledthread(), usbdevice::hw_ileds, usbdevice::hw_ileds_old, and usbdevice::ileds.

Referenced by _setupusb().

```
189                                         {
190     // Initialize LEDs to all off
191     kb->hw_ileds = kb->hw_ileds_old = kb->ileds = 0;
192     // Create and detach thread to read LED events
193     pthread_t thread;
194     int err = pthread_create(&thread, 0, _ledthread, kb);
195     if(err != 0)
```

```
        return err;
    pthread_detach(thread);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.22.1.8 int uinputopen (struct uinput_user_dev * *indev*, int *mouse*)

Definition at line 9 of file input_linux.c.

References ckb_err, and ckb_warn.

Referenced by os_inputopen().

```
9                                                       {
10      int fd = open("/dev/uinput", O_RDWR);
11      if(fd < 0){
12          // If that didn't work, try /dev/input/uinput instead
13          fd = open("/dev/input/uinput", O_RDWR);
14          if(fd < 0){
15              ckb_err("Failed to open uinput: %s\n", strerror(errno));
16              return 0;
17          }
18      }
19      // Enable all keys and mouse buttons
20      ioctl(fd, UI_SET_EVBIT, EV_KEY);
21      for(int i = 0; i < KEY_CNT; i++)
22          ioctl(fd, UI_SET_KEYBIT, i);
23      if(mouse){
24          // Enable mouse axes
25          ioctl(fd, UI_SET_EVBIT, EV_REL);
26          for(int i = 0; i < REL_CNT; i++)
27              ioctl(fd, UI_SET_RELBIT, i);
28      } else {
29          // Enable LEDs
30          ioctl(fd, UI_SET_EVBIT, EV_LED);
31          for(int i = 0; i < LED_CNT; i++)
32              ioctl(fd, UI_SET_LEDBIT, i);
33          // Eanble autorepeat
34          ioctl(fd, UI_SET_EVBIT, EV_REP);
35      }
36      // Enable sychronization
37      ioctl(fd, UI_SET_EVBIT, EV_SYN);
38      // Create the device
39      if(write(fd, indev, sizeof(*indev)) <= 0)
40          ckb_warn("uinput write failed: %s\n", strerror(errno));
41      if(ioctl(fd, UI_DEV_CREATE)){
42          ckb_err("Failed to create uinput device: %s\n", strerror(errno));
43          close(fd);
44          return 0;
45      }
46      return fd + 1;
47  }
```

Here is the caller graph for this function:

13.23 src/ckb-daemon/input_mac.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
```

Include dependency graph for input_mac.c:

13.24 src/ckb-daemon/input_mac_mouse.c File Reference

```
#include "includes.h"
```

Include dependency graph for input_mac_mouse.c:

13.25 src/ckb-daemon/keymap.c File Reference

```
#include "device.h"
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for keymap.c:

Macros

- #define BUTTON_HID_COUNT 5

Functions

- void hid_kb_translate (unsigned char ∗kbinput, int endpoint, int length, const unsigned char ∗urbinput)
- void hid_mouse_translate (unsigned char ∗kbinput, short ∗xaxis, short ∗yaxis, int endpoint, int length, const unsigned char ∗urbinput)
- void corsair_kbcopy (unsigned char ∗kbinput, int endpoint, const unsigned char ∗urbinput)
- void corsair_mousecopy (unsigned char ∗kbinput, int endpoint, const unsigned char ∗urbinput)

Variables

- const key keymap [(((152+3+12)+25)+12)]

13.25.1 Macro Definition Documentation

13.25.1.1 #define BUTTON_HID_COUNT 5

Definition at line 367 of file keymap.c.

Referenced by corsair_mousecopy(), and hid_mouse_translate().

13.25.2 Function Documentation

13.25.2.1 void corsair_kbcopy (unsigned char ∗ *kbinput,* int *endpoint,* const unsigned char ∗ *urbinput*)

Definition at line 397 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
397                                                                                                 {
398     if(endpoint == 2 || endpoint == -2){
399         if(urbinput[0] != 3)
400             return;
401         urbinput++;
402     }
403     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
404 }
```

Here is the caller graph for this function:

13.25.2.2 void corsair_mousecopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 406 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
406                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
407     if(endpoint == 2 || endpoint == -2){
408         if(urbinput[0] != 3)
409             return;
410         urbinput++;
411     }
412     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
413         int byte = bit / 8;
414         uchar test = 1 << (bit % 8);
415         if(urbinput[byte] & test)
416             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
417         else
418             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
419     }
420 }
```

Here is the caller graph for this function:

13.25.2.3 void hid_kb_translate (unsigned char * *kbinput*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 224 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
224                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
225     if(length < 1)
226         return;
227     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
228     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with keymap array indices and
      K95 keys added
229     // Make sure the indices match the keyindex as passed to nprintkey() in notify.c
230     static const short hid_codes[256] = {
231         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
232         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
233         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
234         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
235          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
236         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
237        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
238         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
239        130, 131,  -1,  -1,  -1,  -2,  -1,  83,  66,  85, 145, 144,  -2,  -1,  -1,  -1,
240         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
242         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
243         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -3,  -1,  -1,  -1,  // <- -3 = non-RGB
```

```
program key
    120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 136, 137, 138, 139, 140, 141,
     60,  48,  62,  61,  91,  90,  67,  68, 142, 143,  99, 101,  -2, 130, 131,  97,
     -2, 133, 134, 135,  -2,  96,  -2, 132,  -2,  -2,  71,  71,  71,  71,  -1,  -1,
 };
 switch(endpoint){
 case 1:
 case -1:
     // EP 1: 6KRO input (RGB and non-RGB)
     // Clear previous input
     for(int i = 0; i < 256; i++){
         if(hid_codes[i] >= 0)
             CLEAR_KEYBIT(kbinput, hid_codes[i]);
     }
     // Set new input
     for(int i = 0; i < 8; i++){
         if((urbinput[0] >> i) & 1)
             SET_KEYBIT(kbinput, hid_codes[i + 224]);
     }
     for(int i = 2; i < length; i++){
         if(urbinput[i] > 3){
             int scan = hid_codes[urbinput[i]];
             if(scan >= 0)
                 SET_KEYBIT(kbinput, scan);
             else
                 ckb_warn("Got unknown key press %d on EP 1\n", urbinput[i]);
         }
     }
     break;
 case -2:
     // EP 2 RGB: NKRO input
     if(urbinput[0] == 1){
         // Type 1: standard key
         if(length != 21)
             return;
         for(int bit = 0; bit < 8; bit++){
             if((urbinput[1] >> bit) & 1)
                 SET_KEYBIT(kbinput, hid_codes[bit + 224]);
             else
                 CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
         }
         for(int byte = 0; byte < 19; byte++){
             char input = urbinput[byte + 2];
             for(int bit = 0; bit < 8; bit++){
                 int keybit = byte * 8 + bit;
                 int scan = hid_codes[keybit];
                 if((input >> bit) & 1){
                     if(scan >= 0)
                         SET_KEYBIT(kbinput, hid_codes[keybit]);
                     else
                         ckb_warn("Got unknown key press %d on EP 2\n", keybit);
                 } else if(scan >= 0)
                     CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
             }
         }
         break;
     } else if (urbinput[0] == 2)
         ; // Type 2: media key (implicitly falls through)
     else
         break;  // No other known types
     /* FALLTHRU */
 case 2:
     // EP 2 Non-RGB: media keys
     CLEAR_KEYBIT(kbinput, 97);          // mute
     CLEAR_KEYBIT(kbinput, 98);          // stop
     CLEAR_KEYBIT(kbinput, 99);          // prev
     CLEAR_KEYBIT(kbinput, 100);         // play
     CLEAR_KEYBIT(kbinput, 101);         // next
     CLEAR_KEYBIT(kbinput, 130);         // volup
     CLEAR_KEYBIT(kbinput, 131);         // voldn
     for(int i = 0; i < length; i++){
         switch(urbinput[i]){
         case 181:
             SET_KEYBIT(kbinput, 101);   // next
             break;
         case 182:
             SET_KEYBIT(kbinput, 99);    // prev
             break;
         case 183:
             SET_KEYBIT(kbinput, 98);    // stop
             break;
         case 205:
             SET_KEYBIT(kbinput, 100);   // play
             break;
         case 226:
             SET_KEYBIT(kbinput, 97);    // mute
             break;
```

```
            case 233:
                SET_KEYBIT(kbinput, 130);   // volup
                break;
            case 234:
                SET_KEYBIT(kbinput, 131);   // voldn
                break;
            }
        }
        break;
    case 3:
        // EP 3 non-RGB: NKRO input
        if(length != 15)
            return;
        for(int bit = 0; bit < 8; bit++){
            if((urbinput[0] >> bit) & 1)
                SET_KEYBIT(kbinput, hid_codes[bit + 224]);
            else
                CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
        }
        for(int byte = 0; byte < 14; byte++){
            char input = urbinput[byte + 1];
            for(int bit = 0; bit < 8; bit++){
                int keybit = byte * 8 + bit;
                int scan = hid_codes[keybit];
                if((input >> bit) & 1){
                    if(scan >= 0)
                        SET_KEYBIT(kbinput, hid_codes[keybit]);
                    else
                        ckb_warn("Got unknown key press %d on EP 3\n", keybit);
                } else if(scan >= 0)
                    CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
            }
        }
        break;
    }
}
```

Here is the caller graph for this function:

13.25.2.4 void hid_mouse_translate (unsigned char * *kbinput*, short * *xaxis*, short * *yaxis*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 369 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
369
                                {
370     if((endpoint != 2 && endpoint != -2) || length < 10)
371         return;
372     // EP 2: mouse input
373     if(urbinput[0] != 1)
374         return;
375     // Byte 1 = mouse buttons (bitfield)
376     for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
377         if(urbinput[1] & (1 << bit))
378             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
379         else
380             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
381     }
382     // Bytes 5 - 8: movement
383     *xaxis += *(short*)(urbinput + 5);
384     *yaxis += *(short*)(urbinput + 7);
385     // Byte 9: wheel
386     char wheel = urbinput[9];
387     if(wheel > 0)
388         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
389     else
```

```
        CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);
    if(wheel < 0)
        SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);     // wheeldn
    else
        CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);
}
```

Here is the caller graph for this function:

13.25.3 Variable Documentation

13.25.3.1 const key keymap[(((152+3+12)+25)+12)]

Definition at line 5 of file keymap.c.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_rebind(), cmd_rgb(), initbind(), inputupdate_keys(), nprintkey(), printrgb(), readcmd(), and setactive_kb().

13.26 src/ckb-daemon/keymap_mac.h File Reference

`#include "os.h"`

Include dependency graph for keymap_mac.h:

This graph shows which files directly or indirectly include this file:

13.27 src/ckb-daemon/led.c File Reference

```
#include "command.h"
#include "led.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led.c:

Functions

- void cmd_rgb (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗code)
- static uchar iselect (const char ∗led)
- void cmd_ioff (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_ion (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_iauto (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_inotify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗led)
- static int has_key (const char ∗name, const usbdevice ∗kb)
- char ∗ printrgb (const lighting ∗light, const usbdevice ∗kb)

13.27.1 Function Documentation

13.27.1.1 void cmd_iauto (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *dummy1*, int *dummy2*, const char ∗ *led*)

Definition at line 63 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
63                                                                                  {
64     (void)dummy1;
65     (void)dummy2;
66
67     uchar bits = iselect(led);
68     // Remove the bits from both ioff and ion
69     mode->ioff &= ~bits;
70     mode->ion &= ~bits;
71     kb->vtable->updateindicators(kb, 0);
72 }
```

Here is the call graph for this function:

13.27.1.2 void cmd_inotify (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *led*)

Definition at line 74 of file led.c.

References usbmode::inotify, and iselect().

```
74                                                                                  {
75     (void)kb;
76     (void)dummy;
77
78     uchar bits = iselect(led);
79     if(strstr(led, ":off"))
80         // Turn notifications for these bits off
81         mode->inotify[nnumber] &= ~bits;
82     else
83         // Turn notifications for these bits on
84         mode->inotify[nnumber] |= bits;
85 }
```

Here is the call graph for this function:

13.27.1.3 void cmd_ioff (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *led*)

Definition at line 41 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
41                                                                                  {
42     (void)dummy1;
43     (void)dummy2;
44
45     uchar bits = iselect(led);
46     // Add the bits to ioff, remove them from ion
47     mode->ioff |= bits;
48     mode->ion &= ~bits;
49     kb->vtable->updateindicators(kb, 0);
50 }
```

Here is the call graph for this function:

13.27.1.4 void cmd_ion (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *led*)

Definition at line 52 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
52                                                                                  {
53     (void)dummy1;
54     (void)dummy2;
55
56     uchar bits = iselect(led);
57     // Remove the bits from ioff, add them to ion
58     mode->ioff &= ~bits;
59     mode->ion |= bits;
60     kb->vtable->updateindicators(kb, 0);
61 }
```

Here is the call graph for this function:

13.27.1.5 void cmd_rgb (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *code*)

Definition at line 6 of file led.c.

References lighting::b, lighting::g, keymap, key::led, usbmode::light, lighting::r, and lighting::sidelight.

```
6                                                                                   {
7     (void)kb;
8     (void)dummy;
9
10     int index = keymap[keyindex].led;
11     if(index < 0) {
12         if (index == -2){      // Process strafe sidelights
13             uchar sideshine;
14             if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
15                 mode->light.sidelight = sideshine;
16         }
17         return;
18     }
19     uchar r, g, b;
20     if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
21         mode->light.r[index] = r;
```

```
        mode->light.g[index] = g;
        mode->light.b[index] = b;
    }
}
```

13.27.1.6 static int has_key (const char * *name*, const usbdevice * *kb*) [static]

Definition at line 88 of file led.c.

References IS_K63, IS_K65, IS_K95, IS_MOUSE, IS_SABRE, IS_SCIMITAR, usbdevice::product, and usbdevice::vendor.

Referenced by printrgb().

```
88                                                          {
89     if(!name)
90         return 0;
91     if(IS_MOUSE(kb->vendor, kb->product)){
92         // Mice only have the RGB zones
93         if((IS_SABRE(kb) || IS_SCIMITAR(kb)) && !strcmp(name, "wheel"))
94             return 1;
95         if(IS_SCIMITAR(kb) && !strcmp(name, "thumb"))
96             return 1;
97         if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back"))
98             return 1;
99         return 0;
100     } else {
101         // But keyboards don't have them at all
102         if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back") || !strcmp(name,
      "wheel") || !strcmp(name, "thumb"))
103             return 0;
104         // Only K95 has G keys and M keys (G1 - G18, MR, M1 - M3)
105         if(!IS_K95(kb) && ((name[0] == 'g' && name[1] >= '1' && name[1] <= '9') || (name[0] == 'm' &&
      (name[1] == 'r' || name[1] == '1' || name[1] == '2' || name[1] == '3'))))
106             return 0;
107         // K65 and K63 have lights on VolUp/VolDn
108         if((!IS_K65(kb) && !IS_K63(kb)) && (!strcmp(name, "volup") || !strcmp(name, "voldn")))
109             return 0;
110         // K65 lacks numpad and media buttons
111         if(IS_K65(kb) && (strstr(name, "num") == name || !strcmp(name, "stop") || !strcmp(name, "prev
      ") || !strcmp(name, "play") || !strcmp(name, "next")))
112             return 0;
113         // K63 lacks numpad
114         if(IS_K63(kb) && strstr(name, "num") == name)
115             return 0;
116     }
117     return 1;
118 }
```

Here is the caller graph for this function:

13.27.1.7 static uchar iselect (const char * *led*) [static]

Definition at line 28 of file led.c.

References I_CAPS, I_NUM, and I_SCROLL.

Referenced by cmd_iauto(), cmd_inotify(), cmd_ioff(), and cmd_ion().

```
28                                          {
```

```
    int result = 0;
    if(!strncmp(led, "num", 3) || strstr(led, ",num"))
        result |= I_NUM;
    if(!strncmp(led, "caps", 4) || strstr(led, ",caps"))
        result |= I_CAPS;
    if(!strncmp(led, "scroll", 6) || strstr(led, ",scroll"))
        result |= I_SCROLL;
    if(!strncmp(led, "all", 3) || strstr(led, ",all"))
        result |= I_NUM | I_CAPS | I_SCROLL;
    return result;
}
```

Here is the caller graph for this function:

13.27.1.8 char* printrgb (const lighting * *light*, const usbdevice * *kb*)

Definition at line 120 of file led.c.

References lighting::b, lighting::g, has_key(), keymap, key::led, N_KEYS_EXTENDED, key::name, and lighting::r.

Referenced by _cmd_get().

```
120                                                     {
121     uchar r[N_KEYS_EXTENDED], g[N_KEYS_EXTENDED], b[
      N_KEYS_EXTENDED];
122     const uchar* mr = light->r;
123     const uchar* mg = light->g;
124     const uchar* mb = light->b;
125     for(int i = 0; i < N_KEYS_EXTENDED; i++){
126         // Translate the key index to an RGB index using the key map
127         int k = keymap[i].led;
128         if(k < 0)
129             continue;
130         r[i] = mr[k];
131         g[i] = mg[k];
132         b[i] = mb[k];
133     }
134     // Make a buffer to track key names and to filter out duplicates
135     char names[N_KEYS_EXTENDED][11];
136     for(int i = 0; i < N_KEYS_EXTENDED; i++){
137         const char* name = keymap[i].name;
138         if(keymap[i].led < 0 || !has_key(name, kb))
139             names[i][0] = 0;
140         else
141             strncpy(names[i], name, 11);
142     }
143     // Check to make sure these aren't all the same color
144     int same = 1;
145     for(int i = 1; i < N_KEYS_EXTENDED; i++){
146         if(!names[i][0])
```

```
            continue;
        if(r[i] != r[0] || g[i] != g[0] || b[i] != b[0]){
            same = 0;
            break;
        }
    }
    // If they are, just output that color
    if(same){
        char* buffer = malloc(7);
        snprintf(buffer, 7, "%02x%02x%02x", r[0], g[0], b[0]);
        return buffer;
    }
    const int BUFFER_LEN = 4096;    // Should be more than enough to fit all keys
    char* buffer = malloc(BUFFER_LEN);
    int length = 0;
    for(int i = 0; i < N_KEYS_EXTENDED; i++){
        if(!names[i][0])
            continue;
        // Print the key name
        int newlen = 0;
        snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%s%n" : " %s%n", names[i], &newlen);
        length += newlen;
        // Look ahead to see if any other keys have this color. If so, print them here as well.
        uchar kr = r[i], kg = g[i], kb = b[i];
        for(int j = i + 1; j < N_KEYS_EXTENDED; j++){
            if(!names[j][0])
                continue;
            if(r[j] != kr || g[j] != kg || b[j] != kb)
                continue;
            snprintf(buffer + length, BUFFER_LEN - length, ",%s%n", names[j], &newlen);
            length += newlen;
            // Erase the key's name so it won't get printed later
            names[j][0] = 0;
        }
        // Print the color
        snprintf(buffer + length, BUFFER_LEN - length, ":%02x%02x%02x%n", kr, kg, kb, &newlen);
        length += newlen;
    }
    return buffer;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.28 src/ckb-daemon/led.h File Reference

```
#include "includes.h"
```

```
#include "device.h"
```

Include dependency graph for led.h:

This graph shows which files directly or indirectly include this file:

Functions

- int updatergb_kb (usbdevice ∗kb, int force)
- int updatergb_mouse (usbdevice ∗kb, int force)
- int savergb_kb (usbdevice ∗kb, lighting ∗light, int mode)
- int savergb_mouse (usbdevice ∗kb, lighting ∗light, int mode)
- int loadrgb_kb (usbdevice ∗kb, lighting ∗light, int mode)
- int loadrgb_mouse (usbdevice ∗kb, lighting ∗light, int mode)
- char ∗ printrgb (const lighting ∗light, const usbdevice ∗kb)
- void cmd_rgb (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗code)
- void cmd_ioff (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_ion (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_iauto (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_inotify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗led)

13.28.1 Function Documentation

13.28.1.1 void cmd_iauto (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *dummy1*, int *dummy2*, const char ∗ *led*)

Definition at line 63 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
63                                                                                  {
64     (void)dummy1;
65     (void)dummy2;
66
67     uchar bits = iselect(led);
68     // Remove the bits from both ioff and ion
69     mode->ioff &= ~bits;
70     mode->ion &= ~bits;
71     kb->vtable->updateindicators(kb, 0);
72 }
```

Here is the call graph for this function:

13.28.1.2 void cmd_inotify (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *led*)

Definition at line 74 of file led.c.

References usbmode::inotify, and iselect().

```
74                                                                                  {
75     (void)kb;
76     (void)dummy;
77
78     uchar bits = iselect(led);
79     if(strstr(led, ":off"))
80         // Turn notifications for these bits off
81         mode->inotify[nnumber] &= ~bits;
82     else
83         // Turn notifications for these bits on
84         mode->inotify[nnumber] |= bits;
85 }
```

Here is the call graph for this function:

13.28.1.3 void cmd_ioff (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *led*)

Definition at line 41 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
41                                                                                  {
42     (void)dummy1;
43     (void)dummy2;
44
45     uchar bits = iselect(led);
46     // Add the bits to ioff, remove them from ion
47     mode->ioff |= bits;
48     mode->ion &= ~bits;
49     kb->vtable->updateindicators(kb, 0);
50 }
```

Here is the call graph for this function:

13.28.1.4 void cmd_ion (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *led*)

Definition at line 52 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
52                                                                                  {
53     (void)dummy1;
54     (void)dummy2;
55
56     uchar bits = iselect(led);
57     // Remove the bits from ioff, add them to ion
58     mode->ioff &= ~bits;
59     mode->ion |= bits;
60     kb->vtable->updateindicators(kb, 0);
61 }
```

Here is the call graph for this function:

13.28.1.5 void cmd_rgb (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *code*)

Definition at line 6 of file led.c.

References lighting::b, lighting::g, keymap, key::led, usbmode::light, lighting::r, and lighting::sidelight.

```
6                                                                                   {
7     (void)kb;
8     (void)dummy;
9
10     int index = keymap[keyindex].led;
11     if(index < 0) {
12         if (index == -2){      // Process strafe sidelights
13             uchar sideshine;
14             if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
15                 mode->light.sidelight = sideshine;
16         }
17         return;
18     }
19     uchar r, g, b;
20     if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
21         mode->light.r[index] = r;
```

```
        mode->light.g[index] = g;
        mode->light.b[index] = b;
    }
}
```

13.28.1.6 int loadrgb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Since Firmware Version 2.05 for K95RGB the answers for getting the stored color-maps from the hardware has changed a bit. So comparing for the correct answer cannot validate against the cmd, and has to be done against a third map. Up to now we know, that K70RGB Pro and K70 Lux RGB have firmware version 2.04 and having the problem also. So we have to determine in the most inner loop the firmware version and type of KB to select the correct compare-table.

Read colors

```
< That is the old comparison method: you get back what you sent.
```

Normally a firmware version >= 2.05 runs with the new compare array. Up to now there is a 2.04 running in K70 RGB Lux with the same behavior. It seems that K70RGB has the same problem

Definition at line 183 of file led_keyboard.c.

References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, IS_NEW_PROTOCOL, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
183                                                     {
184     if(kb->fwversion >= 0x0120 || IS_NEW_PROTOCOL(kb)){
185         uchar data_pkt[12][MSG_SIZE] = {
186             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
187             { 0xff, 0x01, 60, 0 },
188             { 0xff, 0x02, 60, 0 },
189             { 0xff, 0x03, 24, 0 },
190             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
191             { 0xff, 0x01, 60, 0 },
192             { 0xff, 0x02, 60, 0 },
193             { 0xff, 0x03, 24, 0 },
194             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
195             { 0xff, 0x01, 60, 0 },
196             { 0xff, 0x02, 60, 0 },
197             { 0xff, 0x03, 24, 0 },
198         };
199         uchar in_pkt[4][MSG_SIZE] = {
200             { 0x0e, 0x14, 0x03, 0x01 },
201             { 0xff, 0x01, 60, 0 },
202             { 0xff, 0x02, 60, 0 },
203             { 0xff, 0x03, 24, 0 },
204         };
205
211
212         uchar cmp_pkt[4][4] = {
213             { 0x0e, 0x14, 0x03, 0x01 },
214             { 0x0e, 0xff, 0x01, 60 },
215             { 0x0e, 0xff, 0x02, 60 },
216             { 0x0e, 0xff, 0x03, 24 },
217         };
219         uchar* colors[3] = { light->r, light->g, light->b };
220         for(int clr = 0; clr < 3; clr++){
221             for(int i = 0; i < 4; i++){
222                 if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
223                     return -1;
224
225                 uchar* comparePacket = data_pkt[i + clr * 4];
226                 if ((kb->fwversion >= 0x205)
230                         || ((kb->fwversion >= 0x204)
231                             && ((kb->product == P_K70_LUX_NRGB) || (kb->
    product == P_K70_LUX)))) {
232                     comparePacket = cmp_pkt[i];
233                 }
234
235                 if (memcmp(in_pkt[i], comparePacket, 4)) {
236                     ckb_err("Bad input header\n");
237                     ckb_err("color = %d, i = %d, mode = %d\nOutput (Request): %2.2x %2.2x %2.2x
     %2.2x\nInput(Reply): %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x\n", clr, i, mode,
238                         comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
239                         in_pkt[i][0], in_pkt[i][1], in_pkt[i][2], in_pkt[i][3], in_pkt[i][4], in_pkt[i][5],
```

```
in_pkt[i][6], in_pkt[i][7]);
                    in_pkt[2][0] = 0x99;
                    in_pkt[2][1] = 0x99;
                    in_pkt[2][2] = 0x99;
                    in_pkt[2][3] = 0x99;
                    usbrecv(kb, in_pkt[2], in_pkt[2]); // just to find it in the wireshark log
                    return -1;
                }
            }
            // Copy colors to lighting. in_pkt[0] is irrelevant.
            memcpy(colors[clr], in_pkt[1] + 4, 60);
            memcpy(colors[clr] + 60, in_pkt[2] + 4, 60);
            memcpy(colors[clr] + 120, in_pkt[3] + 4, 24);
        }
    } else {
        uchar data_pkt[5][MSG_SIZE] = {
            { 0x0e, 0x14, 0x02, 0x01, 0x01, mode + 1, 0 },
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 60, 0 },
            { 0xff, 0x04, 36, 0 },
        };
        uchar in_pkt[4][MSG_SIZE] = {
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 60, 0 },
            { 0xff, 0x04, 36, 0 },
        };
        // Write initial packet
        if(!usbsend(kb, data_pkt[0], 1))
            return -1;
        // Read colors
        for(int i = 1; i < 5; i++){
            if(!usbrecv(kb, data_pkt[i],in_pkt[i - 1]))
                return -1;
            if(memcmp(in_pkt[i - 1], data_pkt[i], 4)){
                ckb_err("Bad input header\n");
                return -1;
            }
        }
        // Copy the data back to the mode
        uint8_t mr[N_KEYS_HW / 2], mg[N_KEYS_HW / 2], mb[
N_KEYS_HW / 2];
        memcpy(mr,      in_pkt[0] +  4, 60);
        memcpy(mr + 60, in_pkt[1] +  4, 12);
        memcpy(mg,      in_pkt[1] + 16, 48);
        memcpy(mg + 48, in_pkt[2] +  4, 24);
        memcpy(mb,      in_pkt[2] + 28, 36);
        memcpy(mb + 36, in_pkt[3] +  4, 36);
        // Unpack LED data to 8bpc format
        for(int i = 0; i < N_KEYS_HW; i++){
            int     i_2 = i / 2;
            uint8_t r, g, b;

            // 3-bit intensities stored in alternate nybbles.
            if (i & 1) {
                r = 7 - (mr[i_2] >> 4);
                g = 7 - (mg[i_2] >> 4);
                b = 7 - (mb[i_2] >> 4);
            } else {
                r = 7 - (mr[i_2] & 0x0F);
                g = 7 - (mg[i_2] & 0x0F);
                b = 7 - (mb[i_2] & 0x0F);
            }
            // Scale 3-bit values up to 8 bits.
            light->r[i] = r << 5 | r << 2 | r >> 1;
            light->g[i] = g << 5 | g << 2 | g >> 1;
            light->b[i] = b << 5 | b << 2 | b >> 1;
        }
    }
    return 0;
}
```

Here is the caller graph for this function:

13.28.1.7 int loadrgb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 87 of file led_mouse.c.

References lighting::b, ckb_err, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbrecv.

Referenced by cmd_hwload_mouse().

```
87                                                                  {
88     (void)mode;
89
90     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
91     uchar in_pkt[MSG_SIZE] = { 0 };
92     // Load each RGB zone
93     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
94     for(int i = 0; i < zonecount; i++){
95         if(!usbrecv(kb, data_pkt, in_pkt))
96             return -1;
97         if(memcmp(in_pkt, data_pkt, 4)){
98             ckb_err("Bad input header\n");
99             return -2;
100         }
101         // Copy data
102         int led = LED_MOUSE + i;
103         if(led >= LED_DPI)
104             led++;          // Skip DPI light
105         light->r[led] = in_pkt[4];
106         light->g[led] = in_pkt[5];
107         light->b[led] = in_pkt[6];
108         // Set packet for next zone
109         data_pkt[2]++;
110     }
111     return 0;
112 }
```

Here is the caller graph for this function:

13.28.1.8 char* printrgb (const lighting * *light*, const usbdevice * *kb*)

Definition at line 120 of file led.c.

References lighting::b, lighting::g, has_key(), keymap, key::led, N_KEYS_EXTENDED, key::name, and lighting::r.

Referenced by _cmd_get().

```
{
    uchar r[N_KEYS_EXTENDED], g[N_KEYS_EXTENDED], b[N_KEYS_EXTENDED];
    const uchar* mr = light->r;
    const uchar* mg = light->g;
    const uchar* mb = light->b;
    for(int i = 0; i < N_KEYS_EXTENDED; i++){
        // Translate the key index to an RGB index using the key map
        int k = keymap[i].led;
        if(k < 0)
            continue;
        r[i] = mr[k];
        g[i] = mg[k];
        b[i] = mb[k];
    }
    // Make a buffer to track key names and to filter out duplicates
    char names[N_KEYS_EXTENDED][11];
    for(int i = 0; i < N_KEYS_EXTENDED; i++){
        const char* name = keymap[i].name;
        if(keymap[i].led < 0 || !has_key(name, kb))
            names[i][0] = 0;
        else
            strncpy(names[i], name, 11);
    }
    // Check to make sure these aren't all the same color
    int same = 1;
    for(int i = 1; i < N_KEYS_EXTENDED; i++){
        if(!names[i][0])
            continue;
        if(r[i] != r[0] || g[i] != g[0] || b[i] != b[0]){
            same = 0;
            break;
        }
    }
    // If they are, just output that color
    if(same){
        char* buffer = malloc(7);
        snprintf(buffer, 7, "%02x%02x%02x", r[0], g[0], b[0]);
        return buffer;
    }
    const int BUFFER_LEN = 4096;    // Should be more than enough to fit all keys
    char* buffer = malloc(BUFFER_LEN);
    int length = 0;
    for(int i = 0; i < N_KEYS_EXTENDED; i++){
        if(!names[i][0])
            continue;
        // Print the key name
        int newlen = 0;
        snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%s%n" : " %s%n", names[i], &newlen);
        length += newlen;
        // Look ahead to see if any other keys have this color. If so, print them here as well.
        uchar kr = r[i], kg = g[i], kb = b[i];
        for(int j = i + 1; j < N_KEYS_EXTENDED; j++){
            if(!names[j][0])
                continue;
            if(r[j] != kr || g[j] != kg || b[j] != kb)
                continue;
            snprintf(buffer + length, BUFFER_LEN - length, ",%s%n", names[j], &newlen);
            length += newlen;
            // Erase the key's name so it won't get printed later
            names[j][0] = 0;
        }
        // Print the color
        snprintf(buffer + length, BUFFER_LEN - length, ":%02x%02x%02x%n", kr, kg, kb, &newlen);
        length += newlen;
    }
    return buffer;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.28.1.9 int savergb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 141 of file led_keyboard.c.

References usbdevice::dither, usbdevice::fwversion, IS_NEW_PROTOCOL, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

Referenced by cmd_hwsave_kb().

```
141                                                         {
142     if(kb->fwversion >= 0x0120 || IS_NEW_PROTOCOL(kb)){
143         uchar data_pkt[12][MSG_SIZE] = {
144             // Red
145             { 0x7f, 0x01, 60, 0 },
146             { 0x7f, 0x02, 60, 0 },
147             { 0x7f, 0x03, 24, 0 },
148             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
149             // Green
150             { 0x7f, 0x01, 60, 0 },
151             { 0x7f, 0x02, 60, 0 },
152             { 0x7f, 0x03, 24, 0 },
153             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
154             // Blue
155             { 0x7f, 0x01, 60, 0 },
156             { 0x7f, 0x02, 60, 0 },
157             { 0x7f, 0x03, 24, 0 },
158             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
159         };
160         makergb_full(light, data_pkt);
161         if(!usbsend(kb, data_pkt[0], 12))
162             return -1;
163         if (IS_STRAFE(kb)){ // end save
164             uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
165             if(!usbsend(kb, save_end_pkt, 1))
166                 return -1;
167         }
168     } else {
169         uchar data_pkt[5][MSG_SIZE] = {
170             { 0x7f, 0x01, 60, 0 },
171             { 0x7f, 0x02, 60, 0 },
172             { 0x7f, 0x03, 60, 0 },
173             { 0x7f, 0x04, 36, 0 },
174             { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
175         };
```

```
        makergb_512(light, data_pkt, kb->dither ? ordered8to3 : quantize8to3);
        if(!usbsend(kb, data_pkt[0], 5))
            return -1;
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.28.1.10 int savergb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 66 of file led_mouse.c.

References lighting::b, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbsend.

Referenced by cmd_hwsave_mouse().

```
66                                                          {
67     (void)mode;
68
69     uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
70     // Save each RGB zone, minus the DPI light which is sent in the DPI packets
71     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
72     for(int i = 0; i < zonecount; i++){
73         int led = LED_MOUSE + i;
74         if(led >= LED_DPI)
75             led++;          // Skip DPI light
76         data_pkt[4] = light->r[led];
```

```
        data_pkt[5] = light->g[led];
        data_pkt[6] = light->b[led];
        if(!usbsend(kb, data_pkt, 1))
            return -1;
        // Set packet for next zone
        data_pkt[2]++;
    }
    return 0;
}
```

Here is the caller graph for this function:

13.28.1.11 int updatergb_kb (usbdevice * *kb*, int *force*)

Definition at line 79 of file led_keyboard.c.

References usbdevice::active, usbprofile::currentmode, usbdevice::dither, lighting::forceupdate, IS_FULLRANGE, usbprofile::lastlight, usbmode::light, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), usbdevice::profile, quantize8to3(), rgbcmp(), lighting::sidelight, and usbsend.

```
79                                          {
80     if(!kb->active)
81         return 0;
82     lighting* lastlight = &kb->profile->lastlight;
83     lighting* newlight = &kb->profile->currentmode->
      light;
84     // Don't do anything if the lighting hasn't changed
85     if(!force && !lastlight->forceupdate && !newlight->forceupdate
86             && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->
      sidelight)   // strafe sidelights
87         return 0;
88     lastlight->forceupdate = newlight->forceupdate = 0;
89
90     if(IS_FULLRANGE(kb)){
91         // Update strafe sidelights if necessary
92         if(lastlight->sidelight != newlight->sidelight) {
93             uchar data_pkt[2][MSG_SIZE] = {
94                  { 0x07, 0x05, 0x08, 0x00, 0x00 },
95                  { 0x07, 0x05, 0x02, 0, 0x03 }
96              };
97              if (newlight->sidelight)
98                  data_pkt[0][4]=1;    // turn on
99              if(!usbsend(kb, data_pkt[0], 2))
100                  return -1;
101         }
102         // 16.8M color lighting works fine on strafe and is the only way it actually works
103         uchar data_pkt[12][MSG_SIZE] = {
104             // Red
105             { 0x7f, 0x01, 0x3c, 0 },
106             { 0x7f, 0x02, 0x3c, 0 },
107             { 0x7f, 0x03, 0x18, 0 },
108             { 0x07, 0x28, 0x01, 0x03, 0x01, 0},
109             // Green
110             { 0x7f, 0x01, 0x3c, 0 },
111             { 0x7f, 0x02, 0x3c, 0 },
112             { 0x7f, 0x03, 0x18, 0 },
113             { 0x07, 0x28, 0x02, 0x03, 0x01, 0},
114             // Blue
115             { 0x7f, 0x01, 0x3c, 0 },
116             { 0x7f, 0x02, 0x3c, 0 },
117             { 0x7f, 0x03, 0x18, 0 },
118             { 0x07, 0x28, 0x03, 0x03, 0x02, 0}
119         };
120         makergb_full(newlight, data_pkt);
```

```
        if(!usbsend(kb, data_pkt[0], 12))
            return -1;
    } else {
        // On older keyboards it looks flickery and causes lighting glitches, so we don't use it.
        uchar data_pkt[5][MSG_SIZE] = {
            { 0x7f, 0x01, 60, 0 },
            { 0x7f, 0x02, 60, 0 },
            { 0x7f, 0x03, 60, 0 },
            { 0x7f, 0x04, 36, 0 },
            { 0x07, 0x27, 0x00, 0x00, 0xD8 }
        };
        makergb_512(newlight, data_pkt, kb->dither ? ordered8to3 : quantize8to3);
        if(!usbsend(kb, data_pkt[0], 5))
            return -1;
    }

    memcpy(lastlight, newlight, sizeof(lighting));
    return 0;
}
```

Here is the call graph for this function:

13.28.1.12 int updatergb_mouse (usbdevice * *kb*, int *force*)

Definition at line 20 of file led_mouse.c.

References usbdevice::active, lighting::b, usbprofile::currentmode, lighting::forceupdate, lighting::g, IS_GLAIVE, isblack(), usbprofile::lastlight, LED_MOUSE, usbmode::light, MSG_SIZE, N_MOUSE_ZONES, usbdevice::profile, lighting::r, rgbcmp(), and usbsend.

```
20                                                  {
21     if(!kb->active)
22         return 0;
23     lighting* lastlight = &kb->profile->lastlight;
24     lighting* newlight = &kb->profile->currentmode->light;
25     // Don't do anything if the lighting hasn't changed
26     if(!force && !lastlight->forceupdate && !newlight->forceupdate
27             && !rgbcmp(lastlight, newlight))
28         return 0;
29     lastlight->forceupdate = newlight->forceupdate = 0;
30
31     // Prevent writing to DPI LEDs or non-existent LED zones for the Glaive.
32     int num_zones = IS_GLAIVE(kb) ? 3 : N_MOUSE_ZONES;
```

```
    // Send the RGB values for each zone to the mouse
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x07, 0x22, num_zones, 0x01, 0 }, // RGB colors
        { 0x07, 0x05, 0x02, 0 }                 // Lighting on/off
    };
    uchar* rgb_data = &data_pkt[0][4];
    for(int i = 0; i < N_MOUSE_ZONES; i++){
        if (IS_GLAIVE(kb) && i != 0 && i != 1 && i != 5)
        continue;
        *rgb_data++ = i + 1;
        *rgb_data++ = newlight->r[LED_MOUSE + i];
        *rgb_data++ = newlight->g[LED_MOUSE + i];
        *rgb_data++ = newlight->b[LED_MOUSE + i];
    }
    // Send RGB data
    if(!usbsend(kb, data_pkt[0], 1))
        return -1;
    int was_black = isblack(kb, lastlight), is_black = isblack(kb, newlight);
    if(is_black){
        // If the lighting is black, send the deactivation packet (M65 only)
        if(!usbsend(kb, data_pkt[1], 1))
            return -1;
    } else if(was_black || force){
        // If the lighting WAS black, or if we're on forced update, send the activation packet
        data_pkt[1][4] = 1;
        if(!usbsend(kb, data_pkt[1], 1))
            return -1;
    }

    memcpy(lastlight, newlight, sizeof(lighting));
    return 0;
}
```

Here is the call graph for this function:

13.29 src/ckb-daemon/led_keyboard.c File Reference

```
#include <stdint.h>
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led_keyboard.c:

Macros

- #define BR1(x) ((((x) & 0xaa) >> 1) | (((x) & 0x55) << 1))
- #define BR2(x) (((BR1(x) & 0xcc) >> 2) | ((BR1(x) & 0x33) << 2))
- #define BR4(x) (((BR2(x) & 0xf0) >> 4) | ((BR2(x) & 0x0f) << 4))
- #define O0(i) BR4(i),
- #define O1(i) O0(i) O0((i) + 1)
- #define O2(i) O1(i) O1((i) + 2)
- #define O3(i) O2(i) O2((i) + 4)
- #define O4(i) O3(i) O3((i) + 8)
- #define O5(i) O4(i) O4((i) + 16)
- #define O6(i) O5(i) O5((i) + 32)
- #define O7(i) O6(i) O6((i) + 64)
- #define O8(i) O7(i) O7((i) + 127)

Functions

- static uchar ordered8to3 (int index, uchar value)
- static uchar quantize8to3 (int index, uchar value)
- static void makergb_512 (const lighting *light, uchar data_pkt[5][64], uchar(*ditherfn)(int, uchar))
- static void makergb_full (const lighting *light, uchar data_pkt[12][64])
- static int rgbcmp (const lighting *lhs, const lighting *rhs)
- int updatergb_kb (usbdevice *kb, int force)
- int savergb_kb (usbdevice *kb, lighting *light, int mode)
- int loadrgb_kb (usbdevice *kb, lighting *light, int mode)

Variables

- static uchar bit_reverse_table [256] = { (((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | (((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | (((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 2) + 1) & 0xaa) >> 1) |

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((( ( ( 0 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 2 ) + 1
) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( 0 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 2 ) + 1
) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 2 ) + 1 ) & 0x55) << 1))
& 0x33) << 2)) & 0x0f) << 4)), ((((((((((( 0 ) + 4 ) & 0xaa) >> 1) | ((( ( 0 ) + 4 ) & 0x55) << 1)) & 0xcc) >>
2) | ((((((( 0 ) + 4 ) & 0xaa) >> 1) | ((( ( 0 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( 0 )
+ 4 ) & 0xaa) >> 1) | ((( ( 0 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( 0 ) + 4 ) & 0xaa) >> 1) | ((( ( 0 ) +
4 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( 0 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 )
+ 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 1 ) & 0x55) <<
1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( 0 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 1 ) & 0x55) <<
1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33) <<
2)) & 0x0f) << 4)), ((((((((((( ( ( 0 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >>
2) | ((((((( ( ( 0 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4)
| (((((((((( ( ( 0 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 4
) + 2 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( 0 ) +
4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 4 ) +
2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( (
( ( 0 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0
) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)),
((((((((((( 0 ) + 8 ) & 0xaa) >> 1) | ((( ( 0 ) + 8 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( 0 ) + 8 ) & 0xaa) >>
1) | ((( ( 0 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( 0 ) + 8 ) & 0xaa) >> 1) | ((( ( 0 )
+ 8 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( 0 ) + 8 ) & 0xaa) >> 1) | ((( ( 0 ) + 8 ) & 0x55) << 1)) & 0x33)
<< 2)) & 0x0f) << 4)), ((((((((((( ( 0 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc)
>> 2) | ((((((( ( ( 0 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0)
>> 4) | (((((((((( ( ( 0 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( (
0 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( (
( 0 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 8 ) + 2 ) &
0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( 0 ) + 8 ) + 2 ) &
0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 8 ) + 2 ) & 0xaa) >> 1) | (((
( ( 0 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0xaa) >>
1) | ((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1)
| ((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( 0 ) + 8 ) + 2 ) + 1 )
& 0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) &
0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( 0 ) + 8 )
+ 4 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 8 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( 0 ) + 8 ) + 4 ) & 0xaa) >>
1) | ((( ( ( 0 ) + 8 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( 0 ) + 8 ) + 4 ) & 0xaa) >>
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+ 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( 0 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( (
0 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( 0 )
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1) | ((( ( ( ( 0 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) |
((( ( ( ( 0 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( 0 ) + 8 ) + 4 ) + 2 )
& 0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) &
0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( 0 ) + 8 )
+ 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( 0 ) + 8 ) + 4 )
+ 2 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( (
( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) |
((((((( ( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33)
<< 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1
) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 8 ) + 4
) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( 0 ) + 16 ) & 0xaa) >> 1) | ((( 0 ) +
16 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( 0 ) + 16 ) & 0xaa) >> 1) | ((( 0 ) + 16 ) & 0x55) << 1)) & 0x33)
<< 2)) & 0xf0) >> 4) | (((((((((( 0 ) + 16 ) & 0xaa) >> 1) | ((( 0 ) + 16 ) & 0x55) << 1)) & 0xcc) >> 2) |
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) + 16 ) + 1 ) & 0xaa) >> 1) | ((( ( 0 ) + 16 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( 0 ) + 16 ) + 1 ) &
0xaa) >> 1) | ((( ( 0 ) + 16 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( 0 ) + 16 ) + 1 )
& 0xaa) >> 1) | ((( ( 0 ) + 16 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( 0 ) + 16 ) + 1 ) & 0xaa) >>
1) | ((( ( 0 ) + 16 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( 0 ) + 16 ) + 2 ) & 0xaa)
>> 1) | ((( ( 0 ) + 16 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( 0 ) + 16 ) + 2 ) & 0xaa) >> 1) | ((( ( ( 0
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) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 16) + 4) & 0xaa) >> 1) | (((((0) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 4) & 0xaa) >> 1) | (((((0) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 4) & 0xaa) >> 1) | (((((0) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 4) & 0xaa) >> 1) | (((((0) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 16) + 8) & 0xaa) >> 1) | (((((0) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 8) & 0xaa) >> 1) | (((((0) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 8) & 0xaa) >> 1) | (((((0) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 8) & 0xaa) >> 1) | (((((0) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) +

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32) + 4) & 0xaa) >> 1) | (((((0) + 32) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 4) & 0xaa) >> 1) | (((((0) + 32) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 32) + 8) & 0xaa) >> 1) | ((((0) + 32) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 32) + 8) & 0xaa) >> 1) | ((((0) + 32) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 32) + 8) & 0xaa) >> 1) | ((((0) + 32) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 32) + 8) & 0xaa) >> 1) | ((((0) + 32) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 32) + 8) + 1) & 0xaa) >> 1) | (((((0) + 32) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 8) + 1) & 0xaa) >> 1) | (((((0) + 32) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 32) + 8) + 1) & 0xaa) >> 1) | (((((0) + 32) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 8) + 1) & 0xaa) >> 1) | (((((0) + 32) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 8) + 2) + 1) & 0x55) 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16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 4) + 1) 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| ((((((((0) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 32) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16)

+ 8) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | 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2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 64) + 8) & 0xaa) >> 1) | (((((0) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 8) & 0xaa) >> 1) | (((((0) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 64) + 8) & 0xaa) >> 1) | (((((0) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 8) & 0xaa) >> 1) | (((((0) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), 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+ 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 16) & 0xaa) >> 1) | (((((0) + 64) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 16) & 0xaa) >> 1) | (((((0) + 64) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 64) + 16) & 0xaa) >> 1) | (((((0) + 64) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 16) & 0xaa) >> 1) | (((((0) + 64) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 16) + 1) & 0xaa) >> 1) | 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& 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | 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+ 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((0) + 64) + 32) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((0) + 64) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((0) + 64) + 32) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((0) + 64) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 32) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) 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>> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 16 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( 0 ) + 127 ) + 32 ) +
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+ 127 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0x55) << 1))
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& 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 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64) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | 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127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | 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+ 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 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| ((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0

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+ 127 ) + 64 ) + 16 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) +
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0 ) + 127 ) + 64 ) + 16 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( 0 ) + 127 ) + 64
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+ 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( (
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127 ) + 64 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) & 0x55) << 1)) &
0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) +
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0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) & 0x55) <<
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+ 64 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) <<
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+ 64 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) <<
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127 ) + 64 ) + 16 ) + 8 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) & 0xaa) >>
1) | ((( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( 0 ) +
127 ) + 64 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) & 0x55) << 1)) & 0xcc) >>
2) | ((((((( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) & 0x55)
<< 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) |
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& 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 )
+ 16 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) + 1 ) & 0xaa) >>
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<< 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127
) + 64 ) + 16 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) +
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& 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 32) + 8) & 0xaa) >> 1) |
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+ 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | (((
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(((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0)

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+ 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( (
```

```
( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( 0 ) +
127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 2
) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 )
+ 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) |
((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) +
16 ) + 8 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16
) + 8 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0x55) << 1)) & 0xcc) >>
2) | ((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32
) + 16 ) + 8 ) + 4 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 )
+ 16 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 1 ) & 0x55)
<< 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( (
( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( (
( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) +
16 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4
) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0x33)
<< 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( (
( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( 0 ) +
127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4
) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8
) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) &
0xcc) >> 2) | ((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 )
+ 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( (
( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) +
16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8
) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55)
<< 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1
) & 0xaa) >> 1) | ((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc)
>> 2) | ((((((( ( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0
) + 127 ) + 64 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), }
```

13.29.1 Macro Definition Documentation

13.29.1.1 #define BR1(x) (((x) & 0xaa) >> 1) | ((x) & 0x55) << 1))

Definition at line 9 of file led_keyboard.c.

13.29.1.2 #define BR2(x) (((BR1(x) & 0xcc) >> 2) | ((BR1(x) & 0x33) << 2))

Definition at line 10 of file led_keyboard.c.

13.29.1.3 #define BR4(x) (((BR2(x) & 0xf0) >> 4) | ((BR2(x) & 0x0f) << 4))

Definition at line 11 of file led_keyboard.c.

13.29.1.4 #define O0(*i*) BR4(i),

Definition at line 12 of file led_keyboard.c.

13.29.1.5 #define O1(*i*) O0(i) O0((i) + 1)

Definition at line 13 of file led_keyboard.c.

13.29.1.6 #define O2(*i*) O1(i) O1((i) + 2)

Definition at line 14 of file led_keyboard.c.

13.29.1.7 #define O3(*i*) O2(i) O2((i) + 4)

Definition at line 15 of file led_keyboard.c.

13.29.1.8 #define O4(*i*) O3(i) O3((i) + 8)

Definition at line 16 of file led_keyboard.c.

13.29.1.9 #define O5(*i*) O4(i) O4((i) + 16)

Definition at line 17 of file led_keyboard.c.

13.29.1.10 #define O6(*i*) O5(i) O5((i) + 32)

Definition at line 18 of file led_keyboard.c.

13.29.1.11 #define O7(*i*) O6(i) O6((i) + 64)

Definition at line 19 of file led_keyboard.c.

13.29.1.12 #define O8(*i*) O7(i) O7((i) + 127)

Definition at line 20 of file led_keyboard.c.

13.29.2 Function Documentation

13.29.2.1 int loadrgb_kb (usbdevice * *kb,* lighting * *light,* int *mode*)

Since Firmware Version 2.05 for K95RGB the answers for getting the stored color-maps from the hardware has changed a bit. So comparing for the correct answer cannot validate against the cmd, and has to be done against a third map. Up to now we know, that K70RGB Pro and K70 Lux RGB have firmware version 2.04 and having the problem also. So we have to determine in the most inner loop the firmware version and type of KB to select the correct compare-table.

Read colors

```
< That is the old comparison method: you get back what you sent.
```

Normally a firmware version >= 2.05 runs with the new compare array. Up to now there is a 2.04 running in K70 RGB Lux with the same behavior. It seems that K70RGB has the same problem

Definition at line 183 of file led_keyboard.c.

References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, IS_NEW_PROTOCOL, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
183                                                     {
184     if(kb->fwversion >= 0x0120 || IS_NEW_PROTOCOL(kb)){
185         uchar data_pkt[12][MSG_SIZE] = {
186             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
```

```
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 24, 0 },
            { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 24, 0 },
            { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 24, 0 },
        };
        uchar in_pkt[4][MSG_SIZE] = {
            { 0x0e, 0x14, 0x03, 0x01 },
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 24, 0 },
        };


        uchar cmp_pkt[4][4] = {
            { 0x0e, 0x14, 0x03, 0x01 },
            { 0x0e, 0xff, 0x01, 60 },
            { 0x0e, 0xff, 0x02, 60 },
            { 0x0e, 0xff, 0x03, 24 },
        };
        uchar* colors[3] = { light->r, light->g, light->b };
        for(int clr = 0; clr < 3; clr++){
            for(int i = 0; i < 4; i++){
                if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
                    return -1;

                uchar* comparePacket = data_pkt[i + clr * 4];
                if ((kb->fwversion >= 0x205)
                        || ((kb->fwversion >= 0x204)
                            && ((kb->product == P_K70_LUX_NRGB) || (kb->product == P_K70_LUX)))) {
                    comparePacket = cmp_pkt[i];
                }

                if (memcmp(in_pkt[i], comparePacket, 4)) {
                    ckb_err("Bad input header\n");
                    ckb_err("color = %d, i = %d, mode = %d\nOutput (Request): %2.2x %2.2x %2.2x %2.2x\nInput(Reply): %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x\n", clr, i, mode,
                        comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
                        in_pkt[i][0], in_pkt[i][1], in_pkt[i][2], in_pkt[i][3], in_pkt[i][4], in_pkt[i][5], in_pkt[i][6], in_pkt[i][7]);
                    in_pkt[2][0] = 0x99;
                    in_pkt[2][1] = 0x99;
                    in_pkt[2][2] = 0x99;
                    in_pkt[2][3] = 0x99;
                    usbrecv(kb, in_pkt[2], in_pkt[2]); // just to find it in the wireshark log
                    return -1;
                }
            }
            // Copy colors to lighting. in_pkt[0] is irrelevant.
            memcpy(colors[clr], in_pkt[1] + 4, 60);
            memcpy(colors[clr] + 60, in_pkt[2] + 4, 60);
            memcpy(colors[clr] + 120, in_pkt[3] + 4, 24);
        }
    } else {
        uchar data_pkt[5][MSG_SIZE] = {
            { 0x0e, 0x14, 0x02, 0x01, 0x01, mode + 1, 0 },
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 60, 0 },
            { 0xff, 0x04, 36, 0 },
        };
        uchar in_pkt[4][MSG_SIZE] = {
            { 0xff, 0x01, 60, 0 },
            { 0xff, 0x02, 60, 0 },
            { 0xff, 0x03, 60, 0 },
            { 0xff, 0x04, 36, 0 },
        };
        // Write initial packet
        if(!usbsend(kb, data_pkt[0], 1))
            return -1;
        // Read colors
        for(int i = 1; i < 5; i++){
            if(!usbrecv(kb, data_pkt[i],in_pkt[i - 1]))
                return -1;
            if(memcmp(in_pkt[i - 1], data_pkt[i], 4)){
                ckb_err("Bad input header\n");
                return -1;
            }
        }
        // Copy the data back to the mode
```

```
        uint8_t mr[N_KEYS_HW / 2], mg[N_KEYS_HW / 2], mb[N_KEYS_HW / 2];
        memcpy(mr,      in_pkt[0] +  4, 60);
        memcpy(mr + 60, in_pkt[1] +  4, 12);
        memcpy(mg,      in_pkt[1] + 16, 48);
        memcpy(mg + 48, in_pkt[2] +  4, 24);
        memcpy(mb,      in_pkt[2] + 28, 36);
        memcpy(mb + 36, in_pkt[3] +  4, 36);
        // Unpack LED data to 8bpc format
        for(int i = 0; i < N_KEYS_HW; i++){
            int     i_2 = i / 2;
            uint8_t r, g, b;

            // 3-bit intensities stored in alternate nybbles.
            if (i & 1) {
                r = 7 - (mr[i_2] >> 4);
                g = 7 - (mg[i_2] >> 4);
                b = 7 - (mb[i_2] >> 4);
            } else {
                r = 7 - (mr[i_2] & 0x0F);
                g = 7 - (mg[i_2] & 0x0F);
                b = 7 - (mb[i_2] & 0x0F);
            }
            // Scale 3-bit values up to 8 bits.
            light->r[i] = r << 5 | r << 2 | r >> 1;
            light->g[i] = g << 5 | g << 2 | g >> 1;
            light->b[i] = b << 5 | b << 2 | b >> 1;
        }
    }
    return 0;
}
```

Here is the caller graph for this function:

13.29.2.2 static void makergb_512 (const lighting * *light*, uchar *data_pkt[5][64]*, uchar(*)(int, uchar) *ditherfn*) [static]

Definition at line 38 of file led_keyboard.c.

References lighting::b, lighting::g, N_KEYS_HW, and lighting::r.

Referenced by savergb_kb(), and updatergb_kb().

```
{
    uchar r[N_KEYS_HW / 2], g[N_KEYS_HW / 2], b[N_KEYS_HW / 2];
    // Compress RGB values to a 512-color palette
    for(int i = 0; i < N_KEYS_HW; i += 2){
        char r1 = ditherfn(i, light->r[i]), r2 = ditherfn(i + 1, light->r[i + 1]);
        char g1 = ditherfn(i, light->g[i]), g2 = ditherfn(i + 1, light->g[i + 1]);
        char b1 = ditherfn(i, light->b[i]), b2 = ditherfn(i + 1, light->b[i + 1]);
        r[i / 2] = (7 - r2) << 4 | (7 - r1);
        g[i / 2] = (7 - g2) << 4 | (7 - g1);
        b[i / 2] = (7 - b2) << 4 | (7 - b1);
    }
    memcpy(data_pkt[0] + 4, r, 60);
    memcpy(data_pkt[1] + 4, r + 60, 12);
    memcpy(data_pkt[1] + 16, g, 48);
    memcpy(data_pkt[2] + 4, g + 48, 24);
    memcpy(data_pkt[2] + 28, b, 36);
    memcpy(data_pkt[3] + 4, b + 36, 36);
}
```

Here is the caller graph for this function:

13.29.2.3 static void makergb_full (const lighting * *light*, uchar *data_pkt[12][64]*) [static]

Definition at line 58 of file led_keyboard.c.

References lighting::b, lighting::g, and lighting::r.

Referenced by savergb_kb(), and updatergb_kb().

```
58                                                                                  {
59     const uchar* r = light->r, *g = light->g, *b = light->b;
60     // Red
61     memcpy(data_pkt[0] + 4, r, 60);
62     memcpy(data_pkt[1] + 4, r + 60, 60);
63     memcpy(data_pkt[2] + 4, r + 120, 24);
64     // Green (final R packet is blank)
65     memcpy(data_pkt[4] + 4, g, 60);
66     memcpy(data_pkt[5] + 4, g + 60, 60);
67     memcpy(data_pkt[6] + 4, g + 120, 24);
68     // Blue (final G packet is blank)
69     memcpy(data_pkt[8] + 4, b, 60);
70     memcpy(data_pkt[9] + 4, b + 60, 60);
71     memcpy(data_pkt[10] + 4, b + 120, 24);
72 }
```

Here is the caller graph for this function:

13.29.2.4 static uchar ordered8to3 (int *index*, uchar *value*) [static]

Definition at line 24 of file led_keyboard.c.

References bit_reverse_table.

Referenced by savergb_kb(), and updatergb_kb().

```
24                                                  {
```

```
    int m = value * 7;
    int b = m / 255;
    if((m % 255) > bit_reverse_table[index & 0xff])
        b++;
    return b;
}
```

Here is the caller graph for this function:

13.29.2.5 static uchar quantize8to3 (int *index*, uchar *value*) [static]

Definition at line 32 of file led_keyboard.c.

Referenced by savergb_kb(), and updatergb_kb().

```
32                                                  {
33     (void)index;
34
35     return value >> 5;
36 }
```

Here is the caller graph for this function:

13.29.2.6 static int rgbcmp (const lighting * *lhs*, const lighting * *rhs*) [static]

Definition at line 74 of file led_keyboard.c.

References lighting::b, lighting::g, N_KEYS_HW, and lighting::r.

Referenced by updatergb_kb().

```
74                                                          {
75     // Compare two light structures, ignore mouse zones
76     return memcmp(lhs->r, rhs->r, N_KEYS_HW) || memcmp(lhs->g, rhs->
       g, N_KEYS_HW) || memcmp(lhs->b, rhs->b, N_KEYS_HW);
77 }
```

Here is the caller graph for this function:

13.29.2.7 int savergb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 141 of file led_keyboard.c.

References usbdevice::dither, usbdevice::fwversion, IS_NEW_PROTOCOL, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

Referenced by cmd_hwsave_kb().

```
141                                                         {
142     if(kb->fwversion >= 0x0120 || IS_NEW_PROTOCOL(kb)){
143         uchar data_pkt[12][MSG_SIZE] = {
144             // Red
145             { 0x7f, 0x01, 60, 0 },
146             { 0x7f, 0x02, 60, 0 },
147             { 0x7f, 0x03, 24, 0 },
148             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
149             // Green
150             { 0x7f, 0x01, 60, 0 },
151             { 0x7f, 0x02, 60, 0 },
152             { 0x7f, 0x03, 24, 0 },
153             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
154             // Blue
155             { 0x7f, 0x01, 60, 0 },
156             { 0x7f, 0x02, 60, 0 },
157             { 0x7f, 0x03, 24, 0 },
158             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
159         };
160         makergb_full(light, data_pkt);
161         if(!usbsend(kb, data_pkt[0], 12))
162             return -1;
163         if (IS_STRAFE(kb)){ // end save
164             uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
165             if(!usbsend(kb, save_end_pkt, 1))
166                 return -1;
167         }
168     } else {
169         uchar data_pkt[5][MSG_SIZE] = {
170             { 0x7f, 0x01, 60, 0 },
171             { 0x7f, 0x02, 60, 0 },
172             { 0x7f, 0x03, 60, 0 },
173             { 0x7f, 0x04, 36, 0 },
174             { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
175         };
176         makergb_512(light, data_pkt, kb->dither ? ordered8to3 :
    quantize8to3);
177         if(!usbsend(kb, data_pkt[0], 5))
178             return -1;
179     }
180     return 0;
181 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.29.2.8 int updatergb_kb (usbdevice * *kb*, int *force*)

Definition at line 79 of file led_keyboard.c.

References usbdevice::active, usbprofile::currentmode, usbdevice::dither, lighting::forceupdate, IS_FULLRANGE, usbprofile::lastlight, usbmode::light, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), usbdevice::profile, quantize8to3(), rgbcmp(), lighting::sidelight, and usbsend.

```
79                                          {
80     if(!kb->active)
81         return 0;
82     lighting* lastlight = &kb->profile->lastlight;
83     lighting* newlight = &kb->profile->currentmode->
    light;
84     // Don't do anything if the lighting hasn't changed
85     if(!force && !lastlight->forceupdate && !newlight->forceupdate
86             && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->
    sidelight)   // strafe sidelights
87         return 0;
88     lastlight->forceupdate = newlight->forceupdate = 0;
89
90     if(IS_FULLRANGE(kb)){
91         // Update strafe sidelights if necessary
92         if(lastlight->sidelight != newlight->sidelight) {
93             uchar data_pkt[2][MSG_SIZE] = {
94                  { 0x07, 0x05, 0x08, 0x00, 0x00 },
95                  { 0x07, 0x05, 0x02, 0, 0x03 }
96              };
97              if (newlight->sidelight)
```

```
                data_pkt[0][4]=1;    // turn on
            if(!usbsend(kb, data_pkt[0], 2))
                return -1;
        }
        // 16.8M color lighting works fine on strafe and is the only way it actually works
        uchar data_pkt[12][MSG_SIZE] = {
            // Red
            { 0x7f, 0x01, 0x3c, 0 },
            { 0x7f, 0x02, 0x3c, 0 },
            { 0x7f, 0x03, 0x18, 0 },
            { 0x07, 0x28, 0x01, 0x03, 0x01, 0},
            // Green
            { 0x7f, 0x01, 0x3c, 0 },
            { 0x7f, 0x02, 0x3c, 0 },
            { 0x7f, 0x03, 0x18, 0 },
            { 0x07, 0x28, 0x02, 0x03, 0x01, 0},
            // Blue
            { 0x7f, 0x01, 0x3c, 0 },
            { 0x7f, 0x02, 0x3c, 0 },
            { 0x7f, 0x03, 0x18, 0 },
            { 0x07, 0x28, 0x03, 0x03, 0x02, 0}
        };
        makergb_full(newlight, data_pkt);
        if(!usbsend(kb, data_pkt[0], 12))
            return -1;
    } else {
        // On older keyboards it looks flickery and causes lighting glitches, so we don't use it.
        uchar data_pkt[5][MSG_SIZE] = {
            { 0x7f, 0x01, 60, 0 },
            { 0x7f, 0x02, 60, 0 },
            { 0x7f, 0x03, 60, 0 },
            { 0x7f, 0x04, 36, 0 },
            { 0x07, 0x27, 0x00, 0x00, 0xD8 }
        };
        makergb_512(newlight, data_pkt, kb->dither ? ordered8to3 : quantize8to3);
        if(!usbsend(kb, data_pkt[0], 5))
            return -1;
    }

    memcpy(lastlight, newlight, sizeof(lighting));
    return 0;
}
```

Here is the call graph for this function:

13.29.3 Variable Documentation

13.29.3.1 **uchar bit_reverse_table[256] =** { ((((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 1) & 0xaa) >> 1) | (((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 2) & 0xaa) >> 1) | (((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 4) & 0xaa) >> 1) | (((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 4) & 0xaa) >> 1) | (((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 4) & 0xaa) >> 1) | (((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 4) & 0xaa) >> 1) | (((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 8) & 0xaa) >> 1) | (((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 8) & 0xaa) >> 1) | (((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) & 0xaa) >> 1) | (((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 8) & 0xaa) >> 1) | (((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | (((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | (((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | (((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | (((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 4) & 0xaa) >> 1) | (((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 4) & 0xaa) >> 1) | (((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | (((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | (((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | (((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | (((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | (((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | (((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | (((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | (((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 32) + 1) & 0xaa) >> 1) | (((((0) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 1) & 0xaa) >> 1) | (((((0) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 32) + 1) & 0xaa) >> 1) | (((((0) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 1) & 0xaa) >> 1) | (((((0) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 32) + 2) & 0xaa) >> 1) | (((((0) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 2) & 0xaa) >> 1) | (((((0) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 32) + 2) & 0xaa) >> 1) | (((((0) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 2) & 0xaa) >> 1) | (((((0) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 32) + 2) + 1) 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Referenced by ordered8to3().

13.30 src/ckb-daemon/led_mouse.c File Reference

```
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led_mouse.c:

Functions

- static int rgbcmp (const lighting ∗lhs, const lighting ∗rhs)
- static int isblack (const usbdevice ∗kb, const lighting ∗light)
- int updatergb_mouse (usbdevice ∗kb, int force)
- int savergb_mouse (usbdevice ∗kb, lighting ∗light, int mode)
- int loadrgb_mouse (usbdevice ∗kb, lighting ∗light, int mode)

13.30.1 Function Documentation

13.30.1.1 static int isblack (const usbdevice ∗ *kb*, const lighting ∗ *light*) [static]

Definition at line 13 of file led_mouse.c.

References lighting::b, lighting::g, IS_M65, LED_MOUSE, N_MOUSE_ZONES, and lighting::r.

Referenced by updatergb_mouse().

```
13                                                                  {
14     if(!IS_M65(kb))
15         return 0;
16     uchar black[N_MOUSE_ZONES] = { 0 };
17     return !memcmp(light->r + LED_MOUSE, black, sizeof(black)) && !memcmp(light->
      g + LED_MOUSE, black, sizeof(black)) && !memcmp(light->b + LED_MOUSE, black, sizeof(
      black));
18 }
```

Here is the caller graph for this function:

13.30.1.2 int loadrgb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 87 of file led_mouse.c.

References lighting::b, ckb_err, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbrecv.

Referenced by cmd_hwload_mouse().

```
87                                                          {
88     (void)mode;
89
90     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
91     uchar in_pkt[MSG_SIZE] = { 0 };
92     // Load each RGB zone
93     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
94     for(int i = 0; i < zonecount; i++){
95         if(!usbrecv(kb, data_pkt, in_pkt))
96             return -1;
97         if(memcmp(in_pkt, data_pkt, 4)){
98             ckb_err("Bad input header\n");
99             return -2;
100         }
101         // Copy data
102         int led = LED_MOUSE + i;
103         if(led >= LED_DPI)
104             led++;          // Skip DPI light
105         light->r[led] = in_pkt[4];
106         light->g[led] = in_pkt[5];
107         light->b[led] = in_pkt[6];
108         // Set packet for next zone
109         data_pkt[2]++;
110     }
111     return 0;
112 }
```

Here is the caller graph for this function:

13.30.1.3 static int rgbcmp (const lighting * *lhs*, const lighting * *rhs*) [static]

Definition at line 7 of file led_mouse.c.

References lighting::b, lighting::g, LED_MOUSE, N_MOUSE_ZONES, and lighting::r.

Referenced by updatergb_mouse().

```
{
    return memcmp(lhs->r + LED_MOUSE, rhs->r + LED_MOUSE, N_MOUSE_ZONES) || memcmp(lhs->g + LED_MOUSE, rhs->g + LED_MOUSE, N_MOUSE_ZONES) || memcmp(lhs->b + LED_MOUSE, rhs->b + LED_MOUSE, N_MOUSE_ZONES);
}
```

Here is the caller graph for this function:

13.30.1.4 int savergb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 66 of file led_mouse.c.

References lighting::b, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbsend.

Referenced by cmd_hwsave_mouse().

```
{
    (void)mode;

    uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
    // Save each RGB zone, minus the DPI light which is sent in the DPI packets
    int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
    for(int i = 0; i < zonecount; i++){
        int led = LED_MOUSE + i;
        if(led >= LED_DPI)
            led++;          // Skip DPI light
        data_pkt[4] = light->r[led];
        data_pkt[5] = light->g[led];
        data_pkt[6] = light->b[led];
        if(!usbsend(kb, data_pkt, 1))
            return -1;
        // Set packet for next zone
        data_pkt[2]++;
    }
    return 0;
}
```

Here is the caller graph for this function:

13.30.1.5 int updatergb_mouse (usbdevice * *kb*, int *force*)

Definition at line 20 of file led_mouse.c.

References usbdevice::active, lighting::b, usbprofile::currentmode, lighting::forceupdate, lighting::g, IS_GLAIVE, isblack(), usbprofile::lastlight, LED_MOUSE, usbmode::light, MSG_SIZE, N_MOUSE_ZONES, usbdevice::profile, lighting::r, rgbcmp(), and usbsend.

```
20                                                  {
21     if(!kb->active)
22         return 0;
23     lighting* lastlight = &kb->profile->lastlight;
24     lighting* newlight = &kb->profile->currentmode->
      light;
25     // Don't do anything if the lighting hasn't changed
26     if(!force && !lastlight->forceupdate && !newlight->forceupdate
27             && !rgbcmp(lastlight, newlight))
28         return 0;
29     lastlight->forceupdate = newlight->forceupdate = 0;
30
31     // Prevent writing to DPI LEDs or non-existent LED zones for the Glaive.
32     int num_zones = IS_GLAIVE(kb) ? 3 : N_MOUSE_ZONES;
33     // Send the RGB values for each zone to the mouse
34     uchar data_pkt[2][MSG_SIZE] = {
35         { 0x07, 0x22, num_zones, 0x01, 0 }, // RGB colors
36         { 0x07, 0x05, 0x02, 0 }                 // Lighting on/off
37     };
38     uchar* rgb_data = &data_pkt[0][4];
39     for(int i = 0; i < N_MOUSE_ZONES; i++){
40         if (IS_GLAIVE(kb) && i != 0 && i != 1 && i != 5)
41         continue;
42         *rgb_data++ = i + 1;
43         *rgb_data++ = newlight->r[LED_MOUSE + i];
44         *rgb_data++ = newlight->g[LED_MOUSE + i];
45         *rgb_data++ = newlight->b[LED_MOUSE + i];
46     }
47     // Send RGB data
48     if(!usbsend(kb, data_pkt[0], 1))
49         return -1;
50     int was_black = isblack(kb, lastlight), is_black = isblack(kb, newlight);
51     if(is_black){
52         // If the lighting is black, send the deactivation packet (M65 only)
53         if(!usbsend(kb, data_pkt[1], 1))
54             return -1;
55     } else if(was_black || force){
56         // If the lighting WAS black, or if we're on forced update, send the activation packet
57         data_pkt[1][4] = 1;
58         if(!usbsend(kb, data_pkt[1], 1))
59             return -1;
60     }
61
62     memcpy(lastlight, newlight, sizeof(lighting));
63     return 0;
64 }
```

Here is the call graph for this function:

13.31 src/ckb-daemon/main.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "led.h"
#include "notify.h"
```

Include dependency graph for main.c:

Functions

- static void quitWithLock (char mut)

  quitWithLock
- int restart ()
- void timespec_add (struct timespec ∗timespec, long nanoseconds)
- static void quit ()

  quit Stop working the daemon. function is called if the daemon received a sigterm In this case, locking the device-mutex is ok.
- void sighandler2 (int type)
- void sighandler (int type)
- void localecase (char ∗dst, size_t length, const char ∗src)
- int main (int argc, char ∗∗argv)

Variables

- static int main_ac
- static char ∗∗ main_av
- volatile int reset_stop

  brief .
- int features_mask

  brief .
- int hwload_mode

  hwload_mode = 1 means read hardware once. should be enough

13.31.1 Function Documentation

13.31.1.1 void localecase (char ∗ *dst*, size_t *length*, const char ∗ *src*)

Definition at line 71 of file main.c.

```
{
    char* ldst = dst + length;
    char s;
    while((s = *src++)){
        if(s == '_')
            s = '-';
        else
            s = tolower(s);
        *dst++ = s;
        if(dst == ldst){
            dst--;
            break;
        }
    }
    *dst = 0;
}
```

13.31.1.2 int main (int *argc*, char ** *argv*)

Definition at line 88 of file main.c.

References ckb_fatal_nofile, ckb_info(), ckb_info_nofile, ckb_warn_nofile, devpath, FEAT_BIND, FEAT_MOUSEACCEL, FEAT_NOTIFY, features_mask, gid, hwload_mode, keyboard, main_ac, main_av, mkdevpath(), quit(), restart(), sighandler(), and usbmain().

Referenced by restart().

```
{
    // Set output pipes to buffer on newlines, if they weren't set that way already
    setlinebuf(stdout);
    setlinebuf(stderr);
    main_ac = argc;
    main_av = argv;

    printf("    ckb: Corsair RGB driver %s\n", CKB_VERSION_STR);
    // If --help occurs anywhere in the command-line, don't launch the program but instead print usage
    for(int i = 1; i < argc; i++){
        if(!strcmp(argv[i], "--help")){
            printf(
#ifdef OS_MAC
                        "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify] [--nobind] [--nomouseaccel] [--nonroot]\n"
#else
                        "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify] [--nobind] [--nonroot]\n"
#endif
                        "\n"
                        "See https://github.com/ccMSC/ckb/blob/master/DAEMON.md for full instructions.\n"
                        "\n"
                        "Command-line parameters:\n"
                        "    --gid=<gid>\n"
                        "        Restrict access to %s* nodes to users in group <gid>.\n"
                        "        (Ordinarily they are accessible to anyone)\n"
                        "    --hwload=<always|try|never>\n"
                        "        --hwload=always will force loading of stored hardware profiles on compatible devices. May result in long start up times.\n"
                        "        --hwload=try will try to load the profiles, but give up if not immediately successful (default).\n"
                        "        --hwload=never will ignore hardware profiles completely.\n"
                        "    --nonotify\n"
                        "        Disables key monitoring/notifications.\n"
                        "        Note that this makes reactive lighting impossible.\n"
                        "    --nobind\n"
                        "        Disables all key rebinding, macros, and notifications. Implies --nonotify.\n"
#ifdef OS_MAC
                        "    --nomouseaccel\n"
                        "        Disables mouse acceleration, even if the system preferences enable it.\n"
#endif
                        "    --nonroot\n"
                        "        Allows running ckb-daemon as a non root user.\n"
                        "        This will almost certainly not work. Use only if you know what you're doing.\n"
                        "\n", devpath);
            exit(0);
        }
    }

    // Check PID, quit if already running
    char pidpath[strlen(devpath) + 6];
    snprintf(pidpath, sizeof(pidpath), "%s0/pid", devpath);
```

```
    FILE* pidfile = fopen(pidpath, "r");
    if(pidfile){
        pid_t pid;
        fscanf(pidfile, "%d", &pid);
        fclose(pidfile);
        if(pid > 0){
            // kill -s 0 checks if the PID is active but doesn't send a signal
            if(!kill(pid, 0)){
                ckb_fatal_nofile("ckb-daemon is already running (PID %d). Try `killall ckb-daemon`.\n", pid);
                ckb_fatal_nofile("(If you're certain the process is dead, delete %s and try again)\n", pidpath);
                return 0;
            }
        }
    }

    // Read parameters
    int forceroot = 1;
    for(int i = 1; i < argc; i++){
        char* argument = argv[i];
        unsigned newgid;
        char hwload[7];
        if(sscanf(argument, "--gid=%u", &newgid) == 1){
            // Set dev node GID
            gid = newgid;
            ckb_info_nofile("Setting /dev node gid: %u\n", newgid);
        } else if(!strcmp(argument, "--nobind")){
            // Disable key notifications and rebinding
            features_mask &= ~FEAT_BIND & ~FEAT_NOTIFY;
            ckb_info_nofile("Key binding and key notifications are disabled\n");
        } else if(!strcmp(argument, "--nonotify")){
            // Disable key notifications
            features_mask &= ~FEAT_NOTIFY;
            ckb_info_nofile("Key notifications are disabled\n");
        } else if(sscanf(argument, "--hwload=%6s", hwload) == 1){
            if(!strcmp(hwload, "always") || !strcmp(hwload, "yes") || !strcmp(hwload, "y") || !strcmp(hwload, "a")){
                hwload_mode = 2;
                ckb_info_nofile("Setting hardware load: always\n");
            } else if(!strcmp(hwload, "tryonce") || !strcmp(hwload, "try") || !strcmp(hwload, "once") || !strcmp(hwload, "t") || !strcmp(hwload, "o")){
                hwload_mode = 1;
                ckb_info_nofile("Setting hardware load: tryonce\n");
            } else if(!strcmp(hwload, "never") || !strcmp(hwload, "none") || !strcmp(hwload, "no") || !strcmp(hwload, "n")){
                hwload_mode = 0;
                ckb_info_nofile("Setting hardware load: never\n");
            }
        } else if(!strcmp(argument, "--nonroot")){
            // Allow running as a non-root user
            forceroot = 0;
        }
#ifdef OS_MAC
        else if(!strcmp(argument, "--nomouseaccel")){
            // On OSX, provide an option to disable mouse acceleration
            features_mask &= ~FEAT_MOUSEACCEL;
            ckb_info_nofile("Mouse acceleration disabled\n");
        }
#endif
    }

    // Check UID
    if(getuid() != 0){
        if(forceroot){
            ckb_fatal_nofile("ckb-daemon must be run as root. Try `sudo %s`\n", argv[0]);
            exit(0);
        } else
            ckb_warn_nofile("Warning: not running as root, allowing anyway per command-line parameter...\n");
    }

    // Make root keyboard
    umask(0);
    memset(keyboard, 0, sizeof(keyboard));
    if(!mkdevpath(keyboard))
        ckb_info("Root controller ready at %s0\n", devpath);

    // Set signals
    sigset_t signals;
    sigfillset(&signals);
    sigdelset(&signals, SIGTERM);
    sigdelset(&signals, SIGINT);
    sigdelset(&signals, SIGQUIT);
    sigdelset(&signals, SIGUSR1);
    // Set up signal handlers for quitting the service.
    sigprocmask(SIG_SETMASK, &signals, 0);
```

```
    signal(SIGTERM, sighandler);
    signal(SIGINT, sighandler);
    signal(SIGQUIT, sighandler);
    signal(SIGUSR1, (void (*)())restart);

    // Start the USB system
    int result = usbmain();
    quit();
    return result;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.31.1.3 static void quit ( ) [static]

Definition at line 30 of file main.c.

References quitWithLock().

Referenced by KbFirmware::_fileForBoard(), KbFirmware::_latestForBoard(), FwUpgradeDialog::fwUpdateFinished(), main(), and sighandler().

```
30                  {
31      quitWithLock(1);
32  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.31.1.4 void quitWithLock (char *mut*) [static]

Parameters

mut	try to close files maybe without locking the mutex if mut == true then lock

Definition at line 40 of file main.c.

References ckb_info(), closeusb(), DEV_MAX, devmutex, IS_CONNECTED, keyboard, reset_stop, revertusb(), rmdevpath(), and usbkill().

Referenced by quit(), and restart().

```
40                              {
41     // Abort any USB resets in progress
42     reset_stop = 1;
43     for(int i = 1; i < DEV_MAX; i++){
44         // Before closing, set all keyboards back to HID input mode so that the stock driver can still talk
       to them
45         if (mut) pthread_mutex_lock(devmutex + i);
46         if(IS_CONNECTED(keyboard + i)){
47             revertusb(keyboard + i);
48             closeusb(keyboard + i);
49         }
50         pthread_mutex_unlock(devmutex + i);
51     }
52     ckb_info("Closing root controller\n");
53     rmdevpath(keyboard);
54     usbkill();
55 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.31.1.5 int restart ( )

Definition at line 228 of file main.c.

References ckb_err, main(), main_ac, main_av, and quitWithLock().

Referenced by cmd_restart(), and main().

```
228             {
229     ckb_err("restart called, running quit without mutex-lock.\n");
230     quitWithLock(0);
231     return main(main_ac, main_av);
232 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.31.1.6 void sighandler (int *type*)

Definition at line 62 of file main.c.

References quit(), and sighandler2().

Referenced by main().

```
62                          {
63     signal(SIGTERM, sighandler2);
64     signal(SIGINT, sighandler2);
65     signal(SIGQUIT, sighandler2);
66     printf("\n[I] Caught signal %d\n", type);
67     quit();
68     exit(0);
69 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.31.1.7 void sighandler2 (int *type*)

Definition at line 57 of file main.c.

Referenced by sighandler().

```
57                          {
58     // Don't use ckb_warn, we want an extra \n at the beginning
59     printf("\n[W] Ignoring signal %d (already shutting down)\n", type);
60 }
```

Here is the caller graph for this function:

13.31.1.8 void timespec_add (struct timespec * *timespec,* long *nanoseconds*)

Definition at line 19 of file main.c.

```
19                                                          {
20     nanoseconds += timespec->tv_nsec;
21     timespec->tv_sec += nanoseconds / 1000000000;
22     timespec->tv_nsec = nanoseconds % 1000000000;
23 }
```

13.31.2 Variable Documentation

13.31.2.1 int features_mask

features_mask Mask of features to exclude from all devices

That bit mask ist set to enable all (-1). When interpreting the input parameters, some of these bits can be cleared.

At the moment binding, notifying and mouse-acceleration can be disabled via command line.

Have a look at *main()* in main.c for details.

Definition at line 35 of file usb.c.

Referenced by _setupusb(), and main().

13.31.2.2 int hwload_mode

Definition at line 7 of file device.c.

Referenced by main().

13.31.2.3 int main_ac [static]

Definition at line 7 of file main.c.

Referenced by main(), and restart().

13.31.2.4 char** main_av [static]

Definition at line 8 of file main.c.

Referenced by main(), and restart().

13.31.2.5 volatile int reset_stop

reset_stop is boolean: Reset stopper for when the program shuts down.

Is set only by *quit()* to true (1) to inform several usb_* functions to end their loops and tries.

Definition at line 25 of file usb.c.

Referenced by _usbrecv(), _usbsend(), quitWithLock(), and usb_tryreset().

13.32 src/ckb-gradient/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <time.h>
#include <stdio.h>
```

Include dependency graph for main.c:

Data Structures

- struct keyAnim

Macros

- #define NONE -1.f
- #define HOLD -2.f

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

- ckb_gradient animcolor = { 0 }
- int kphold = 0
- int kprelease = 0
- int randomize = 0
- struct keyAnim * anim

13.32.1 Data Structure Documentation

13.32.1.1 struct keyAnim

Definition at line 47 of file main.c.

Collaboration diagram for keyAnim:

Data Fields

ckb_gradient	gradient	
float	target	

13.32.2 Macro Definition Documentation

13.32.2.1 #define HOLD -2.f

Definition at line 45 of file main.c.

Referenced by ckb_frame(), and ckb_keypress().

13.32.2.2 #define NONE -1.f

Definition at line 44 of file main.c.

Referenced by ckb_init(), ckb_keypress(), and ckb_start().

13.32.3 Function Documentation

13.32.3.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 137 of file main.c.

References ckb_key::a, animcolor, ckb_key::b, ckb_grad_color(), ckb_key::g, keyAnim::gradient, HOLD, ckb_runctx::keycount, ckb_runctx::keys, phase, ckb_key::r, randomize, and keyAnim::target.

```
137                                 {
138     // Draw key colors
139     unsigned count = context->keycount;
140     for(unsigned i = 0; i < count; i++){
141         float phase = anim[i].target;
142
143         if(phase == HOLD)
144             phase = 0.f;
145         else if(phase < 0.f)
146             phase = 1.f;
147         ckb_key* key = context->keys + i;
148         float a, r, g, b;
149         ckb_gradient thisGradient;
150         if (randomize) {
151             thisGradient = anim[i].gradient;
152         } else {
153             thisGradient = animcolor;
154         }
155         ckb_grad_color(&a, &r, &g, &b, &thisGradient, phase * 100.);
156         key->a = a;
157         key->r = r;
158         key->g = g;
159         key->b = b;
160     }
161     return 0;
162 }
```

Here is the call graph for this function:

13.32.3.2 void ckb_info ( )

Definition at line 5 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NAME, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

Referenced by main(), and quitWithLock().

```
5                 {
6     // Plugin info
7     CKB_NAME("Gradient");
8     CKB_VERSION("0.9");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{54DD2975-E192-457D-BCFC-D912A24E33B4}");
12     CKB_DESCRIPTION("A transition from one color to another.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Color:", "", "ffffffff");
16     CKB_PARAM_BOOL("kphold", "Freeze until key is released", TRUE);
17     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
```

```
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_NAME);
21     CKB_TIMEMODE(CKB_TIME_DURATION);
22     CKB_LIVEPARAMS(TRUE);
23
24     // Presets
25     CKB_PRESET_START("Fade in");
26     CKB_PRESET_PARAM("color", "ff000000");
27     CKB_PRESET_PARAM("duration", "1.0");
28     CKB_PRESET_PARAM("stop", "0");
29     CKB_PRESET_PARAM("kpstop", "0");
30     CKB_PRESET_END;
31
32     CKB_PRESET_START("Rainbow");
33     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
34     CKB_PRESET_PARAM("duration", "2.0");
35     CKB_PRESET_END;
36
37     CKB_PRESET_START("Type lighting");
38     CKB_PRESET_PARAM("duration", "1.0");
39     CKB_PRESET_PARAM("trigger", "0");
40     CKB_PRESET_PARAM("kptrigger", "1");
41     CKB_PRESET_END;
42 }
```

Here is the caller graph for this function:

13.32.3.3 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

References ckb_runctx::keycount, and NONE.

```
57                                  {
58     // Initialize all keys to 100% (animation over)
59
60     srand((unsigned)time(NULL));
61     unsigned count = context->keycount;
62     anim =  malloc(count * sizeof *anim);
63     for(unsigned i = 0; i < count; i++) {
64         anim[i].target = NONE;
65     }
66 }
```

13.32.3.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 75 of file main.c.

References ckb_gradient::a, ckb_gradient::b, ckb_grad_color(), ckb_gradient::g, keyAnim::gradient, HOLD, ckb_runctx::keys, kphold, kprelease, NONE, ckb_gradient::ptcount, ckb_gradient::pts, ckb_gradient::r, randomize, and keyAnim::target.

```
75                                                                  {
76     // Start or stop animation on key
77     int i = key - context->keys;
78     if(state){
79         if (randomize) {
```

```
            float a, r, g, b;
            float colorChoice = (float)rand()/(float)(RAND_MAX);
            ckb_grad_color(&a, &r, &g, &b, &animcolor, colorChoice * 100.);
            ckb_gradient newGradient = { 0 };
            newGradient.ptcount = 2;
            newGradient.pts[0] = 0;
            newGradient.pts[1] = 100;
            newGradient.a[0] = 255;
            newGradient.b[0] = b;
            newGradient.g[0] = g;
            newGradient.r[0] = r;
            newGradient.a[1] = 0;
            newGradient.b[1] = b;
            newGradient.g[1] = g;
            newGradient.r[1] = r;

            anim[i].gradient = newGradient;
        }

        if(kphold) {
            anim[i].target = HOLD;
        } else {
            anim[i].target = 0.f;
        }
    } else {
        if(kprelease) {
            anim[i].target = NONE;
        }
        else if(kphold) {
            anim[i].target = 0.f;
        }
    }
}
```

Here is the call graph for this function:

13.32.3.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 68 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, kphold, kprelease, and randomize.

```
68                                                                          {
69     CKB_PARSE_AGRADIENT("color", &animcolor){}
70     CKB_PARSE_BOOL("kphold", &kphold){}
71     CKB_PARSE_BOOL("kprelease", &kprelease){}
72     CKB_PARSE_BOOL("randomize", &randomize){}
73 }
```

13.32.3.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 114 of file main.c.

References ckb_runctx::keycount, NONE, and keyAnim::target.

```
114                                                 {
115     // Start/stop all keys
116     unsigned count = context->keycount;
117     if(state) {
```

```
        memset(anim, 0, count * sizeof *anim);
    } else {
        for(unsigned i = 0; i < count; i++) {
            anim[i].target = NONE;
        }
    }
}
```

13.32.3.7 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 126 of file main.c.

References ckb_runctx::keycount, phase, and keyAnim::target.

```
                                                {
    // Advance animation on each key
    unsigned count = context->keycount;
    for(unsigned i = 0; i < count; i++){
        float phase = anim[i].target;
        if(phase > 1.f || phase < 0.f)
            continue;
        anim[i].target = phase + delta;
    }
}
```

13.32.4 Variable Documentation

13.32.4.1 struct keyAnim* anim

Definition at line 55 of file main.c.

Referenced by KbLight::addAnim(), anim_add(), anim_remove(), KbLight::animKeypress(), RebindWidget::applyChanges(), ckb_frame(), ckb_time(), KbLight::close(), KbLight::duplicateAnim(), KbLight::findAnim(), KbLight::frameUpdate(), KeyAction::keyEvent(), KbLight::load(), KbLight::map(), KbLight::needsSave(), KbMode::newId(), KbAnimWidget::on_animList_itemChanged(), KbLight::open(), KbLight::previewAnim(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), KbLight::restartAnimation(), KbLight::save(), and RebindWidget::setSelection().

13.32.4.2 ckb_gradient animcolor = { 0 }

Definition at line 52 of file main.c.

Referenced by ckb_frame().

13.32.4.3 int kphold = 0

Definition at line 53 of file main.c.

Referenced by ckb_keypress(), and ckb_parameter().

13.32.4.4 int kprelease = 0

Definition at line 53 of file main.c.

Referenced by ckb_keypress(), ckb_parameter(), ckb_start(), and AnimScript::load().

13.32.4.5 int randomize = 0

Definition at line 53 of file main.c.

Referenced by ckb_frame(), ckb_keypress(), and ckb_parameter().

13.33 src/ckb-heat/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
```

Include dependency graph for main.c:

Data Structures

- struct keyanim

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void anim_add (int index)
- void anim_remove (int index)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

- ckb_gradient animcolor = { 0 }
- int randomBright = 0
- long ffade = 30
- double pressestofull = 10.f
- keyanim * anims = NULL

13.33.1 Data Structure Documentation

13.33.1.1 struct keyanim

Definition at line 56 of file main.c.

Collaboration diagram for keyanim:

Data Fields

int	pressed	
double	timing	
unsigned int	usages	
int	x	
int	y	

13.33.2 Function Documentation

13.33.2.1 void anim_add (int *index*)

Definition at line 81 of file main.c.

References ffade, keyanim::pressed, keyanim::timing, and keyanim::usages.

Referenced by ckb_keypress(), and ckb_start().

```
81                          {
82     anims[index].usages += ffade;
83     anims[index].pressed = 1;
84     anims[index].timing = 0.f;
85 }
```

Here is the caller graph for this function:

13.33.2.2 void anim_remove (int *index*)

Definition at line 87 of file main.c.

References keyanim::pressed.

Referenced by ckb_keypress(), and ckb_start().

```
87                              {
88      anims[index].pressed = 0;
89  }
```

Here is the caller graph for this function:

13.33.2.3 int ckb_frame (ckb_runctx * *context*)

Definition at line 117 of file main.c.

References ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ffade, ckb_runctx::keycount, ckb_runctx::keys, pressestofull, and randomBright.

```
117                                     {
118     CKB_KEYCLEAR(context);
119     // Draw spots
120     unsigned count = context->keycount;
121     ckb_key* keys = context->keys;
122     unsigned int full = pressestofull*ffade;
123     for(int i =0; i < count; i++){
124         if(!anims[i].usages)
125             continue;
126         float a, r, g, b;
```

```
        if(randomBright)
            ckb_grad_color(&a, &r, &g, &b, &animcolor, ((float)(rand() % 1024))/10.f
    );
        else
            ckb_grad_color(&a, &r, &g, &b, &animcolor, (float)fmin(
    anims[i].usages,full)*100.f/full);
        ckb_alpha_blend(keys+i, a, r, g, b);
    }
    return 0;
}
```

Here is the call graph for this function:

13.33.2.4 void ckb_info ( )

Definition at line 20 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_-DOUBLE, CKB_PARAM_LONG, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_R-EPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
{
    // Plugin info
    CKB_NAME("Heat Map");
    CKB_VERSION("0.2");
    CKB_COPYRIGHT("2017", "RULER501");
    CKB_LICENSE("GPLv2");
    CKB_GUID("{097D69F0-70B2-48B8-AFE2-25A1CDB0D92C}");
    CKB_DESCRIPTION("A spot effect on pressed keys that shows usage");

    // Effect parameters
    CKB_PARAM_AGRADIENT("color", "Fade color:", "", "ffffffff");
    CKB_PARAM_BOOL("random", "Random Brightness", 0);
    CKB_PARAM_LONG("ffade", "Frames to fade", "frames", 30, 10, 1000);
    CKB_PARAM_DOUBLE("pressestofull", "Presses to full", "keypresses", 10.f, 1.f, 100.f);

    // Timing/input parameters
    CKB_KPMODE(CKB_KP_POSITION);
    CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
    CKB_REPEAT(FALSE);
    CKB_LIVEPARAMS(TRUE);

    // Presets
    CKB_PRESET_START("Single Spot");
    CKB_PRESET_PARAM("random", "0");
    CKB_PRESET_PARAM("ffade", "30");
    CKB_PRESET_PARAM("pressestofull", "10");
    CKB_PRESET_PARAM("trigger", "0");
    CKB_PRESET_PARAM("kptrigger", "1");
    CKB_PRESET_END;
}
```

13.33.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 66 of file main.c.

References ckb_runctx::keycount, ckb_runctx::keys, keyanim::x, ckb_key::x, keyanim::y, and ckb_key::y.

```
66                                  {
67     anims = calloc(context->keycount, sizeof(keyanim));
68     for(int i=0; i < context->keycount; i++){
69         anims[i].x = context->keys[i].x;
70         anims[i].y = context->keys[i].y;
71     }
72 }
```

13.33.2.6 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 91 of file main.c.

References anim_add(), anim_remove(), and ckb_runctx::keys.

```
91                                                                      {
92     // Add or remove a spot on this key
93     if(state)
94         anim_add(key - context->keys);
95     else
96         anim_remove(key - context->keys);
97 }
```

Here is the call graph for this function:

13.33.2.7 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 74 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, ffade, pressestofull, and randomBright.

```
74                                                                      {
75     CKB_PARSE_AGRADIENT("color", &animcolor){}
76     CKB_PARSE_BOOL("random", &randomBright){}
77     CKB_PARSE_LONG("ffade", &ffade){}
78     CKB_PARSE_DOUBLE("pressestofull", &pressestofull){}
79 }
```

13.33.2.8 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 99 of file main.c.

```
99                                          {
100     return;
101 }
```

13.33.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 103 of file main.c.

References ckb_runctx::keycount, keyanim::timing, and keyanim::usages.

```
103                                                 {
104     unsigned int count = context->keycount;
105     for(unsigned int i=0; i < count; i++){
106         if(anims[i].usages && !anims[i].pressed){
107             anims[i].timing -= delta;
108             while(anims[i].timing < 0){
109                 anims[i].timing += 1.f/30.f;
110                 if(anims[i].usages > 0)
111                     anims[i].usages--;
112             }
113         }
114     }
115 }
```

13.33.3 Variable Documentation

13.33.3.1 ckb_gradient animcolor = { 0 }

Definition at line 51 of file main.c.

13.33.3.2 keyanim* anims = NULL

Definition at line 64 of file main.c.

13.33.3.3 long ffade = 30

Definition at line 53 of file main.c.

Referenced by anim_add(), ckb_frame(), and ckb_parameter().

13.33.3.4 double pressestofull = 10.f

Definition at line 54 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.33.3.5 int randomBright = 0

Definition at line 52 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.34 src/ckb-mviz/main.c File Reference

```
#include <math.h>
#include <stdint.h>
#include <stdlib.h>
#include <pulse/simple.h>
#include "../ckb/ckb-anim.h"
#include "kiss_fftr.h"
```

Include dependency graph for main.c:

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void anim_add (ckb_key ∗press, float x, float y)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int max (int a, int b)
- int min (int a, int b)
- void getFreqDec ()
- int ckb_frame (ckb_runctx ∗context)

Variables

- double powers [2048] = { 0.f }
- kiss_fft_cpx ∗ inbuf
- kiss_fft_cpx ∗ outbuf
- ckb_gradient animcolor = { 0 }
- pa_simple ∗ pas = NULL
- int power = 0
- int gcounter = 0

13.34.1 Function Documentation

13.34.1.1 void anim_add (ckb_key ∗ *press*, float *x*, float *y*)

Definition at line 77 of file main.c.

```
77                                                  {
78     return;
79 }
```

13.34.1.2 void anim_remove (float *x*, float *y*)

Definition at line 81 of file main.c.

```
81                                  {
82     return;
83 }
```

13.34.1.3 int ckb_frame (ckb_runctx * *context*)

Definition at line 126 of file main.c.

References ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, getFreqDec(), ckb_runctx::height, ckb_runctx::keycount, ckb_runctx::keys, max(), min(), power, powers, and ckb_runctx::width.

```
126                                 {
127     CKB_KEYCLEAR(context);
128     ckb_key* keys = context->keys;
129     ckb_key* maxkey = keys+context->keycount-1;
130     getFreqDec();
131     unsigned int frames = context->width*context->height - 1;
132     int height = context->height;
133     for(ckb_key* key = keys; key < maxkey; key++){
134         int posl = height*key->x + key->y - 1;
135         posl = max(posl, 0);
136         int posr = height*key->x + key->y + 1;
137         posr = max(posr, 0);
138         int lowi = floorf(pow(2,posl*11.f/frames));
139         int highi = ceilf(pow(2,posr*11.f/frames));
140         highi= min(highi, (int)sizeof(powers)/sizeof(double)-1);
141         lowi = max(lowi, 0);
142         double total = 0;
143         unsigned int height = context->height;
144         for(unsigned int i = lowi; i <= highi; i++)
145             total += powers[i];
146         total /= highi - lowi + 1;
147         float a, r, g, b;
148         ckb_grad_color(&a, &r, &g, &b, &animcolor, total/(
      power ? 150994944.f : 12288.f));
149         ckb_alpha_blend(key, a, r, g, b);
150     }
151     return 0;
152 }
```

Here is the call graph for this function:

13.34.1.4 void ckb_info ( )

Definition at line 27 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
27                {
28     // Plugin info
29     CKB_NAME("Music Visualization");
30     CKB_VERSION("0.2");
31     CKB_COPYRIGHT("2017", "RULER501");
32     CKB_LICENSE("GPLv2");
33     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25CA1DB0D92C}");
34     CKB_DESCRIPTION("A collection of music visualization effects");
35
36     // Effect parameters
37     CKB_PARAM_AGRADIENT("color", "Fade color:", "", "ffffffff");
38     CKB_PARAM_BOOL("power", "Use Power instead of Magnitude?", 0);
39
40     // Timing/input parameters
41     CKB_KPMODE(CKB_KP_NONE);
42     CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
43     CKB_REPEAT(FALSE);
44     CKB_LIVEPARAMS(TRUE);
45
46     // Presets
47     CKB_PRESET_START("Default");
48     CKB_PRESET_PARAM("power", "0");
49     CKB_PRESET_PARAM("trigger", "0");
50     CKB_PRESET_PARAM("kptrigger", "1");
51     CKB_PRESET_END;
52 }
```

13.34.1.5 void ckb_init (ckb_runctx * *context*)

Definition at line 61 of file main.c.

References pas.

```
61                                {
62     static const pa_sample_spec ss ={
63         .format = PA_SAMPLE_S16LE,
64         .rate = 44100,
65         .channels = 1
66     };
67     pas = pa_simple_new(NULL, "CKB Music Viz", PA_STREAM_RECORD, NULL, "CKB Music Viz", &ss, NULL, NULL,
       NULL);
68     inbuf = malloc(2048*sizeof(kiss_fft_cpx));
69     outbuf = malloc(2048*sizeof(kiss_fft_cpx));
70 }
```

13.34.1.6 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 85 of file main.c.

```
85                                                                    {
86     return;
87 }
```

13.34.1.7 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 72 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, and power.

```
72                                                                    {
73     CKB_PARSE_AGRADIENT("color", &animcolor){}
74     CKB_PARSE_BOOL("power", &power);
75 }
```

13.34.1.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 89 of file main.c.

```
89                                                  {
90     return;
91 }
```

13.34.1.9 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 93 of file main.c.

```
93                                                  {
94     return;
95 }
```

13.34.1.10 void getFreqDec ( )

Definition at line 107 of file main.c.

References kiss_fft_cpx::i, kiss_fft(), kiss_fft_alloc(), kiss_fft_cleanup(), kiss_fft_free, pas, power, powers, and kiss_fft_cpx::r.

Referenced by ckb_frame().

```
107                 {
108     int16_t data[2048];
109     pa_simple_read(pas, data, sizeof(data), NULL);
110     for(int j=0; j<2048; j++){
111         inbuf[j].r = data[j];
112         inbuf[j].i = 0;
113     }
114     kiss_fft_cfg config = kiss_fft_alloc(2048, 0, NULL, NULL);
115     kiss_fft(config, inbuf, outbuf);
116
117     for(unsigned int j=0; j < 2048; j++)
118         if(power)
119             powers[j] = outbuf[j].r*outbuf[j].r + outbuf[j].
      i*outbuf[j].i;
120         else
121             powers[j] = sqrt(outbuf[j].r*outbuf[j].r + outbuf[j].i*
      outbuf[j].i);
122     kiss_fft_free(config);
123     kiss_fft_cleanup();
124 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.34.1.11 int max (int *a*, int *b*)

Definition at line 97 of file main.c.

Referenced by ckb_frame().

```
97                      {
98     return a > b ? a : b;
99 }
```

Here is the caller graph for this function:

13.34.1.12 int min (int *a*, int *b*)

Definition at line 101 of file main.c.

Referenced by ckb_frame(), and dpiExp().

```
101                      {
102     return a < b ? a : b;
103 }
```

Here is the caller graph for this function:

13.34.2 Variable Documentation

13.34.2.1 ckb_gradient animcolor = { 0 }

Definition at line 57 of file main.c.

13.34.2.2 int gcounter = 0

Definition at line 105 of file main.c.

13.34.2.3 kiss_fft_cpx* inbuf

Definition at line 55 of file main.c.

13.34.2.4 kiss_fft_cpx* outbuf

Definition at line 56 of file main.c.

13.34.2.5 pa_simple* pas = NULL

Definition at line 58 of file main.c.

Referenced by ckb_init(), and getFreqDec().

13.34.2.6 int power = 0

Definition at line 59 of file main.c.

Referenced by ckb_frame(), ckb_parameter(), and getFreqDec().

13.34.2.7 double powers[2048] = { 0.f }

Definition at line 54 of file main.c.

Referenced by ckb_frame(), and getFreqDec().

13.35 src/ckb-pinwheel/main.c File Reference

```
#include "../ckb/ckb-anim.h"
```

Include dependency graph for main.c:

Macros

- #define ANGLE(theta) fmod((theta) + M_PI ∗ 2., M_PI ∗ 2.)

Functions

- void ckb_info ()
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void ckb_init (ckb_runctx ∗context)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- ckb_gradient animcolor = { 0 }
- double animlength = 0.
- int symmetric = 0
- int counter_clock = 0
- double x_offset = 0
- double y_offset = 0
- double frame = -1.
- float x
- float y

13.35.1 Macro Definition Documentation

13.35.1.1 #define ANGLE(*theta*) fmod((theta) + M_PI ∗ 2., M_PI ∗ 2.)

Definition at line 68 of file main.c.

Referenced by ckb_frame().

13.35.2 Function Documentation

13.35.2.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 86 of file main.c.

References ANGLE, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, counter_clock, frame, ckb_runctx::keycount, ckb_runctx::keys, M_PI, symmetric, x, and y.

```
86                                  {
87      CKB_KEYCLEAR(context);
88      if(frame < 0.)
89          return 0;
90      // Color each key according to its angle from the center
91      float position;
92      if(counter_clock)
93          position = ANGLE(frame * M_PI * 2.);
94      else
95          position = ANGLE(-frame * M_PI * 2.);
96      unsigned count = context->keycount;
97      ckb_key* keys = context->keys;
98      for(ckb_key* key = keys; key < keys + count; key++){
99          float theta;
100         if(key->x == x && key->y == y)
101             // Dead center = 0°
102             theta = 0.f;
103         else
104             theta = ANGLE(ANGLE(atan2(x - key->x, y - key->y)) - position);
105         // If the animation is symmetric, mirror the second half
106         if(symmetric && theta > M_PI)
107             theta = M_PI * 2. - theta;
108         // Draw the gradient position that corresponds to this angle
109         if(theta < animlength){
110             float distance = theta / animlength;
111             float a, r, g, b;
112             ckb_grad_color(&a, &r, &g, &b, &animcolor, distance * 100.);
113             ckb_alpha_blend(key, a, r, g, b);
114         }
115     }
116     return 0;
117 }
```

Here is the call graph for this function:

13.35.2.2 void ckb_info ( )

Definition at line 3 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_DOUBLE, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
3               {
4       // Plugin info
```

```
    CKB_NAME("Pinwheel");
    CKB_VERSION("0.9");
    CKB_COPYRIGHT("2014-2016", "MSC");
    CKB_LICENSE("GPLv2");
    CKB_GUID("{07551A90-D97A-4DD0-A770-E9E280A90891}");
     CKB_DESCRIPTION("A spinning pinwheel effect.");

     // Effect parameters
     CKB_PARAM_AGRADIENT("color", "Wheel color:", "", "ffffffff");
     CKB_PARAM_DOUBLE("length", "Wheel size:", "%", 100, 1., 100.);
     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
     CKB_PARAM_BOOL("counter_clock", "Counter Clockwise", 0);
     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);

     // Timing/input parameters
     CKB_KPMODE(CKB_KP_NONE);
     CKB_TIMEMODE(CKB_TIME_DURATION);
     CKB_LIVEPARAMS(TRUE);
     CKB_REPEAT(FALSE);

     // Presets
     CKB_PRESET_START("Search light");
     CKB_PRESET_PARAM("duration", "2.0");
     CKB_PRESET_PARAM("length", "50.0");
     CKB_PRESET_PARAM("symmetric", "1");
     CKB_PRESET_END;

     CKB_PRESET_START("Rainbow");
     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
     83:ffff00ff 100:ffff0000");
     CKB_PRESET_PARAM("duration", "2.0");
     CKB_PRESET_END;
}
```

13.35.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

```
                                    {
    // Unused
}
```

13.35.2.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 61 of file main.c.

```
                                                                        {
    // Unused
}
```

13.35.2.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 45 of file main.c.

References animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, counter_clock, M_PI, symmetric, x_offset, and y_offset.

```
                                                                        {
    CKB_PARSE_AGRADIENT("color", &animcolor){}
    double len;
    CKB_PARSE_DOUBLE("length", &len){
        animlength = len / 100. * M_PI * 2.;
    }
    CKB_PARSE_BOOL("symmetric", &symmetric){}
    CKB_PARSE_BOOL("counter_clock", &counter_clock){}
    CKB_PARSE_DOUBLE("x_offset", &x_offset) {}
    CKB_PARSE_DOUBLE("y_offset", &y_offset) {}
}
```

13.35.2.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 70 of file main.c.

References frame, ckb_runctx::height, ckb_runctx::width, x, x_offset, y, and y_offset.

```
70                                                  {
71     // Begin or end animation
72     frame = state ? 0. : -1.;
73     x = (context->width + (context->width * x_offset * 0.01)) / 2.f;
74     y = (context->height - (context->height * y_offset * 0.01)) / 2.f;
75 }
```

13.35.2.7 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 77 of file main.c.

References frame.

```
77                                                      {
78     if(frame < 0.)
79         return;
80     // Spin the wheel
81     frame += delta;
82     if(frame > 1.)
83         frame -= 1.;
84 }
```

13.35.3 Variable Documentation

13.35.3.1 ckb_gradient animcolor = { 0 }

Definition at line 39 of file main.c.

13.35.3.2 double animlength = 0.

Definition at line 40 of file main.c.

Referenced by anim_add(), ckb_frame(), ckb_parameter(), and ckb_time().

13.35.3.3 int counter_clock = 0

Definition at line 42 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.35.3.4 double frame = -1.

Definition at line 65 of file main.c.

Referenced by ckb_frame(), ckb_start(), ckb_time(), and AnimSettingDialog::hLine().

13.35.3.5 int symmetric = 0

Definition at line 41 of file main.c.

Referenced by anim_add(), ckb_frame(), and ckb_parameter().

13.35.3.6 float x

Definition at line 66 of file main.c.

Referenced by anim_add(), KeyMap::byPosition(), ckb_frame(), ckb_parameter(), ckb_start(), cmd_dpi(), drop_-add(), GradientDialogWidget::fillRect(), main(), GradientDialog::makeIcon(), GradientDialogWidget::mousePress-Event(), ColorMap::operator==(), os_mousemove(), GradientDialogWidget::paintEvent(), KeyWidget::paintEvent(), Kb::readNotify(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), GradientButton::update-Image(), zip64local_getLong(), zip64local_getLong64(), and zip64local_getShort().

13.35.3.7 double x_offset = 0

Definition at line 43 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.35.3.8 float y

Definition at line 66 of file main.c.

Referenced by anim_add(), KeyMap::byPosition(), ckb_frame(), ckb_parameter(), ckb_start(), cmd_dpi(), drop_-add(), GradientDialogWidget::fillRect(), main(), GradientDialog::makeIcon(), GradientDialogWidget::mousePress-Event(), os_mousemove(), GradientDialogWidget::paintEvent(), KeyWidget::paintEvent(), and Kb::readNotify().

13.35.3.9 double y_offset = 0

Definition at line 43 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.36 src/ckb-rain/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <stdlib.h>
#include <time.h>
```

Include dependency graph for main.c:

Macros

- #define DROP_MAX 1000

Functions

- void ckb_info ()
- void drop_add (float x, float y, int slow)
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- int spawn = 0
- double period = 0.1
- double maxsize = 100.
- double speed = 100.
- unsigned char ar = 255
- unsigned char ag = 255
- unsigned char ab = 255
- float aa = 1.
- struct {
  int **active**
  float **x**
  float **y**
  float **size**
  float **msize**
  } drop [1000]
- double tick = -1.

13.36.1 Macro Definition Documentation

13.36.1.1 #define DROP_MAX 1000

Definition at line 34 of file main.c.

Referenced by ckb_frame(), ckb_time(), and drop_add().

13.36.2 Function Documentation

13.36.2.1 int ckb_frame (ckb_runctx ∗ *context*)

Definition at line 120 of file main.c.

References aa, ab, ag, ar, ckb_alpha_blend(), CKB_KEYCLEAR, drop, DROP_MAX, ckb_runctx::keycount, and ckb_runctx::keys.

```
{
    CKB_KEYCLEAR(context);
    // Draw drops
    for(unsigned i = 0; i < DROP_MAX; i++){
        if(drop[i].active){
            unsigned count = context->keycount;
            ckb_key* keys = context->keys;
            for(ckb_key* key = keys; key < keys + count; key++){
                // Calculate distance between key and drop, relative to the current drop size
                float distance = drop[i].size - sqrt(pow(key->x - drop[i].x, 2.f) + pow(key->y - drop[i].y, 2.f));
                // On the outside, cut the distance in half
                if(distance < 0.)
                    distance = -distance / 2.;
                // Scale according to drop size (fade-out radius expands as the drop becomes larger)
                float scale = drop[i].size / 4.f;
                if(scale < 10.)
                    scale = 10.;
                distance /= scale;
                if(distance <= 1.){
                    // Scale alpha according to size divided by maximum size (drops fade out as they expand)
                    float ascale = (1.f - drop[i].size / drop[i].msize);
                    if(ascale > 1.f)
                        ascale = 1.f;
                    // Apply color
                    ckb_alpha_blend(key, (1.f - distance) * ascale * aa * 255., ar, ag, ab);
                }
            }
        }
    }
    return 0;
}
```

Here is the call graph for this function:

13.36.2.2 void ckb_info ( )

Definition at line 6 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_DOUBLE, CKB_PARAM_LONG, CKB_PARAM_RGB, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
6               {
7     // Plugin info
8     CKB_NAME("Raindrop");
9     CKB_VERSION("0.10");
10     CKB_COPYRIGHT("2014-2016", "MSC");
11     CKB_LICENSE("GPLv2");
12     CKB_GUID("{5D6695AF-0496-41E2-BEE7-F7D0ABAA49E9}");
13     CKB_DESCRIPTION("A rain-like effect.");
14
15     // Effect parameters
16     CKB_PARAM_RGB("color", "Drop color:", "", 255, 255, 255);
17     CKB_PARAM_DOUBLE("intensity", "Intensity:", "%", 100, 0, 100);
18     CKB_PARAM_DOUBLE("size", "Size:", "%", 25, 1, 100);
19     CKB_PARAM_LONG("frequency", "Frequency:", "per second", 10, 1, 100);
20
21     // Timing/input parameters
22     CKB_KPMODE(CKB_KP_POSITION);
```

```
    CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
    CKB_REPEAT(FALSE);
    CKB_LIVEPARAMS(TRUE);

    // Presets
    CKB_PRESET_START("Default");
    CKB_PRESET_PARAM("trigger", "1");
    CKB_PRESET_PARAM("kptrigger", "1");
    CKB_PRESET_END;
}
```

13.36.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 63 of file main.c.

```
                                {
    srand(time(NULL));
}
```

13.36.2.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 86 of file main.c.

References drop_add().

```
                                                                    {
    // Add a drop on keypress
    if(state)
        drop_add(x, y, 0);
}
```

Here is the call graph for this function:

13.36.2.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 67 of file main.c.

References aa, ab, ag, ar, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, CKB_PARSE_RGB, ckb_runctx::height, maxsize, period, spawn, speed, and ckb_runctx::width.

```
                                                                    {
    CKB_PARSE_RGB("color", &ar, &ag, &ab){}
    double intensity, size;
    long frequency;
    CKB_PARSE_DOUBLE("intensity", &intensity){
        aa = intensity / 100.;
    }
    CKB_PARSE_DOUBLE("size", &size){
        double sizex = context->width / 2.;
        double sizey = context->height / 2.;
        maxsize = size / 100. * sqrt(sizex * sizex + sizey * sizey);
        speed = maxsize;
    }
```

```
    CKB_PARSE_LONG("frequency", &frequency){
        period = 1. / frequency;
    }
    CKB_PARSE_BOOL("trigger", &spawn){}
}
```

13.36.2.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 94 of file main.c.

References tick.

```
                                                {
    // Start or stop random spawning
    tick = state ? 0. : -1.;
}
```

13.36.2.7 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 99 of file main.c.

References drop, drop_add(), DROP_MAX, ckb_runctx::height, period, spawn, speed, tick, and ckb_runctx::width.

```
                                                  {
    if(delta <= 0.)
        return;
    // Process existing drops
    for(unsigned i = 0; i < DROP_MAX; i++){
        if(drop[i].active){
            drop[i].size += delta * speed;
            if(drop[i].size > drop[i].msize)
                drop[i].active = 0;
        }
    }
    if(tick >= 0.){
        // Spawn a new randomly-placed drop, if the spawn time has passed
        tick += delta;
        if(tick > period && spawn){
            drop_add(rand() / (double)RAND_MAX * context->width, rand() / (double)RAND_MAX *
context->height, 1);
            tick -= period;
        }
    }
}
```

Here is the call graph for this function:

13.36.2.8 void drop_add (float *x*, float *y*, int *slow*)

Definition at line 49 of file main.c.

References drop, DROP_MAX, maxsize, x, and y.

Referenced by ckb_keypress(), and ckb_time().

```
49                                          {
50     for(int i = 0; i < DROP_MAX; i++){
51         if(drop[i].active)
52             continue;
53         drop[i].active = 1;
54         drop[i].x = x;
55         drop[i].y = y;
56         float msize = maxsize * (0.9 + (rand() / (double)RAND_MAX * 0.2));
57         drop[i].size = -msize / 2. * slow;
58         drop[i].msize = msize;
59         return;
60     }
61 }
```

Here is the caller graph for this function:

13.36.3 Variable Documentation

13.36.3.1 float aa = 1.

Definition at line 41 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.2 unsigned char ab = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.3 unsigned char ag = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.4 unsigned char ar = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.5 struct { ... } drop[1000]

Referenced by ckb_frame(), ckb_time(), and drop_add().

13.36.3.6 double maxsize = 100.

Definition at line 38 of file main.c.

Referenced by ckb_parameter(), ckb_time(), and drop_add().

13.36.3.7 double period = 0.1

Definition at line 37 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.8 int spawn = 0

Definition at line 36 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.9 double speed = 100.

Definition at line 39 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.10 double tick = -1.

Definition at line 92 of file main.c.

Referenced by ckb_start(), and ckb_time().

13.37 src/ckb-random/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <stdlib.h>
#include <time.h>
```

Include dependency graph for main.c:

Data Structures

- struct rgb

Functions

- void ckb_info ()
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void newtarget (rgb *data, unsigned count)
- void ckb_init (ckb_runctx *context)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

- int fadein = 0
- int useopacity = 0
- rgb * current = 0
- rgb * target = 0
- double phase = -1.

13.37.1 Data Structure Documentation

13.37.1.1 struct rgb

Definition at line 42 of file main.c.

Collaboration diagram for rgb:

Data Fields

unsigned char	a	
unsigned char	b	
unsigned char	g	
unsigned char	r	

13.37.2 Function Documentation

13.37.2.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 109 of file main.c.

References ckb_key::a, ckb_key::b, CKB_KEYCLEAR, ckb_key::g, ckb_runctx::keycount, ckb_runctx::keys, phase, and ckb_key::r.

```
{
    if(phase < 0.){
        CKB_KEYCLEAR(context);
        return 0;
    }
    ckb_key* keys = context->keys;
    unsigned count = context->keycount;
    for(unsigned i = 0; i < count; i++){
        // Color each key according to the position between the last color set and the new color set
        ckb_key* key = keys + i;
        key->a = round(current[i].a * (1. - phase) + target[i].a * phase);
        key->r = round(current[i].r * (1. - phase) + target[i].r * phase);
        key->g = round(current[i].g * (1. - phase) + target[i].g * phase);
        key->b = round(current[i].b * (1. - phase) + target[i].b * phase);
    }
    return 0;
}
```

13.37.2.2 void ckb_info ( )

Definition at line 6 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
{
    // Plugin info
    CKB_NAME("Random");
    CKB_VERSION("0.9");
     CKB_COPYRIGHT("2014-2016", "MSC");
     CKB_LICENSE("GPLv2");
     CKB_GUID("{22418DA4-A181-4B93-A4D3-03682BA283D2}");
     CKB_DESCRIPTION("An effect that changes key colors randomly.");

     // Effect parameters
     CKB_PARAM_BOOL("fade", "Fade in", 0);
     CKB_PARAM_BOOL("useopacity", "Randomize opacity", 0);

     // Timing/input parameters
     CKB_KPMODE(CKB_KP_NONE);
     CKB_TIMEMODE(CKB_TIME_DURATION);
     CKB_LIVEPARAMS(TRUE);
     CKB_REPEAT(FALSE);

     // Presets
     CKB_PRESET_START("Default");
     CKB_PRESET_PARAM("duration", "1.");
     CKB_PRESET_END;
}
```

13.37.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 61 of file main.c.

References ckb_runctx::keycount.

```
61                                  {
62     unsigned count = context->keycount;
63     current = malloc(count * sizeof(rgb));
64     target = malloc(count * sizeof(rgb));
65     srand(time(NULL));
66 }
```

13.37.2.4 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 38 of file main.c.

```
38                                                                                  {
39     // Unused
40 }
```

13.37.2.5 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 33 of file main.c.

References CKB_PARSE_BOOL, fadein, and useopacity.

```
33                                                                                  {
34     CKB_PARSE_BOOL("fade", &fadein) {}
35     CKB_PARSE_BOOL("useopacity", &useopacity) {}
36 }
```

13.37.2.6 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 68 of file main.c.

References rgb::a, ckb_key::a, rgb::b, ckb_key::b, fadein, rgb::g, ckb_key::g, ckb_runctx::keycount, ckb_runctx::keys, newtarget(), phase, rgb::r, and ckb_key::r.

```
68                                                  {
69     if(state == 0){
70         // Stop animation
71         phase = -1.;
72         return;
73     }
74     // Start animation
75     phase = 0.;
76     ckb_key* keys = context->keys;
77     unsigned count = context->keycount;
78     // Randomize starting colors and pick a random target
79     newtarget(current, count);
80     // Over the course of the animation, the keys fade between the current pattern and the target pattern
81     newtarget(target, count);
82     // Set all keys to current
83     for(unsigned i = 0; i < count; i++){
84         ckb_key* key = keys + i;
85         if(fadein)
86             current[i].a = 0;
87         key->a = current[i].a;
88         key->r = current[i].r;
89         key->g = current[i].g;
90         key->b = current[i].b;
91     }
92 }
```

Here is the call graph for this function:

13.37.2.7 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 94 of file main.c.

References current, ckb_runctx::keycount, newtarget(), phase, and target.

```
94                                                  {
95     if(phase < 0.)
96         return;
97     // Advance animation
98     phase += delta;
99     if(phase > 1.){
100         // If the animation is complete, pick a new target pattern and start again
101         phase -= 1.;
102         rgb* temp = target;
103         target = current;
104         current = temp;
105         newtarget(target, context->keycount);
106     }
107 }
```

Here is the call graph for this function:

13.37.2.8 void newtarget (rgb * *data,* unsigned *count*)

Definition at line 51 of file main.c.

References rgb::a, rgb::b, rgb::g, rgb::r, and useopacity.

Referenced by ckb_start(), and ckb_time().

```
51                                          {
52     for(unsigned i = 0; i < count; i++){
53         rgb* key = data + i;
54         key->a = useopacity ? rand() % 256 : 255;
55         key->r = rand() % 256;
56         key->g = rand() % 256;
57         key->b = rand() % 256;
58     }
59 }
```

Here is the caller graph for this function:

13.37.3 Variable Documentation

13.37.3.1 rgb* current = 0

Definition at line 46 of file main.c.

Referenced by CkbSettings::childGroups(), CkbSettings::childKeys(), ckb_time(), KbProfile::KbProfile(), Kb::load(), GradientDialog::on_presetDelete_clicked(), KbWidget::profileChanged(), KbProfileDialog::repopulate(), QuaZip::setCurrentFile(), and GradientDialog::setPreset().

13.37.3.2 int fadein = 0

Definition at line 31 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.37.3.3 double phase = -1.

Definition at line 48 of file main.c.

Referenced by ckb_frame(), ckb_start(), ckb_time(), kiss_fft_alloc(), and kiss_fftr_alloc().

13.37.3.4 rgb* target = 0

Definition at line 47 of file main.c.

Referenced by ckb_time().

13.37.3.5 int useopacity = 0

Definition at line 31 of file main.c.

Referenced by ckb_parameter(), and newtarget().

13.38 src/ckb-ripple/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <time.h>
```

Include dependency graph for main.c:

Macros

- #define ANIM_MAX (144 ∗ 2)

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void anim_add (float x, float y, float width, float height)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- float kbsize = 0.f
- ckb_gradient animcolor = { 0 }
- int symmetric = 0
- int kprelease = 0
- int randomize = 0
- double animlength = 0.
- double x_offset = 0
- double y_offset = 0
- struct {
  int **active**
  float **x**
  float **y**
  float **maxsize**
  float **cursize**
  float **choice**
  } anim [(144 ∗2)] = { }

13.38.1 Macro Definition Documentation

13.38.1.1 #define ANIM_MAX (144 ∗ 2)

Definition at line 75 of file main.c.

Referenced by anim_add(), anim_remove(), ckb_frame(), and ckb_time().

13.38.2 Function Documentation

13.38.2.1 void anim_add (float *x*, float *y*, float *width*, float *height*)

Definition at line 84 of file main.c.

References anim, ANIM_MAX, animlength, symmetric, x, and y.

```
84                                                          {
85     for(int i = 0; i < ANIM_MAX; i++){
86         if(anim[i].active)
87             continue;
88         anim[i].active = 1;
89         anim[i].x = x;
90         anim[i].y = y;
91         float sizex = fmax(x, width - x);
92         float sizey = fmax(y, height - y);
93         anim[i].maxsize = sqrt(sizex * sizex + sizey * sizey) + animlength;
94         anim[i].cursize = (symmetric) ? -animlength : 0;
95         anim[i].choice = (float)rand()/(float)(RAND_MAX);
96         return;
97     }
98 }
```

13.38.2.2 void anim_remove (float *x*, float *y*)

Definition at line 100 of file main.c.

References anim, and ANIM_MAX.

```
100                                 {
101     for(int i = 0; i < ANIM_MAX; i++){
102         if(anim[i].active && anim[i].x == x && anim[i].y == y)
103             anim[i].active = 0;
104     }
105 }
```

13.38.2.3 int ckb_frame (ckb_runctx ∗ *context*)

Definition at line 134 of file main.c.

References anim, ANIM_MAX, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ckb_runctx::keycount, ckb_runctx::keys, randomize, and symmetric.

```
134                                 {
135     CKB_KEYCLEAR(context);
136     // Draw rings
137     unsigned count = context->keycount;
138     ckb_key* keys = context->keys;
139     for(unsigned i = 0; i < ANIM_MAX; i++){
140         if(anim[i].active){
141             for(ckb_key* key = keys; key < keys + count; key++){
142                 // Calculate distance between this key and the ring
143                 float distance = anim[i].cursize - sqrt(pow(key->x - anim[i].x, 2.f) + pow(
    key->y - anim[i].y, 2.f));
144                 // Divide distance by ring size (use absolute distance if symmetric)
145                 distance /= animlength;
146                 if(symmetric)
147                     distance = fabs(distance);
148                 else if(distance >= -0.005f && distance < 0.f)
```

```
                    // If not symmetric, round down values very close to zero
                    distance = 0.f;
                if(distance > 1.f && distance <= 1.005f)
                    // Round values close to 1
                    distance = 1.f;

                // Blend color gradient according to position
                if(distance >= 0. && distance <= 1.f){
                    float a, r, g, b;
                    float gradChoice = randomize ? anim[i].choice : distance;
                    ckb_grad_color(&a, &r, &g, &b, &animcolor, gradChoice * 100.);
                    ckb_alpha_blend(key, a, r, g, b);
                }
            }
        }
    }
    return 0;
}
```

Here is the call graph for this function:

13.38.2.4 void ckb_info ( )

Definition at line 5 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_-DOUBLE, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_TIME_-DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

```
{
    // Plugin info
    CKB_NAME("Ripple");
    CKB_VERSION("0.10");
    CKB_COPYRIGHT("2014-2016", "MSC");
     CKB_LICENSE("GPLv2");
     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25A1CDB02C9D}");
     CKB_DESCRIPTION("An expanding ring effect.");

     // Effect parameters
     CKB_PARAM_AGRADIENT("color", "Ripple color:", "", "ffffffff");
     CKB_PARAM_DOUBLE("length", "Ring length:", "%", 100, 1, 100);
     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);

     // Timing/input parameters
     CKB_KPMODE(CKB_KP_POSITION);
     CKB_TIMEMODE(CKB_TIME_DURATION);
     CKB_LIVEPARAMS(TRUE);
     CKB_PREEMPT(TRUE);

     // Presets
     CKB_PRESET_START("Shimmer");
     CKB_PRESET_PARAM("duration", "2.0");
     CKB_PRESET_PARAM("length", "50.0");
     CKB_PRESET_PARAM("symmetric", "1");
```

```
    CKB_PRESET_END;

    CKB_PRESET_START("Rainbow");
    CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
    83:ffff00ff 100:ffff0000");
    CKB_PRESET_PARAM("duration", "2.0");
    CKB_PRESET_END;

    CKB_PRESET_START("Type lighting");
    CKB_PRESET_PARAM("duration", "1.0");
    CKB_PRESET_PARAM("length", "25.0");
    CKB_PRESET_PARAM("symmetric", "1");
    CKB_PRESET_PARAM("trigger", "0");
    CKB_PRESET_PARAM("kptrigger", "1");
    CKB_PRESET_END;
}
```

13.38.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 55 of file main.c.

References ckb_runctx::height, kbsize, and ckb_runctx::width.

```
55                                  {
56     kbsize = sqrt(context->width * context->width / 4.f + context->
      height * context->height / 4.f);
57     srand((unsigned)time(NULL));
58 }
```

13.38.2.6 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 107 of file main.c.

References anim_add(), anim_remove(), ckb_runctx::height, kprelease, and ckb_runctx::width.

```
107                                                                                    {
108     // Add or remove a ring on this key
109     if(state)
110         anim_add(x, y, context->width, context->height);
111     else if(kprelease)
112         anim_remove(x, y);
113 }
```

Here is the call graph for this function:

13.38.2.7 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 60 of file main.c.

References animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, ckb_runctx::height, kprelease, randomize, symmetric, ckb_runctx::width, x_offset, and y_offset.

```
{
    CKB_PARSE_AGRADIENT("color", &animcolor){}
    double len;
    CKB_PARSE_DOUBLE("length", &len){
        double sizex = context->width / 2.;
        double sizey = context->height / 2.;
        animlength = len / 100. * sqrt(sizex * sizex + sizey * sizey);
    }
    CKB_PARSE_BOOL("symmetric", &symmetric){}
    CKB_PARSE_BOOL("kprelease", &kprelease){}
    CKB_PARSE_BOOL("randomize", &randomize){}
    CKB_PARSE_DOUBLE("x_offset", &x_offset) {}
    CKB_PARSE_DOUBLE("y_offset", &y_offset) {}
}
```

13.38.2.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 115 of file main.c.

References anim_add(), anim_remove(), ckb_runctx::height, ckb_runctx::width, x_offset, and y_offset.

```
{
    // Add or remove a ring in the center of the keyboard
    if(state)
        anim_add((context->width + (context->width * x_offset * 0.01)) / 2.f, (
    context->height - (context->height * y_offset * 0.01)) / 2.f, context->
    width, context->height);
    else
        anim_remove(context->width / 2.f, context->height / 2.f);
}
```

Here is the call graph for this function:

13.38.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 123 of file main.c.

References anim, ANIM_MAX, kbsize, and maxsize.

```
{
    // Advance animation on all rings
    for(unsigned i = 0; i < ANIM_MAX; i++){
        if(anim[i].active){
            anim[i].cursize += kbsize * delta;
            if(anim[i].cursize > anim[i].maxsize)
                anim[i].active = 0;
        }
    }
}
```

13.38.3 Variable Documentation

13.38.3.1 struct { ... } anim[(144 ∗ 2)]

13.38.3.2 ckb_gradient animcolor = { 0 }

Definition at line 50 of file main.c.

13.38.3.3 double animlength = 0.

Definition at line 52 of file main.c.

13.38.3.4 float kbsize = 0.f

Definition at line 49 of file main.c.

Referenced by ckb_init(), and ckb_time().

13.38.3.5 int kprelease = 0

Definition at line 51 of file main.c.

13.38.3.6 int randomize = 0

Definition at line 51 of file main.c.

13.38.3.7 int symmetric = 0

Definition at line 51 of file main.c.

13.38.3.8 double x_offset = 0

Definition at line 53 of file main.c.

13.38.3.9 double y_offset = 0

Definition at line 53 of file main.c.

13.39 src/ckb-wave/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
```

Include dependency graph for main.c:

Macros

- #define ANIM_MAX (144 ∗ 2)

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void anim_add (float x, float y)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- ckb_gradient animcolor = { 0 }
- int symmetric = 0
- int kprelease = 0
- double angle = 0.
- double left = 0.
- double top = 0.
- double animlength = 0.
- double width = 0.
- struct {
  int **active**
  float **x**
  float **y**
  float **curx**
  } anim [(144 ∗2)] = { }

13.39.1 Macro Definition Documentation

13.39.1.1 #define ANIM_MAX (144 ∗ 2)

Definition at line 98 of file main.c.

Referenced by anim_add(), anim_remove(), ckb_frame(), and ckb_time().

13.39.2 Function Documentation

13.39.2.1 void anim_add (float *x*, float *y*)

Definition at line 105 of file main.c.

References anim, ANIM_MAX, animlength, symmetric, width, x, and y.

```
105                                 {
106     for(int i = 0; i < ANIM_MAX; i++){
107         if(anim[i].active)
108             continue;
109         anim[i].active = 1;
110         anim[i].x = x;
111         anim[i].y = y;
112         anim[i].curx = symmetric ? -animlength * width : 0.f;
113         return;
114     }
115 }
```

13.39.2.2 void anim_remove (float *x*, float *y*)

Definition at line 117 of file main.c.

References anim, and ANIM_MAX.

```
117                                 {
118     for(int i = 0; i < ANIM_MAX; i++){
119         if(anim[i].active && anim[i].x == x && anim[i].y == y)
120             anim[i].active = 0;
121     }
122 }
```

13.39.2.3 int ckb_frame (ckb_runctx ∗ *context*)

Definition at line 152 of file main.c.

References angle, anim, ANIM_MAX, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ckb_-runctx::keycount, ckb_runctx::keys, symmetric, width, x, and y.

Referenced by main().

```
152                                 {
153     CKB_KEYCLEAR(context);
154     // Draw keys
155     double length = animlength * width;
156     unsigned count = context->keycount;
157     ckb_key* keys = context->keys;
158     for(unsigned i = 0; i < ANIM_MAX; i++){
159         if(anim[i].active){
160             for(ckb_key* key = keys; key < keys + count; key++){
161                 // Translate and rotate the key position into the animation's coordinate system
162                 float x = key->x - anim[i].x, y = key->y - anim[i].y;
163                 // Distance is the current X minus the key's X
164                 float distance = anim[i].curx - (x * cos(angle) - y * sin(
      angle));
165                 distance /= length;
166                 // If symmetric, use absolute distance
167                 if(symmetric)
168                     distance = fabs(distance);
```

```
                else if(distance >= -0.005f && distance < 0.f)
                    // If not symmetric, round values close to 0
                    distance = 0.f;
                if(distance > 1.f && distance <= 1.005f)
                    // Round values close to 1
                    distance = 1.f;
                // Pick gradient position based on distance
                if(distance <= 1.f && distance >= 0.){
                    float a, r, g, b;
                    ckb_grad_color(&a, &r, &g, &b, &animcolor, distance * 100.);
                    ckb_alpha_blend(key, a, r, g, b);
                }
            }
        }
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.39.2.4 void ckb_info ( )

Definition at line 4 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_ANGLE, CKB_PARAM-_BOOL, CKB_PARAM_DOUBLE, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESE-T_START, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

Referenced by main().

```
4               {
5     // Plugin info
6     CKB_NAME("Wave");
7     CKB_VERSION("0.10");
8     CKB_COPYRIGHT("2014-2016", "MSC");
9     CKB_LICENSE("GPLv2");
10     CKB_GUID("{E0BBA19E-C328-4C0E-8E3C-A06D5722B4FC}");
11     CKB_DESCRIPTION("A moving wave effect.");
```

```

    // Effect parameters
    CKB_PARAM_ANGLE("angle", "Angle:", "", 90);
    CKB_PARAM_AGRADIENT("color", "Wave color:", "", "ffffffff");
    CKB_PARAM_DOUBLE("length", "Wave length:", "%", 100, 1., 100.);
    CKB_PARAM_BOOL("symmetric", "Symmetric", 0);

    // Timing/input parameters
    CKB_KPMODE(CKB_KP_POSITION);
    CKB_TIMEMODE(CKB_TIME_DURATION);
    CKB_LIVEPARAMS(TRUE);
    CKB_PREEMPT(TRUE);

    // Presets
    CKB_PRESET_START("Shimmer");
    CKB_PRESET_PARAM("duration", "2.0");
    CKB_PRESET_PARAM("length", "50.0");
    CKB_PRESET_PARAM("symmetric", "1");
    CKB_PRESET_END;

    CKB_PRESET_START("Rainbow");
    CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
    83:ffff00ff 100:ffff0000");
    CKB_PRESET_PARAM("duration", "2.0");
    CKB_PRESET_END;

    CKB_PRESET_START("Vertical rainbow");
    CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
    83:ffff00ff 100:ffff0000");
    CKB_PRESET_PARAM("duration", "2.0");
    CKB_PRESET_PARAM("angle", "180");
    CKB_PRESET_END;
}
```

Here is the caller graph for this function:

13.39.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 44 of file main.c.

Referenced by main().

```
                                    {
    // Nothing to do
}
```

Here is the caller graph for this function:

13.39.2.6 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 124 of file main.c.

References anim_add(), and anim_remove().

Referenced by main().

```
124                                                                                 {
125     // Start or stop animation on a key
126     if(state)
127         anim_add(x, y);
128     else
129         anim_remove(x, y);
130 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.39.2.7 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 54 of file main.c.

References angle, animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_ANGLE, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_REAL_ANGLE, ckb_runctx::height, kprelease, left, symmetric, top, width, ckb_runctx::width, x, and y.

Referenced by ckb_read_params().

```
54                                                                                  {
55     CKB_PARSE_AGRADIENT("color", &animcolor){}
56     double len;
57     CKB_PARSE_DOUBLE("length", &len){
58         animlength = len / 100.;
59     }
60     CKB_PARSE_BOOL("symmetric", &symmetric){}
61     CKB_PARSE_BOOL("kprelease", &kprelease){}
62     long _angle;
```

```
    CKB_PARSE_ANGLE("angle", &_angle){
        angle = CKB_REAL_ANGLE(_angle);
        // Get each of the four corners of the keyboard, relative to the center
        double wOver2 = context->width / 2., hOver2 = context->height / 2.;
        double x[4] = {
            -wOver2, wOver2,
            -wOver2, wOver2
        };
        double y[4] = {
            -hOver2, -hOver2,
            hOver2, hOver2
        };
        // Rotate them in the direction that the animation will travel
        for(int i = 0; i < 4; i++){
            double x2 = x[i] * cos(angle) - y[i] * sin(angle);
            y[i] = x[i] * sin(angle) + y[i] * cos(angle);
            x[i] = x2;
        }
        // Determine the leftmost and rightmost points
        double min_x = INFINITY, max_x = -INFINITY;
        for(int i = 0; i < 4; i++){
            if(x[i] < min_x)
                min_x = x[i];
            if(x[i] > max_x)
                max_x = x[i];
        }
        // The leftmost point is where the animation will begin when started with the mode,
        // and the difference between the two is the animation width.
        // Animations always travel left to right in their own coordinate system.
        left = min_x * cos(-angle) + wOver2;
        top = min_x * sin(-angle) + hOver2;
        width = max_x - min_x;
    }
}
```

Here is the caller graph for this function:

13.39.2.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 132 of file main.c.

References anim_add(), anim_remove(), kprelease, left, and top.

Referenced by main().

```
132                                                 {
133     // Start or stop animation on the edge of the keyboard
134     if(state)
135         anim_add(left, top);
136     else if(kprelease)
137         anim_remove(left, top);
138 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.39.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 140 of file main.c.

References anim, ANIM_MAX, animlength, and width.

Referenced by main().

```
140                                                 {
141     // Advance all waves, remove them if they pass the edge
142     double length = animlength * width;
143     for(unsigned i = 0; i < ANIM_MAX; i++){
144         if(anim[i].active){
145             anim[i].curx += width * delta;
146             if(anim[i].curx > width + length)
147                 anim[i].active = 0;
148         }
149     }
150 }
```

Here is the caller graph for this function:

13.39.3 Variable Documentation

13.39.3.1 double angle = 0.

Definition at line 50 of file main.c.

Referenced by angleFlip(), ckb_frame(), and ckb_parameter().

13.39.3.2 struct { ... } anim[(144 ∗ 2)]

13.39.3.3 ckb_gradient animcolor = { 0 }

Definition at line 48 of file main.c.

13.39.3.4 double animlength = 0.

Definition at line 52 of file main.c.

13.39.3.5 int kprelease = 0

Definition at line 49 of file main.c.

13.39.3.6 double left = 0.

Definition at line 51 of file main.c.

Referenced by _cmd_macro(), ckb_parameter(), ckb_start(), cmd_dpi(), GradientDialogWidget::mouseMoveEvent(), readcmd(), and right().

13.39.3.7 int symmetric = 0

Definition at line 49 of file main.c.

13.39.3.8 double top = 0.

Definition at line 51 of file main.c.

Referenced by ckb_parameter(), ckb_start(), and GradientDialogWidget::mouseMoveEvent().

13.39.3.9 double width = 0.

Definition at line 52 of file main.c.

Referenced by anim_add(), ckb_frame(), ckb_parameter(), ckb_time(), KeyWidget::drawInfo(), GradientDialogWidget::fillRect(), KeyWidget::map(), and KeyWidget::paintEvent().

13.40 src/ckb-daemon/notify.c File Reference

```
#include "device.h"
```

```
#include "devnode.h"
#include "dpi.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for notify.c:

Macros

- #define HWMODE_OR_RETURN(kb, index)
- #define HW_STANDARD

Functions

- void nprintf (usbdevice ∗kb, int nodenumber, usbmode ∗mode, const char ∗format,...)
- void nprintkey (usbdevice ∗kb, int nnumber, int keyindex, int down)
- void nprintind (usbdevice ∗kb, int nnumber, int led, int on)
- void cmd_notify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int keyindex, const char ∗toggle)
- static void _cmd_get (usbdevice ∗kb, usbmode ∗mode, int nnumber, const char ∗setting)
- void cmd_get (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗setting)
- int restart ()
- void cmd_restart (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗content)

13.40.1 Macro Definition Documentation

13.40.1.1 #define HW_STANDARD

Value:

```
if(!kb->hw)                                     \
        return;                                 \
    unsigned index = INDEX_OF(mode, profile->mode); \
    /* Make sure the mode number is valid */    \
    HWMODE_OR_RETURN(kb, index)
```

Definition at line 83 of file notify.c.

Referenced by _cmd_get().

13.40.1.2 #define HWMODE_OR_RETURN(*kb, index*)

Value:

```
if(IS_K95(kb)){                 \
        if((index) >= HWMODE_K95)   \
            return;                 \
    } else {                        \
        if((index) >= HWMODE_K70)   \
            return;                 \
    }
```

Definition at line 73 of file notify.c.

13.40.2 Function Documentation

13.40.2.1 static void _cmd_get (usbdevice * *kb,* usbmode * *mode,* int *nnumber,* const char * *setting*) [static]

Definition at line 90 of file notify.c.

References dpiset::current, usbmode::dpi, hwprofile::dpi, gethwmodename(), gethwprofilename(), getid(), getmodename(), getprofilename(), usbdevice::hw, usbdevice::hw_ileds, HW_STANDARD, I_CAPS, I_NUM, I_SCROLL, usbmode::id, usbprofile::id, hwprofile::id, usbdevice::input, keymap, usbinput::keys, dpiset::lift, usbmode::light, hwprofile::light, usbid::modified, N_KEYS_INPUT, nprintf(), nprintind(), nprintkey(), printdpi(), printrgb(), usbdevice::profile, and dpiset::snap.

Referenced by cmd_get().

```
90                                                                                  {
91      usbprofile* profile = kb->profile;
92      if(!strcmp(setting, ":mode")){
93          // Get the current mode number
94          nprintf(kb, nnumber, mode, "switch\n");
95          return;
96      } else if(!strcmp(setting, ":rgb")){
97          // Get the current RGB settings
98          char* rgb = printrgb(&mode->light, kb);
99          nprintf(kb, nnumber, mode, "rgb %s\n", rgb);
100          free(rgb);
101          return;
102      } else if(!strcmp(setting, ":hwrgb")){
103          // Get the current hardware RGB settings
104          HW_STANDARD;
105          char* rgb = printrgb(kb->hw->light + index, kb);
106          nprintf(kb, nnumber, mode, "hwrgb %s\n", rgb);
107          free(rgb);
108          return;
109      } else if(!strcmp(setting, ":profilename")){
110          // Get the current profile name
111          char* name = getprofilename(profile);
112          nprintf(kb, nnumber, 0, "profilename %s\n", name[0] ? name : "Unnamed");
113          free(name);
114      } else if(!strcmp(setting, ":name")){
115          // Get the current mode name
116          char* name = getmodename(mode);
117          nprintf(kb, nnumber, mode, "name %s\n", name[0] ? name : "Unnamed");
118          free(name);
119      } else if(!strcmp(setting, ":hwprofilename")){
120          // Get the current hardware profile name
121          if(!kb->hw)
122              return;
123          char* name = gethwprofilename(kb->hw);
124          nprintf(kb, nnumber, 0, "hwprofilename %s\n", name[0] ? name : "Unnamed");
125          free(name);
126      } else if(!strcmp(setting, ":hwname")){
127          // Get the current hardware mode name
128          HW_STANDARD;
129          char* name = gethwmodename(kb->hw, index);
130          nprintf(kb, nnumber, mode, "hwname %s\n", name[0] ? name : "Unnamed");
131          free(name);
132      } else if(!strcmp(setting, ":profileid")){
133          // Get the current profile ID
134          char* guid = getid(&profile->id);
135          int modified;
136          memcpy(&modified, &profile->id.modified, sizeof(modified));
137          nprintf(kb, nnumber, 0, "profileid %s %x\n", guid, modified);
```

```
        free(guid);
    } else if(!strcmp(setting, ":id")){
        // Get the current mode ID
        char* guid = getid(&mode->id);
        int modified;
        memcpy(&modified, &mode->id.modified, sizeof(modified));
        nprintf(kb, nnumber, mode, "id %s %x\n", guid, modified);
        free(guid);
    } else if(!strcmp(setting, ":hwprofileid")){
        // Get the current hardware profile ID
        if(!kb->hw)
            return;
        char* guid = getid(&kb->hw->id[0]);
        int modified;
        memcpy(&modified, &kb->hw->id[0].modified, sizeof(modified));
        nprintf(kb, nnumber, 0, "hwprofileid %s %x\n", guid, modified);
        free(guid);
    } else if(!strcmp(setting, ":hwid")){
        // Get the current hardware mode ID
        HW_STANDARD;
        char* guid = getid(&kb->hw->id[index + 1]);
        int modified;
        memcpy(&modified, &kb->hw->id[index + 1].modified, sizeof(modified));
        nprintf(kb, nnumber, mode, "hwid %s %x\n", guid, modified);
        free(guid);
    } else if(!strcmp(setting, ":keys")){
        // Get the current state of all keys
        for(int i = 0; i < N_KEYS_INPUT; i++){
            if(!keymap[i].name)
                continue;
            int byte = i / 8, bit = 1 << (i & 7);
            uchar state = kb->input.keys[byte] & bit;
            if(state)
                nprintkey(kb, nnumber, i, 1);
        }
    } else if(!strcmp(setting, ":i")){
        // Get the current state of all indicator LEDs
        if(kb->hw_ileds & I_NUM) nprintind(kb, nnumber, I_NUM, 1);
        if(kb->hw_ileds & I_CAPS) nprintind(kb, nnumber, I_CAPS, 1);
        if(kb->hw_ileds & I_SCROLL) nprintind(kb, nnumber, I_SCROLL, 1);
    } else if(!strcmp(setting, ":dpi")){
        // Get the current DPI levels
        char* dpi = printdpi(&mode->dpi, kb);
        nprintf(kb, nnumber, mode, "dpi %s\n", dpi);
        free(dpi);
        return;
    } else if(!strcmp(setting, ":hwdpi")){
        // Get the current hardware DPI levels
        HW_STANDARD;
        char* dpi = printdpi(kb->hw->dpi + index, kb);
        nprintf(kb, nnumber, mode, "hwdpi %s\n", dpi);
        free(dpi);
        return;
    } else if(!strcmp(setting, ":dpisel")){
        // Get the currently-selected DPI
        nprintf(kb, nnumber, mode, "dpisel %d\n", mode->dpi.current);
    } else if(!strcmp(setting, ":hwdpisel")){
        // Get the currently-selected hardware DPI
        HW_STANDARD;
        nprintf(kb, nnumber, mode, "hwdpisel %d\n", kb->hw->dpi[index].current);
    } else if(!strcmp(setting, ":lift")){
        // Get the mouse lift height
        nprintf(kb, nnumber, mode, "lift %d\n", mode->dpi.lift);
    } else if(!strcmp(setting, ":hwlift")){
        // Get the hardware lift height
        HW_STANDARD;
        nprintf(kb, nnumber, mode, "hwlift %d\n", kb->hw->dpi[index].lift);
    } else if(!strcmp(setting, ":snap")){
        // Get the angle snap status
        nprintf(kb, nnumber, mode, "snap %s\n", mode->dpi.snap ? "on" : "off");
    } else if(!strcmp(setting, ":hwsnap")){
        // Get the hardware angle snap status
        HW_STANDARD;
        nprintf(kb, nnumber, mode, "hwsnap %s\n", kb->hw->dpi[index].snap ? "on" : "off");
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.40.2.2 void cmd_get (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *setting*)

Definition at line 215 of file notify.c.

References _cmd_get(), and imutex.

```
215                                                                                                                    {
216     (void)dummy;
217
218     pthread_mutex_lock(imutex(kb));
219     _cmd_get(kb, mode, nnumber, setting);
220     pthread_mutex_unlock(imutex(kb));
221 }
```

Here is the call graph for this function:

13.40.2.3 void cmd_notify (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *keyindex*, const char * *toggle*)

Definition at line 61 of file notify.c.

References CLEAR_KEYBIT, imutex, N_KEYS_INPUT, usbmode::notify, and SET_KEYBIT.

```
61                                                                                                  {
62     if(keyindex >= N_KEYS_INPUT)
63         return;
64     pthread_mutex_lock(imutex(kb));
65     if(!strcmp(toggle, "on") || *toggle == 0)
66         SET_KEYBIT(mode->notify[nnumber], keyindex);
67     else if(!strcmp(toggle, "off"))
68         CLEAR_KEYBIT(mode->notify[nnumber], keyindex);
69     pthread_mutex_unlock(imutex(kb));
70 }
```

13.40.2.4 void cmd_restart (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *content*)

Definition at line 225 of file notify.c.

References ckb_info, nprintf(), and restart().

```
225                                                                                                 {
226     (void)mode;
227     (void)nnumber;
228     (void)dummy;
229
230     ckb_info("RESTART called with %s\n", content);
231     nprintf(kb, -1, 0, "RESTART called with %s\n", content);
232     restart();
233 }
```

Here is the call graph for this function:

13.40.2.5 void nprintf (usbdevice * *kb*, int *nodenumber*, usbmode * *mode*, const char * *format*, ...)

Definition at line 8 of file notify.c.

References INDEX_OF, usbprofile::mode, usbdevice::outfifo, OUTFIFO_MAX, and usbdevice::profile.

Referenced by _cmd_get(), cmd_fwupdate(), cmd_restart(), fwupdate(), nprintind(), and nprintkey().

```
8                                                                                                    {
9       if(!kb)
10          return;
11      usbprofile* profile = kb->profile;
12      va_list va_args;
13      int fifo;
14      if(nodenumber >= 0){
15          // If node number was given, print to that node (if open)
16          if((fifo = kb->outfifo[nodenumber] - 1) != -1){
17              va_start(va_args, format);
18              if(mode)
19                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
20              vdprintf(fifo, format, va_args);
21          }
22          return;
23      }
24      // Otherwise, print to all nodes
25      for(int i = 0; i < OUTFIFO_MAX; i++){
26          if((fifo = kb->outfifo[i] - 1) != -1){
27              va_start(va_args, format);
28              if(mode)
29                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
30              vdprintf(fifo, format, va_args);
31          }
32      }
33  }
```

Here is the caller graph for this function:

13.40.2.6 void nprintind (usbdevice * *kb*, int *nnumber*, int *led*, int *on*)

Definition at line 43 of file notify.c.

References I_CAPS, I_NUM, I_SCROLL, and nprintf().

Referenced by _cmd_get(), and updateindicators_kb().

```
43                                                                  {
44     const char* name = 0;
45     switch(led){
46     case I_NUM:
47         name = "num";
48         break;
49     case I_CAPS:
50         name = "caps";
51         break;
52     case I_SCROLL:
53         name = "scroll";
54         break;
55     default:
56         return;
57     }
58     nprintf(kb, nnumber, 0, "i %c%s\n", on ? '+' : '-', name);
59 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.40.2.7 void nprintkey (usbdevice * *kb*, int *nnumber*, int *keyindex*, int *down*)

Definition at line 35 of file notify.c.

References keymap, key::name, and nprintf().

Referenced by _cmd_get(), and inputupdate_keys().

```
35                                                                  {
36     const key* map = keymap + keyindex;
37     if(map->name)
```

```
        nprintf(kb, nnumber, 0, "key %c%s\n", down ? '+' : '-', map->name);
    else
        nprintf(kb, nnumber, 0, "key %c#%d\n", down ? '+' : '-', keyindex);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.40.2.8 int restart ( )

Definition at line 228 of file main.c.

References ckb_err, main(), main_ac, main_av, and quitWithLock().

Referenced by cmd_restart(), and main().

```
228             {
229     ckb_err("restart called, running quit without mutex-lock.\n");
230     quitWithLock(0);
231     return main(main_ac, main_av);
232 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.41 src/ckb-daemon/notify.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for notify.h:

This graph shows which files directly or indirectly include this file:

Functions

- void nprintf (usbdevice ∗kb, int nodenumber, usbmode ∗mode, const char ∗format,...)
- void nprintkey (usbdevice ∗kb, int nnumber, int keyindex, int down)
- void nprintind (usbdevice ∗kb, int nnumber, int led, int on)
- void cmd_notify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int keyindex, const char ∗toggle)
- void cmd_get (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗setting)
- void cmd_restart (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗content)

13.41.1 Function Documentation

13.41.1.1 void cmd_get (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *nnumber*, int *dummy*, const char ∗ *setting*)

Definition at line 215 of file notify.c.

References _cmd_get(), and imutex.

```
215                                                                                                                    {
216     (void)dummy;
217
218     pthread_mutex_lock(imutex(kb));
219     _cmd_get(kb, mode, nnumber, setting);
220     pthread_mutex_unlock(imutex(kb));
221 }
```

Here is the call graph for this function:

13.41.1.2 void cmd_notify (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *keyindex*, const char * *toggle*)

Definition at line 61 of file notify.c.

References CLEAR_KEYBIT, imutex, N_KEYS_INPUT, usbmode::notify, and SET_KEYBIT.

```
61                                                                                                  {
62     if(keyindex >= N_KEYS_INPUT)
63         return;
64     pthread_mutex_lock(imutex(kb));
65     if(!strcmp(toggle, "on") || *toggle == 0)
66         SET_KEYBIT(mode->notify[nnumber], keyindex);
67     else if(!strcmp(toggle, "off"))
68         CLEAR_KEYBIT(mode->notify[nnumber], keyindex);
69     pthread_mutex_unlock(imutex(kb));
70 }
```

13.41.1.3 void cmd_restart (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *content*)

Definition at line 225 of file notify.c.

References ckb_info, nprintf(), and restart().

```
225                                                                                                 {
226      (void)mode;
227      (void)nnumber;
228      (void)dummy;
229
230      ckb_info("RESTART called with %s\n", content);
231      nprintf(kb, -1, 0, "RESTART called with %s\n", content);
232      restart();
233 }
```

Here is the call graph for this function:

13.41.1.4 void nprintf (usbdevice * *kb*, int *nodenumber*, usbmode * *mode*, const char * *format*, ...)

Definition at line 8 of file notify.c.

References INDEX_OF, usbprofile::mode, usbdevice::outfifo, OUTFIFO_MAX, and usbdevice::profile.

Referenced by _cmd_get(), cmd_fwupdate(), cmd_restart(), fwupdate(), nprintind(), and nprintkey().

```
{
    if(!kb)
        return;
    usbprofile* profile = kb->profile;
    va_list va_args;
    int fifo;
    if(nodenumber >= 0){
        // If node number was given, print to that node (if open)
        if((fifo = kb->outfifo[nodenumber] - 1) != -1){
            va_start(va_args, format);
            if(mode)
                dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
            vdprintf(fifo, format, va_args);
        }
        return;
    }
    // Otherwise, print to all nodes
    for(int i = 0; i < OUTFIFO_MAX; i++){
        if((fifo = kb->outfifo[i] - 1) != -1){
            va_start(va_args, format);
            if(mode)
                dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
            vdprintf(fifo, format, va_args);
        }
    }
}
```

Here is the caller graph for this function:

13.41.1.5 void nprintind (usbdevice * *kb*, int *nnumber*, int *led*, int *on*)

Definition at line 43 of file notify.c.

References I_CAPS, I_NUM, I_SCROLL, and nprintf().

Referenced by _cmd_get(), and updateindicators_kb().

```
43                                                          {
44      const char* name = 0;
45      switch(led){
46      case I_NUM:
47          name = "num";
48          break;
49      case I_CAPS:
50          name = "caps";
51          break;
52      case I_SCROLL:
53          name = "scroll";
54          break;
55      default:
56          return;
57      }
58      nprintf(kb, nnumber, 0, "i %c%s\n", on ? '+' : '-', name);
59  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.41.1.6 void nprintkey (usbdevice * *kb*, int *nnumber*, int *keyindex*, int *down*)

Definition at line 35 of file notify.c.

References keymap, key::name, and nprintf().

Referenced by _cmd_get(), and inputupdate_keys().

```
35                                                                  {
36     const key* map = keymap + keyindex;
37     if(map->name)
38         nprintf(kb, nnumber, 0, "key %c%s\n", down ? '+' : '-', map->name);
39     else
40         nprintf(kb, nnumber, 0, "key %c#%d\n", down ? '+' : '-', keyindex);
41 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.42 src/ckb-daemon/os.h File Reference

```
#include <features.h>
#include <libudev.h>
#include <linux/uinput.h>
#include <linux/usbdevice_fs.h>
```

Include dependency graph for os.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define _DEFAULT_SOURCE
- #define _GNU_SOURCE
- #define UINPUT_VERSION 2
- #define euid_guard_start
- #define euid_guard_stop

13.42.1 Macro Definition Documentation

13.42.1.1 #define _DEFAULT_SOURCE

Definition at line 22 of file os.h.

13.42.1.2 #define _GNU_SOURCE

Definition at line 26 of file os.h.

13.42.1.3 #define euid_guard_start

Definition at line 40 of file os.h.

Referenced by mkdevpath(), mknotifynode(), rmdevpath(), rmnotifynode(), and updateconnected().

13.42.1.4 #define euid_guard_stop

Definition at line 41 of file os.h.

Referenced by mkdevpath(), mknotifynode(), rmdevpath(), rmnotifynode(), and updateconnected().

13.42.1.5 #define UINPUT_VERSION 2

Definition at line 35 of file os.h.

13.43 src/ckb-daemon/profile.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
#include "led.h"
#include "profile.h"
```

Include dependency graph for profile.c:

Functions

- void urldecode2 (char ∗dst, const char ∗src)
- void urlencode2 (char ∗dst, const char ∗src)
- int setid (usbid ∗id, const char ∗guid)
- char ∗ getid (usbid ∗id)
- void u16enc (char ∗in, ushort ∗out, size_t ∗srclen, size_t ∗dstlen)
- void u16dec (ushort ∗in, char ∗out, size_t ∗srclen, size_t ∗dstlen)
- void cmd_name (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗name)
- void cmd_profilename (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗name)

- char * printname (ushort *name, int length)
- char * getmodename (usbmode *mode)
- char * getprofilename (usbprofile *profile)
- char * gethwmodename (hwprofile *profile, int index)
- char * gethwprofilename (hwprofile *profile)
- void cmd_id (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- void cmd_profileid (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- static void initmode (usbmode *mode)
- void allocprofile (usbdevice *kb)
- int loadprofile (usbdevice *kb)
- static void freemode (usbmode *mode)
- void cmd_erase (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *dummy3)
- static void _freeprofile (usbdevice *kb)
- void cmd_eraseprofile (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- void freeprofile (usbdevice *kb)
- void hwtonative (usbprofile *profile, hwprofile *hw, int modecount)
- void nativetohw (usbprofile *profile, hwprofile *hw, int modecount)

Variables

- static iconv_t utf8to16 = 0
- static iconv_t utf16to8 = 0

13.43.1 Function Documentation

13.43.1.1 static void _freeprofile (usbdevice * *kb*) [static]

Definition at line 230 of file profile.c.

References freemode(), usbprofile::mode, MODE_COUNT, and usbdevice::profile.

Referenced by cmd_eraseprofile(), and freeprofile().

```
230                                     {
231     usbprofile* profile = kb->profile;
232     if(!profile)
233         return;
234     // Clear all mode data
235     for(int i = 0; i < MODE_COUNT; i++)
236         freemode(profile->mode + i);
237     free(profile);
238     kb->profile = 0;
239 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.2 void allocprofile (usbdevice * kb)

Definition at line 198 of file profile.c.

References usbprofile::currentmode, dpiset::forceupdate, lighting::forceupdate, initmode(), usbprofile::lastdpi, usbprofile::lastlight, usbprofile::mode, MODE_COUNT, and usbdevice::profile.

Referenced by cmd_eraseprofile().

```
198                                 {
199     if(kb->profile)
200         return;
201     usbprofile* profile = kb->profile = calloc(1, sizeof(
      usbprofile));
202     for(int i = 0; i < MODE_COUNT; i++)
203         initmode(profile->mode + i);
204     profile->currentmode = profile->mode;
205     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
206 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.3 void cmd_erase (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *dummy3*)

Definition at line 219 of file profile.c.

References freemode(), imutex, and initmode().

```
219                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
```
220   (void)dummy1;
221   (void)dummy2;
222   (void)dummy3;
223
224   pthread_mutex_lock(imutex(kb));
225   freemode(mode);
226   initmode(mode);
227   pthread_mutex_unlock(imutex(kb));
228 }
```

Here is the call graph for this function:

#### 13.43.1.4 void cmd_eraseprofile ( usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4* )

Definition at line 241 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
241
```
242     (void)dummy1;
243     (void)dummy2;
244     (void)dummy3;
245     (void)dummy4;
246
247     pthread_mutex_lock(imutex(kb));
248     _freeprofile(kb);
249     allocprofile(kb);
250     pthread_mutex_unlock(imutex(kb));
251 }
```

Here is the call graph for this function:

13.43.1.5 void cmd_id (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 168 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
168                                                                                                 {
169     (void)kb;
170     (void)dummy1;
171     (void)dummy2;
172
173     // ID is either a GUID or an 8-digit hex number
174     int newmodified;
175     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
176         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
177 }
```

Here is the call graph for this function:

13.43.1.6 void cmd_name (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *name*)

Definition at line 117 of file profile.c.

References MD_NAME_LEN, usbmode::name, u16enc(), and urldecode2().

```
117                                                                                                 {
118     (void)kb;
119     (void)dummy1;
120     (void)dummy2;
121
122     char decoded[strlen(name) + 1];
123     urldecode2(decoded, name);
124     size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
125     u16enc(decoded, mode->name, &srclen, &dstlen);
126 }
```

Here is the call graph for this function:

13.43.1.7 void cmd_profileid (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 179 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
179                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
180     (void)mode;
181     (void)dummy1;
182     (void)dummy2;
183
184     usbprofile* profile = kb->profile;
185     int newmodified;
186     if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
187         memcpy(profile->id.modified, &newmodified, sizeof(newmodified));
188
189 }
```

Here is the call graph for this function:

13.43.1.8 void cmd_profilename (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *name*)

Definition at line 128 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
129     (void)dummy1;
130     (void)dummy2;
131     (void)dummy3;
132
133     usbprofile* profile = kb->profile;
134     char decoded[strlen(name) + 1];
135     urldecode2(decoded, name);
136     size_t srclen = strlen(decoded), dstlen = PR_NAME_LEN;
137     u16enc(decoded, profile->name, &srclen, &dstlen);
138 }
```

Here is the call graph for this function:

13.43.1.9 static void freemode (usbmode * *mode*) [static]

Definition at line 214 of file profile.c.

References usbmode::bind, and freebind().

Referenced by _freeprofile(), and cmd_erase().

```
214                                 {
215     freebind(&mode->bind);
216     memset(mode, 0, sizeof(*mode));
217 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.10 void freeprofile (usbdevice * *kb*)

Definition at line 253 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
253                                 {
254     _freeprofile(kb);
255     // Also free HW profile
256     free(kb->hw);
257     kb->hw = 0;
258 }
```

Here is the call graph for this function:

13.43.1.11 char* gethwmodename (hwprofile * *profile*, int *index*)

Definition at line 160 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
160                                                 {
161     return printname(profile->name[index + 1], MD_NAME_LEN);
162 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.12 char* gethwprofilename (hwprofile * *profile*)

Definition at line 164 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
164                                         {
165     return printname(profile->name[0], MD_NAME_LEN);
166 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.13 char* getid (usbid * *id*)

Definition at line 79 of file profile.c.

References usbid::guid.

Referenced by _cmd_get().

```
79                      {
80     int32_t data1;
81     int16_t data2, data3, data4a;
82     char data4b[6];
83     memcpy(&data1, id->guid + 0x0, 4);
84     memcpy(&data2, id->guid + 0x4, 2);
85     memcpy(&data3, id->guid + 0x6, 2);
86     memcpy(&data4a, id->guid + 0x8, 2);
87     memcpy(data4b, id->guid + 0xA, 6);
88     char* guid = malloc(39);
89     snprintf(guid, 39, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
90             data1, data2, data3, data4a, data4b[0], data4b[1], data4b[2], data4b[3], data4b[4], data4b[5])
    ;
91     return guid;
92 }
```

Here is the caller graph for this function:

13.43.1.14 char* getmodename (usbmode * *mode*)

Definition at line 152 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

Referenced by _cmd_get().

```
152                                 {
153     return printname(mode->name, MD_NAME_LEN);
154 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.15 char* getprofilename (usbprofile * *profile*)

Definition at line 156 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

Referenced by _cmd_get().

```
{
    return printname(profile->name, PR_NAME_LEN);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.16 void hwtonative (usbprofile * *profile*, hwprofile * *hw*, int *modecount*)

Definition at line 260 of file profile.c.

References usbmode::dpi, hwprofile::dpi, dpiset::forceupdate, lighting::forceupdate, usbmode::id, usbprofile::id, hwprofile::id, usbprofile::lastdpi, usbprofile::lastlight, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwload_kb(), and cmd_hwload_mouse().

```
{
    // Copy the profile name and ID
    memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
    memcpy(&profile->id, hw->id, sizeof(usbid));
    // Copy the mode settings
    for(int i = 0; i < modecount; i++){
        usbmode* mode = profile->mode + i;
        memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
        memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
        memcpy(&mode->light, hw->light + i, sizeof(lighting));
        memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
        // Set a force update on the light/DPI since they've been overwritten
        mode->light.forceupdate = mode->dpi.forceupdate = 1;
    }
    profile->lastlight.forceupdate = profile->lastdpi.
  forceupdate = 1;
}
```

Here is the caller graph for this function:

13.43.1.17 static void initmode (usbmode * *mode*) [static]

Definition at line 191 of file profile.c.

References usbmode::bind, usbmode::dpi, dpiset::forceupdate, lighting::forceupdate, initbind(), and usbmode::light.

Referenced by allocprofile(), and cmd_erase().

```
191                                     {
192     memset(mode, 0, sizeof(*mode));
193     mode->light.forceupdate = 1;
194     mode->dpi.forceupdate = 1;
195     initbind(&mode->bind);
196 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.18 int loadprofile (usbdevice * *kb*)

Definition at line 208 of file profile.c.

References hwloadprofile.

```
208                                 {
209     if(hwloadprofile(kb, 1))
210         return -1;
211     return 0;
212 }
```

13.43.1.19 void nativetohw (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

Definition at line 277 of file profile.c.

References usbmode::dpi, hwprofile::dpi, usbmode::id, usbprofile::id, hwprofile::id, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwsave_kb(), and cmd_hwsave_mouse().

```
277                                                                     {
278     // Copy name and ID
279     memcpy(hw->name[0], profile->name, PR_NAME_LEN * 2);
280     memcpy(hw->id, &profile->id, sizeof(usbid));
281     // Copy the mode settings
282     for(int i = 0; i < modecount; i++){
283         usbmode* mode = profile->mode + i;
284         memcpy(hw->name[i + 1], mode->name, MD_NAME_LEN * 2);
285         memcpy(hw->id + i + 1, &mode->id, sizeof(usbid));
286         memcpy(hw->light + i, &mode->light, sizeof(lighting));
287         memcpy(hw->dpi + i, &mode->dpi, sizeof(dpiset));
288     }
289 }
```

Here is the caller graph for this function:

13.43.1.20 char* printname (ushort * *name,* int *length*)

Definition at line 140 of file profile.c.

References u16dec(), and urlencode2().

Referenced by gethwmodename(), gethwprofilename(), getmodename(), and getprofilename().

```
140                                         {
141     // Convert the name to UTF-8
142     char* buffer = calloc(1, length * 4 - 3);
143     size_t srclen = length, dstlen = length * 4 - 4;
144     u16dec(name, buffer, &srclen, &dstlen);
145     // URL-encode it
```

```
    char* buffer2 = malloc(strlen(buffer) * 3 + 1);
    urlencode2(buffer2, buffer);
    free(buffer);
    return buffer2;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.43.1.21 int setid (usbid * *id*, const char * *guid*)

Definition at line 64 of file profile.c.

References usbid::guid.

Referenced by cmd_id(), and cmd_profileid().

```
                                    {
    int32_t data1;
    int16_t data2, data3, data4a;
    char data4b[6];
    if(sscanf(guid, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
              &data1, &data2, &data3, &data4a, data4b, data4b + 1, data4b + 2, data4b + 3, data4b + 4,
    data4b + 5) != 10)
        return 0;
    memcpy(id->guid + 0x0, &data1, 4);
    memcpy(id->guid + 0x4, &data2, 2);
    memcpy(id->guid + 0x6, &data3, 2);
    memcpy(id->guid + 0x8, &data4a, 2);
    memcpy(id->guid + 0xA, data4b, 6);
    return 1;
}
```

Here is the caller graph for this function:

13.43.1.22 void u16dec (ushort * *in*, char * *out*, size_t * *srclen*, size_t * *dstlen*)

Definition at line 105 of file profile.c.

References utf16to8.

Referenced by printname().

```
105                                                                 {
106     if(!utf16to8)
107         utf16to8 = iconv_open("UTF-8", "UTF-16LE");
108     size_t srclen2 = 0, srclenmax = *srclen;
109     for(; srclen2 < srclenmax; srclen2++){
110         if(!in[srclen2])
111             break;
112     }
113     *srclen = srclen2 * 2;
114     iconv(utf16to8, (char**)&in, srclen, &out, dstlen);
115 }
```

Here is the caller graph for this function:

13.43.1.23 void u16enc (char * *in*, ushort * *out*, size_t * *srclen*, size_t * *dstlen*)

Definition at line 97 of file profile.c.

References utf8to16.

Referenced by cmd_name(), and cmd_profilename().

```
97                                                                  {
```

```
    if(!utf8to16)
        utf8to16 = iconv_open("UTF-16LE", "UTF-8");
    memset(out, 0, *dstlen * 2);
    *dstlen = *dstlen * 2 - 2;
    iconv(utf8to16, &in, srclen, (char**)&out, dstlen);
}
```

Here is the caller graph for this function:

13.43.1.24 void urldecode2 (char * *dst*, const char * *src*)

Definition at line 8 of file profile.c.

Referenced by cmd_name(), and cmd_profilename().

```
8                                           {
9     char a, b;
10     char s;
11     while((s = *src)){
12         if((s == '%') &&
13                 ((a = src[1]) && (b = src[2])) &&
14                 (isxdigit(a) && isxdigit(b))){
15             if(a >= 'a')
16                 a -= 'a'-'A';
17             if(a >= 'A')
18                 a -= 'A' - 10;
19             else
20                 a -= '0';
21             if(b >= 'a')
22                 b -= 'a'-'A';
23             if(b >= 'A')
24                 b -= 'A' - 10;
25             else
26                 b -= '0';
27             *dst++ = 16 * a + b;
28             src += 3;
29         } else {
30             *dst++ = s;
31             src++;
32         }
33     }
34     *dst = '\0';
35 }
```

Here is the caller graph for this function:

13.43.1.25 void urlencode2 (char * *dst*, const char * *src*)

Definition at line 37 of file profile.c.

Referenced by printname().

```
37                                                  {
38     char s;
39     while((s = *src++)){
40         if(s <= ',' || s == '/' ||
41                 (s >= ':' && s <= '@') ||
42                 s == '[' || s == ']' ||
43                 s >= 0x7F){
44             char a = s >> 4, b = s & 0xF;
45             if(a >= 10)
46                 a += 'A' - 10;
47             else
48                 a += '0';
49             if(b >= 10)
50                 b += 'A' - 10;
51             else
52                 b += '0';
53             dst[0] = '%';
54             dst[1] = a;
55             dst[2] = b;
56             dst += 3;
57         } else
58             *dst++ = s;
59     }
60     *dst = '\0';
61 }
```

Here is the caller graph for this function:

13.43.2 Variable Documentation

13.43.2.1 iconv_t utf16to8 = 0 [static]

Definition at line 95 of file profile.c.

Referenced by u16dec().

13.43.2.2 iconv_t utf8to16 = 0 [static]

Definition at line 95 of file profile.c.

Referenced by u16enc().

13.44 src/ckb-daemon/profile.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for profile.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define hwloadprofile(kb, apply) (kb)->vtable->hwload(kb, 0, 0, apply, 0)

Functions

- void allocprofile (usbdevice *kb)
- int loadprofile (usbdevice *kb)
- void freeprofile (usbdevice *kb)
- void cmd_erase (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *dummy3)
- void cmd_eraseprofile (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- void cmd_name (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *name)
- void cmd_profilename (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *name)
- char * getmodename (usbmode *mode)
- char * getprofilename (usbprofile *profile)
- char * gethwmodename (hwprofile *profile, int index)

- char * gethwprofilename (hwprofile *profile)
- int setid (usbid *id, const char *guid)
- char * getid (usbid *id)
- void hwtonative (usbprofile *profile, hwprofile *hw, int modecount)
- void nativetohw (usbprofile *profile, hwprofile *hw, int modecount)
- void cmd_id (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- void cmd_profileid (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- int cmd_hwload_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int apply, const char *dummy3)
- int cmd_hwload_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int apply, const char *dummy3)
- int cmd_hwsave_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_hwsave_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)

13.44.1 Macro Definition Documentation

13.44.1.1 #define hwloadprofile(*kb, apply*) (kb)->vtable->hwload(kb, 0, 0, apply, 0)

Definition at line 52 of file profile.h.

Referenced by _start_dev(), and loadprofile().

13.44.2 Function Documentation

13.44.2.1 void allocprofile (usbdevice * *kb*)

Definition at line 198 of file profile.c.

References usbprofile::currentmode, dpiset::forceupdate, lighting::forceupdate, initmode(), usbprofile::lastdpi, usbprofile::lastlight, usbprofile::mode, MODE_COUNT, and usbdevice::profile.

Referenced by cmd_eraseprofile().

```
198                                 {
199     if(kb->profile)
200         return;
201     usbprofile* profile = kb->profile = calloc(1, sizeof(
      usbprofile));
202     for(int i = 0; i < MODE_COUNT; i++)
203         initmode(profile->mode + i);
204     profile->currentmode = profile->mode;
205     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
206 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.44.2.2 void cmd_erase (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *dummy3*)

Definition at line 219 of file profile.c.

References freemode(), imutex, and initmode().

```
219                                                                                                    {
220     (void)dummy1;
221     (void)dummy2;
222     (void)dummy3;
223
224     pthread_mutex_lock(imutex(kb));
225     freemode(mode);
226     initmode(mode);
227     pthread_mutex_unlock(imutex(kb));
228 }
```

Here is the call graph for this function:

13.44.2.3 void cmd_eraseprofile (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 241 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
241                                                                                                    {
242     (void)dummy1;
243     (void)dummy2;
244     (void)dummy3;
245     (void)dummy4;
246
247     pthread_mutex_lock(imutex(kb));
248     _freeprofile(kb);
249     allocprofile(kb);
250     pthread_mutex_unlock(imutex(kb));
251 }
```

Here is the call graph for this function:

13.44.2.4 int cmd_hwload_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

Definition at line 16 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, hwloadmode(), HWMODE_K70, HWMODE_K95, hwtonative(), hwprofile::id, IS_K95, MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
    (void)dummy1;
    (void)dummy2;
    (void)dummy3;

    DELAY_LONG(kb);
    hwprofile* hw = calloc(1, sizeof(hwprofile));
    // Ask for profile and mode IDs
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x0e, 0x15, 0x01, 0 },
        { 0x0e, 0x16, 0x01, 0 }
    };
    uchar in_pkt[MSG_SIZE];
    int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
    for(int i = 0; i <= modes; i++){
        data_pkt[0][3] = i;
        if(!usbrecv(kb, data_pkt[0], in_pkt)){
            free(hw);
            return -1;
        }
        memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
    }
    // Ask for profile name
    if(!usbrecv(kb, data_pkt[1], in_pkt)){
        free(hw);
        return -1;
    }
    memcpy(hw->name[0], in_pkt + 4, PR_NAME_LEN * 2);
    // Load modes
    for(int i = 0; i < modes; i++){
        if(hwloadmode(kb, hw, i)){
            free(hw);
            return -1;
        }
    }
    // Make the profile active (if requested)
    if(apply)
        hwtonative(kb->profile, hw, modes);
    // Free the existing profile (if any)
    free(kb->hw);
    kb->hw = hw;
    DELAY_LONG(kb);
    return 0;
}
```

Here is the call graph for this function:

13.44.2.5 int cmd_hwload_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

Definition at line 6 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwtonative(), hwprofile::id, hwprofile::light, loaddpi(), loadrgb_mouse(), MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
7     (void)dummy1;
8     (void)dummy2;
9     (void)dummy3;
10
11     DELAY_LONG(kb);
12     hwprofile* hw = calloc(1, sizeof(hwprofile));
13     // Ask for profile and mode IDs
14     uchar data_pkt[2][MSG_SIZE] = {
15         { 0x0e, 0x15, 0x01, 0 },
16         { 0x0e, 0x16, 0x01, 0 }
17     };
18     uchar in_pkt[MSG_SIZE];
19     for(int i = 0; i <= 1; i++){
20         data_pkt[0][3] = i;
21         if(!usbrecv(kb, data_pkt[0], in_pkt)){
22             free(hw);
23             return -1;
24         }
25         memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
26     }
27     // Ask for profile and mode names
28     for(int i = 0; i <= 1; i++){
29         data_pkt[1][3] = i;
30         if(!usbrecv(kb, data_pkt[1],in_pkt)){
31             free(hw);
32             return -1;
33         }
34         memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
35     }
36
37     // Load the RGB and DPI settings
38     if(loadrgb_mouse(kb, hw->light, 0)
39             || loaddpi(kb, hw->dpi, hw->light)){
40         free(hw);
41         return -1;
42     }
43
44     // Make the profile active (if requested)
45     if(apply)
46         hwtonative(kb->profile, hw, 1);
47     // Free the existing profile (if any)
48     free(kb->hw);
49     kb->hw = hw;
50     DELAY_LONG(kb);
51     return 0;
52 }
```

Here is the call graph for this function:

13.44.2.6 int cmd_hwsave_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 61 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, HWMODE_K70, HWMODE_K95, hwprofile::id, IS_K95, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savergb_kb(), and usbsend.

```
61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
62      (void)dummy1;
63      (void)dummy2;
64      (void)dummy3;
65      (void)dummy4;
66
67      DELAY_LONG(kb);
68      hwprofile* hw = kb->hw;
69      if(!hw)
70          hw = kb->hw = calloc(1, sizeof(hwprofile));
71      int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
72      nativetohw(kb->profile, hw, modes);
73      // Save the profile and mode names
74      uchar data_pkt[2][MSG_SIZE] = {
75          { 0x07, 0x16, 0x01, 0 },
76          { 0x07, 0x15, 0x01, 0 },
77      };
78      // Save the mode names
79      for(int i = 0; i <= modes; i++){
80          data_pkt[0][3] = i;
81          memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
82          if(!usbsend(kb, data_pkt[0], 1))
83              return -1;
84      }
85      // Save the IDs
86      for(int i = 0; i <= modes; i++){
87          data_pkt[1][3] = i;
88          memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
89          if(!usbsend(kb, data_pkt[1], 1))
90              return -1;
91      }
92      // Save the RGB data
93      for(int i = 0; i < modes; i++){
94          if(savergb_kb(kb, hw->light + i, i))
95              return -1;
96      }
97      DELAY_LONG(kb);
98      return 0;
99  }
```

Here is the call graph for this function:

13.44.2.7 int cmd_hwsave_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 54 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwprofile::id, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savedpi(), savergb_mouse(), and usbsend.

```
54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
    (void)dummy1;
    (void)dummy2;
    (void)dummy3;
    (void)dummy4;

    DELAY_LONG(kb);
    hwprofile* hw = kb->hw;
    if(!hw)
        hw = kb->hw = calloc(1, sizeof(hwprofile));
    nativetohw(kb->profile, hw, 1);
    // Save the profile and mode names
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x07, 0x16, 0x01, 0 },
        { 0x07, 0x15, 0x01, 0 },
    };
    for(int i = 0; i <= 1; i++){
        data_pkt[0][3] = i;
        memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
        if(!usbsend(kb, data_pkt[0], 1))
            return -1;
    }
    // Save the IDs
    for(int i = 0; i <= 1; i++){
        data_pkt[1][3] = i;
        memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
        if(!usbsend(kb, data_pkt[1], 1))
            return -1;
    }
    // Save the RGB data for the non-DPI zones
    if(savergb_mouse(kb, hw->light, 0))
        return -1;
    // Save the DPI data (also saves RGB for those states)
    if(savedpi(kb, hw->dpi, hw->light))
        return -1;
    DELAY_LONG(kb);
    return 0;
}
```

Here is the call graph for this function:

13.44.2.8 void cmd_id (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 168 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
168                                                                                 {
169     (void)kb;
170     (void)dummy1;
171     (void)dummy2;
172
173     // ID is either a GUID or an 8-digit hex number
174     int newmodified;
175     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
176         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
177 }
```

Here is the call graph for this function:

13.44.2.9 void cmd_name (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *name*)

Definition at line 117 of file profile.c.

References MD_NAME_LEN, usbmode::name, u16enc(), and urldecode2().

```
117                                                                                 {
118     (void)kb;
119     (void)dummy1;
120     (void)dummy2;
121
122     char decoded[strlen(name) + 1];
123     urldecode2(decoded, name);
```

```
    size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
    u16enc(decoded, mode->name, &srclen, &dstlen);
}
```

Here is the call graph for this function:

13.44.2.10 void cmd_profileid (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 179 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
{
    (void)mode;
    (void)dummy1;
    (void)dummy2;

    usbprofile* profile = kb->profile;
    int newmodified;
    if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
        memcpy(profile->id.modified, &newmodified, sizeof(newmodified));

}
```

Here is the call graph for this function:

13.44.2.11 void cmd_profilename (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *name*)

Definition at line 128 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
{
    (void)dummy1;
    (void)dummy2;
    (void)dummy3;

```

```
    usbprofile* profile = kb->profile;
    char decoded[strlen(name) + 1];
    urldecode2(decoded, name);
    size_t srclen = strlen(decoded), dstlen = PR_NAME_LEN;
    u16enc(decoded, profile->name, &srclen, &dstlen);
}
```

Here is the call graph for this function:

13.44.2.12 void freeprofile (usbdevice * *kb*)

Definition at line 253 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
253                                 {
254     _freeprofile(kb);
255     // Also free HW profile
256     free(kb->hw);
257     kb->hw = 0;
258 }
```

Here is the call graph for this function:

13.44.2.13 char* gethwmodename (hwprofile * *profile*, int *index*)

Definition at line 160 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
160                                             {
161     return printname(profile->name[index + 1], MD_NAME_LEN);
162 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.44.2.14 char* gethwprofilename (hwprofile * *profile*)

Definition at line 164 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
164                                         {
165     return printname(profile->name[0], MD_NAME_LEN);
166 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.44.2.15 char* getid (usbid * *id*)

Definition at line 79 of file profile.c.

References usbid::guid.

Referenced by _cmd_get().

```
79                      {
80     int32_t data1;
81     int16_t data2, data3, data4a;
82     char data4b[6];
83     memcpy(&data1, id->guid + 0x0, 4);
84     memcpy(&data2, id->guid + 0x4, 2);
85     memcpy(&data3, id->guid + 0x6, 2);
86     memcpy(&data4a, id->guid + 0x8, 2);
87     memcpy(data4b, id->guid + 0xA, 6);
88     char* guid = malloc(39);
89     snprintf(guid, 39, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
90              data1, data2, data3, data4a, data4b[0], data4b[1], data4b[2], data4b[3], data4b[4], data4b[5])
    ;
91     return guid;
92 }
```

Here is the caller graph for this function:

13.44.2.16 char* getmodename (usbmode * *mode*)

Definition at line 152 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

Referenced by _cmd_get().

```
152                                 {
153     return printname(mode->name, MD_NAME_LEN);
154 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.44.2.17 char* getprofilename (usbprofile * *profile*)

Definition at line 156 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

Referenced by _cmd_get().

```
156                                         {
157     return printname(profile->name, PR_NAME_LEN);
158 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.44.2.18 void hwtonative (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

Definition at line 260 of file profile.c.

References usbmode::dpi, hwprofile::dpi, dpiset::forceupdate, lighting::forceupdate, usbmode::id, usbprofile::id, hwprofile::id, usbprofile::lastdpi, usbprofile::lastlight, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwload_kb(), and cmd_hwload_mouse().

```
260                                                                 {
261     // Copy the profile name and ID
262     memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
263     memcpy(&profile->id, hw->id, sizeof(usbid));
264     // Copy the mode settings
265     for(int i = 0; i < modecount; i++){
266         usbmode* mode = profile->mode + i;
267         memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
268         memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
269         memcpy(&mode->light, hw->light + i, sizeof(lighting));
270         memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
271         // Set a force update on the light/DPI since they've been overwritten
272         mode->light.forceupdate = mode->dpi.forceupdate = 1;
273     }
274     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
275 }
```

Here is the caller graph for this function:

13.44.2.19 int loadprofile (usbdevice * *kb*)

Definition at line 208 of file profile.c.

References hwloadprofile.

```
                                {
    if(hwloadprofile(kb, 1))
        return -1;
    return 0;
}
```

13.44.2.20 void nativetohw (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

Definition at line 277 of file profile.c.

References usbmode::dpi, hwprofile::dpi, usbmode::id, usbprofile::id, hwprofile::id, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwsave_kb(), and cmd_hwsave_mouse().

```
                                                                {
    // Copy name and ID
    memcpy(hw->name[0], profile->name, PR_NAME_LEN * 2);
    memcpy(hw->id, &profile->id, sizeof(usbid));
    // Copy the mode settings
    for(int i = 0; i < modecount; i++){
        usbmode* mode = profile->mode + i;
        memcpy(hw->name[i + 1], mode->name, MD_NAME_LEN * 2);
        memcpy(hw->id + i + 1, &mode->id, sizeof(usbid));
        memcpy(hw->light + i, &mode->light, sizeof(lighting));
        memcpy(hw->dpi + i, &mode->dpi, sizeof(dpiset));
    }
}
```

Here is the caller graph for this function:

13.44.2.21 int setid (usbid * *id,* const char * *guid*)

Definition at line 64 of file profile.c.

References usbid::guid.

Referenced by cmd_id(), and cmd_profileid().

```
                                    {
    int32_t data1;
    int16_t data2, data3, data4a;
    char data4b[6];
    if(sscanf(guid, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
              &data1, &data2, &data3, &data4a, data4b, data4b + 1, data4b + 2, data4b + 3, data4b + 4,
    data4b + 5) != 10)
        return 0;
    memcpy(id->guid + 0x0, &data1, 4);
    memcpy(id->guid + 0x4, &data2, 2);
    memcpy(id->guid + 0x6, &data3, 2);
    memcpy(id->guid + 0x8, &data4a, 2);
    memcpy(id->guid + 0xA, data4b, 6);
    return 1;
}
```

Here is the caller graph for this function:

13.45 src/ckb-daemon/profile_keyboard.c File Reference

```
#include "profile.h"
#include "usb.h"
#include "led.h"
```

Include dependency graph for profile_keyboard.c:

Functions

- static int hwloadmode (usbdevice ∗kb, hwprofile ∗hw, int mode)
- int cmd_hwload_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int apply, const char ∗dummy3)
- int cmd_hwsave_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)

13.45.1 Function Documentation

13.45.1.1 int cmd_hwload_kb (usbdevice ∗ *kb*, usbmode ∗ *dummy1*, int *dummy2*, int *apply*, const char ∗ *dummy3*)

Definition at line 16 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, hwloadmode(), HWMODE_K70, HWMODE_K95, hwtonative(), hwprofile::id, IS_K95, MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
16                                                                                  {
17      (void)dummy1;
18      (void)dummy2;
19      (void)dummy3;
```

```

    DELAY_LONG(kb);
    hwprofile* hw = calloc(1, sizeof(hwprofile));
    // Ask for profile and mode IDs
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x0e, 0x15, 0x01, 0 },
        { 0x0e, 0x16, 0x01, 0 }
    };
    uchar in_pkt[MSG_SIZE];
    int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
    for(int i = 0; i <= modes; i++){
        data_pkt[0][3] = i;
        if(!usbrecv(kb, data_pkt[0], in_pkt)){
            free(hw);
            return -1;
        }
        memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
    }
    // Ask for profile name
    if(!usbrecv(kb, data_pkt[1], in_pkt)){
        free(hw);
        return -1;
    }
    memcpy(hw->name[0], in_pkt + 4, PR_NAME_LEN * 2);
    // Load modes
    for(int i = 0; i < modes; i++){
        if(hwloadmode(kb, hw, i)){
            free(hw);
            return -1;
        }
    }
    // Make the profile active (if requested)
    if(apply)
        hwtonative(kb->profile, hw, modes);
    // Free the existing profile (if any)
    free(kb->hw);
    kb->hw = hw;
    DELAY_LONG(kb);
    return 0;
}
```

Here is the call graph for this function:

13.45.1.2 int cmd_hwsave_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 61 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, HWMODE_K70, HWMODE_K95, hwprofile::id, IS_K95, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savergb_kb(), and usbsend.

```
61                                                                                                  {
62     (void)dummy1;
63     (void)dummy2;
64     (void)dummy3;
65     (void)dummy4;
66
67     DELAY_LONG(kb);
68     hwprofile* hw = kb->hw;
69     if(!hw)
70         hw = kb->hw = calloc(1, sizeof(hwprofile));
71     int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
```

```
    nativetohw(kb->profile, hw, modes);
    // Save the profile and mode names
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x07, 0x16, 0x01, 0 },
        { 0x07, 0x15, 0x01, 0 },
    };
    // Save the mode names
    for(int i = 0; i <= modes; i++){
        data_pkt[0][3] = i;
        memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
        if(!usbsend(kb, data_pkt[0], 1))
            return -1;
    }
    // Save the IDs
    for(int i = 0; i <= modes; i++){
        data_pkt[1][3] = i;
        memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
        if(!usbsend(kb, data_pkt[1], 1))
            return -1;
    }
    // Save the RGB data
    for(int i = 0; i < modes; i++){
        if(savergb_kb(kb, hw->light + i, i))
            return -1;
    }
    DELAY_LONG(kb);
    return 0;
}
```

Here is the call graph for this function:

13.45.1.3 static int hwloadmode (usbdevice * *kb*, hwprofile * *hw*, int *mode*) [static]

Definition at line 5 of file profile_keyboard.c.

References hwprofile::light, loadrgb_kb(), MD_NAME_LEN, MSG_SIZE, hwprofile::name, and usbrecv.

Referenced by cmd_hwload_kb().

```
5                                                       {
6     // Ask for mode's name
7     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x16, 0x01, mode + 1, 0 };
8     uchar in_pkt[MSG_SIZE];
9     if(!usbrecv(kb, data_pkt, in_pkt))
10        return -1;
11     memcpy(hw->name[mode + 1], in_pkt + 4, MD_NAME_LEN * 2);
12     // Load the RGB setting
13     return loadrgb_kb(kb, hw->light + mode, mode);
14 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.46 src/ckb-daemon/profile_mouse.c File Reference

```
#include "dpi.h"
#include "profile.h"
#include "usb.h"
#include "led.h"
```

Include dependency graph for profile_mouse.c:

Functions

- int cmd_hwload_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int apply, const char ∗dummy3)
- int cmd_hwsave_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)

13.46.1 Function Documentation

13.46.1.1 int cmd_hwload_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

Definition at line 6 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwtonative(), hwprofile::id, hwprofile::light, loaddpi(), loadrgb_mouse(), MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
7       (void)dummy1;
8       (void)dummy2;
9       (void)dummy3;
10
11      DELAY_LONG(kb);
12      hwprofile* hw = calloc(1, sizeof(hwprofile));
13      // Ask for profile and mode IDs
14      uchar data_pkt[2][MSG_SIZE] = {
15          { 0x0e, 0x15, 0x01, 0 },
16          { 0x0e, 0x16, 0x01, 0 }
17      };
18      uchar in_pkt[MSG_SIZE];
19      for(int i = 0; i <= 1; i++){
20          data_pkt[0][3] = i;
21          if(!usbrecv(kb, data_pkt[0], in_pkt)){
22              free(hw);
23              return -1;
24          }
25          memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
26      }
27      // Ask for profile and mode names
28      for(int i = 0; i <= 1; i++){
29          data_pkt[1][3] = i;
30          if(!usbrecv(kb, data_pkt[1],in_pkt)){
31              free(hw);
32              return -1;
33          }
34          memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
35      }
36
37      // Load the RGB and DPI settings
38      if(loadrgb_mouse(kb, hw->light, 0)
39              || loaddpi(kb, hw->dpi, hw->light)){
40          free(hw);
41          return -1;
42      }
43
44      // Make the profile active (if requested)
45      if(apply)
46          hwtonative(kb->profile, hw, 1);
47      // Free the existing profile (if any)
48      free(kb->hw);
49      kb->hw = hw;
50      DELAY_LONG(kb);
51      return 0;
52  }
```

Here is the call graph for this function:

13.46.1.2 int cmd_hwsave_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 54 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwprofile::id, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savedpi(), savergb_mouse(), and usbsend.

```
54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
55     (void)dummy1;
56     (void)dummy2;
57     (void)dummy3;
58     (void)dummy4;
59
60     DELAY_LONG(kb);
61     hwprofile* hw = kb->hw;
62     if(!hw)
63         hw = kb->hw = calloc(1, sizeof(hwprofile));
64     nativetohw(kb->profile, hw, 1);
65     // Save the profile and mode names
66     uchar data_pkt[2][MSG_SIZE] = {
67         { 0x07, 0x16, 0x01, 0 },
68         { 0x07, 0x15, 0x01, 0 },
69     };
70     for(int i = 0; i <= 1; i++){
71         data_pkt[0][3] = i;
72         memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
73         if(!usbsend(kb, data_pkt[0], 1))
74             return -1;
75     }
76     // Save the IDs
77     for(int i = 0; i <= 1; i++){
78         data_pkt[1][3] = i;
79         memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
80         if(!usbsend(kb, data_pkt[1], 1))
81             return -1;
82     }
83     // Save the RGB data for the non-DPI zones
84     if(savergb_mouse(kb, hw->light, 0))
85         return -1;
86     // Save the DPI data (also saves RGB for those states)
87     if(savedpi(kb, hw->dpi, hw->light))
88         return -1;
89     DELAY_LONG(kb);
90     return 0;
91 }
```

Here is the call graph for this function:

13.47 src/ckb-daemon/structures.h File Reference

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for structures.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct usbid
- struct macroaction
- struct keymacro
- struct binding
- struct dpiset
- struct lighting
- struct usbmode
- struct usbprofile
- struct hwprofile
- struct usbinput
- struct usbdevice

Macros

- #define SET_KEYBIT(array, index) do { (array)[(index) / 8] |= 1 << ((index) % 8); } while(0)
- #define CLEAR_KEYBIT(array, index) do { (array)[(index) / 8] &= ~(1 << ((index) % 8)); } while(0)
- #define I_NUM 1
- #define I_CAPS 2
- #define I_SCROLL 4
- #define OUTFIFO_MAX 10
- #define MACRO_MAX 1024
- #define DPI_COUNT 6
- #define LIFT_MIN 1
- #define LIFT_MAX 5
- #define MD_NAME_LEN 16
- #define PR_NAME_LEN 16
- #define MODE_COUNT 6
- #define HWMODE_K70 1
- #define HWMODE_K95 3
- #define HWMODE_MAX 3
- #define FEAT_RGB 0x001
- #define FEAT_MONOCHROME 0x002
- #define FEAT_POLLRATE 0x004

- #define FEAT_ADJRATE 0x008
- #define FEAT_BIND 0x010
- #define FEAT_NOTIFY 0x020
- #define FEAT_FWVERSION 0x040
- #define FEAT_FWUPDATE 0x080
- #define FEAT_HWLOAD 0x100
- #define FEAT_ANSI 0x200
- #define FEAT_ISO 0x400
- #define FEAT_MOUSEACCEL 0x800
- #define FEAT_COMMON (FEAT_BIND | FEAT_NOTIFY | FEAT_FWVERSION | FEAT_MOUSEACCEL | FEAT_HWLOAD)
- #define FEAT_STD_RGB (FEAT_COMMON | FEAT_RGB | FEAT_POLLRATE | FEAT_FWUPDATE)
- #define FEAT_STD_NRGB (FEAT_COMMON)
- #define FEAT_LMASK (FEAT_ANSI | FEAT_ISO)
- #define HAS_FEATURES(kb, feat) (((kb)->features & (feat)) == (feat))
- #define HAS_ANY_FEATURE(kb, feat) (!!((kb)->features & (feat)))
- #define NEEDS_FW_UPDATE(kb) ((kb)->fwversion == 0 && HAS_FEATURES((kb), FEAT_FWUPDATE | FEAT_FWVERSION))
- #define SCROLL_ACCELERATED 0
- #define SCROLL_MIN 1
- #define SCROLL_MAX 10
- #define KB_NAME_LEN 40
- #define SERIAL_LEN 34
- #define MSG_SIZE 64
- #define IFACE_MAX 4

Variables

- const union devcmd vtable_keyboard

  RGB keyboard vtable holds functions for each device type.
- const union devcmd vtable_keyboard_nonrgb
- const union devcmd vtable_mouse

13.47.1 Data Structure Documentation

13.47.1.1 struct usbid

Definition at line 8 of file structures.h.

Collaboration diagram for usbid:

Data Fields

char	guid[16]	
char	modified[4]	

13.47.1.2 struct macroaction

Definition at line 27 of file structures.h.

Collaboration diagram for macroaction:

Data Fields

uint	delay	
char	down	
short	rel_x	
short	rel_y	
short	scan	

13.47.1.3 struct keymacro

Definition at line 35 of file structures.h.

Collaboration diagram for keymacro:

Data Fields

int	actioncount	
macroaction *	actions	
uchar	combo[(((((152+3+12)+25)+7)/8)]	
char	triggered	

13.47.1.4 struct binding

Definition at line 43 of file structures.h.

Collaboration diagram for binding:

Data Fields

int	base[((152+3+12)+25)]	
int	macrocap	
int	macrocount	
keymacro *	macros	

13.47.1.5 struct dpiset

Definition at line 57 of file structures.h.

Collaboration diagram for dpiset:

Data Fields

uchar	current	
uchar	enabled	
uchar	forceupdate	
uchar	lift	
uchar	snap	
ushort	x[6]	
ushort	y[6]	

13.47.1.6 struct lighting

Definition at line 73 of file structures.h.

Collaboration diagram for lighting:

Data Fields

uchar	b[152+12]	
uchar	forceupdate	
uchar	g[152+12]	
uchar	r[152+12]	
uchar	sidelight	

13.47.1.7 struct usbmode

Definition at line 83 of file structures.h.

Collaboration diagram for usbmode:

Data Fields

binding	bind	
dpiset	dpi	
usbid	id	
uchar	inotify[10]	
uchar	ioff	
uchar	ion	
lighting	light	
ushort	name[16]	
uchar	notify[10][((((152+3+12)+25)+7)/8)]	

13.47.1.8 struct usbprofile

Definition at line 101 of file structures.h.

Collaboration diagram for usbprofile:

Data Fields

usbmode *	currentmode	
usbid	id	
dpiset	lastdpi	
lighting	lastlight	
usbmode	mode[6]	
ushort	name[16]	

13.47.1.9 struct hwprofile

Definition at line 118 of file structures.h.

Collaboration diagram for hwprofile:

Data Fields

dpiset	dpi[3]	
usbid	id[3+1]	
lighting	light[3]	
ushort	name[3+1][16]	

13.47.1.10 struct usbinput

Definition at line 129 of file structures.h.

Collaboration diagram for usbinput:

Data Fields

uchar	keys[((((152+3+12)+25)+7)/8)]	
uchar	prevkeys[((((152+3+12)+25)+7)/8)]	
short	rel_x	
short	rel_y	

13.47.1.11 struct usbdevice

Definition at line 178 of file structures.h.

Collaboration diagram for usbdevice:

Data Fields

char	active	
uint	delay	
char	dither	
int	epcount	
ushort	features	
ushort	fwversion	
int	handle	
hwprofile *	hw	
uchar	hw_ileds	
uchar	hw_ileds_old	
uchar	ileds	
int	infifo	
usbinput	input	
pthread_t	inputthread	
char	name[40+1]	
int	outfifo[10]	
char	pollrate	
short	product	

usbprofile *	profile	
char	serial[34]	
pthread_t	thread	
struct udev_device *	udev	
int	uinput_kb	
int	uinput_mouse	
char	usbdelay	
short	vendor	
const union devcmd *	vtable	

13.47.2 Macro Definition Documentation

13.47.2.1 #define CLEAR_KEYBIT(*array, index*) do { (array)[(index) / 8] &= ~(1 << ((index) % 8)); } while(0)

Definition at line 16 of file structures.h.

Referenced by cmd_notify(), corsair_mousecopy(), hid_kb_translate(), and hid_mouse_translate().

13.47.2.2 #define DPI_COUNT 6

Definition at line 54 of file structures.h.

Referenced by cmd_dpi(), cmd_dpisel(), loaddpi(), printdpi(), savedpi(), and updatedpi().

13.47.2.3 #define FEAT_ADJRATE 0x008

Definition at line 139 of file structures.h.

Referenced by _mkdevpath(), _setupusb(), and _start_dev().

13.47.2.4 #define FEAT_ANSI 0x200

Definition at line 146 of file structures.h.

Referenced by readcmd().

13.47.2.5 #define FEAT_BIND 0x010

Definition at line 140 of file structures.h.

Referenced by _mkdevpath(), main(), and readcmd().

13.47.2.6 #define FEAT_COMMON (FEAT_BIND | FEAT_NOTIFY | FEAT_FWVERSION | FEAT_MOUSEACCEL | FEAT_HWLOAD)

Definition at line 151 of file structures.h.

13.47.2.7 #define FEAT_FWUPDATE 0x080

Definition at line 143 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), and cmd_fwupdate().

13.47.2.8 #define FEAT_FWVERSION 0x040

Definition at line 142 of file structures.h.

Referenced by _mkdevpath(), and _start_dev().

13.47.2.9 #define FEAT_HWLOAD 0x100

Definition at line 144 of file structures.h.

Referenced by _start_dev().

13.47.2.10 #define FEAT_ISO 0x400

Definition at line 147 of file structures.h.

Referenced by readcmd().

13.47.2.11 #define FEAT_LMASK (FEAT_ANSI | FEAT_ISO)

Definition at line 154 of file structures.h.

Referenced by readcmd().

13.47.2.12 #define FEAT_MONOCHROME 0x002

Definition at line 137 of file structures.h.

Referenced by _mkdevpath(), and _setupusb().

13.47.2.13 #define FEAT_MOUSEACCEL 0x800

Definition at line 148 of file structures.h.

Referenced by main(), and readcmd().

13.47.2.14 #define FEAT_NOTIFY 0x020

Definition at line 141 of file structures.h.

Referenced by _mkdevpath(), main(), and readcmd().

13.47.2.15 #define FEAT_POLLRATE 0x004

Definition at line 138 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), and getfwversion().

13.47.2.16 #define FEAT_RGB 0x001

Definition at line 136 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), revertusb(), and usbunclaim().

13.47.2.17 #define FEAT_STD_NRGB (FEAT_COMMON)

Definition at line 153 of file structures.h.

Referenced by _setupusb().

13.47.2.18 #define FEAT_STD_RGB (FEAT_COMMON | FEAT_RGB | FEAT_POLLRATE | FEAT_FWUPDATE)

Definition at line 152 of file structures.h.

Referenced by _setupusb().

13.47.2.19 #define HAS_ANY_FEATURE(*kb, feat*) (!!((kb)->features & (feat)))

Definition at line 158 of file structures.h.

13.47.2.20 #define HAS_FEATURES(*kb, feat*) (((kb)->features & (feat)) == (feat))

Definition at line 157 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), cmd_fwupdate(), readcmd(), revertusb(), and usbunclaim().

13.47.2.21 #define HWMODE_K70 1

Definition at line 115 of file structures.h.

Referenced by cmd_hwload_kb(), and cmd_hwsave_kb().

13.47.2.22 #define HWMODE_K95 3

Definition at line 116 of file structures.h.

Referenced by cmd_hwload_kb(), and cmd_hwsave_kb().

13.47.2.23 #define HWMODE_MAX 3

Definition at line 117 of file structures.h.

13.47.2.24 #define I_CAPS 2

Definition at line 20 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.25 #define I_NUM 1

Definition at line 19 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.26 #define I_SCROLL 4

Definition at line 21 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.27 #define IFACE_MAX 4

Definition at line 177 of file structures.h.

13.47.2.28 #define KB_NAME_LEN 40

Definition at line 174 of file structures.h.

Referenced by _setupusb(), and os_setupusb().

13.47.2.29 #define LIFT_MAX 5

Definition at line 56 of file structures.h.

Referenced by cmd_lift(), and loaddpi().

13.47.2.30 #define LIFT_MIN 1

Definition at line 55 of file structures.h.

Referenced by cmd_lift(), and loaddpi().

13.47.2.31 #define MACRO_MAX 1024

Definition at line 51 of file structures.h.

Referenced by _cmd_macro().

13.47.2.32 #define MD_NAME_LEN 16

Definition at line 82 of file structures.h.

Referenced by cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_name(), gethwmodename(), gethwprofilename(), getmodename(), hwloadmode(), hwtonative(), and nativetohw().

13.47.2.33 #define MODE_COUNT 6

Definition at line 100 of file structures.h.

Referenced by _freeprofile(), allocprofile(), and readcmd().

13.47.2.34 #define MSG_SIZE 64

Definition at line 176 of file structures.h.

Referenced by _usbsend(), cmd_hwload_kb(), cmd_hwload_mouse(), cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_pollrate(), fwupdate(), getfwversion(), hwloadmode(), loaddpi(), loadrgb_kb(), loadrgb_mouse(), os_inputmain(), os_usbrecv(), os_usbsend(), savedpi(), savergb_kb(), savergb_mouse(), setactive_kb(), setactive_mouse(), updatedpi(), updatergb_kb(), and updatergb_mouse().

13.47.2.35 #define NEEDS_FW_UPDATE(*kb*) ((kb)->fwversion == 0 && HAS_FEATURES((kb), FEAT_FWUPDATE | FEAT_FWVERSION))

Definition at line 161 of file structures.h.

Referenced by _start_dev(), readcmd(), revertusb(), setactive_kb(), and setactive_mouse().

13.47.2.36 #define OUTFIFO_MAX 10

Definition at line 24 of file structures.h.

Referenced by _mknotifynode(), _rmnotifynode(), inputupdate_keys(), nprintf(), readcmd(), rmdevpath(), and updateindicators_kb().

13.47.2.37 #define PR_NAME_LEN 16

Definition at line 99 of file structures.h.

Referenced by cmd_hwload_kb(), cmd_hwload_mouse(), cmd_profilename(), getprofilename(), hwtonative(), and nativetohw().

13.47.2.38 #define SCROLL_ACCELERATED 0

Definition at line 164 of file structures.h.

Referenced by readcmd().

13.47.2.39 #define SCROLL_MAX 10

Definition at line 166 of file structures.h.

Referenced by readcmd().

13.47.2.40 #define SCROLL_MIN 1

Definition at line 165 of file structures.h.

Referenced by readcmd().

13.47.2.41 #define SERIAL_LEN 34

Definition at line 175 of file structures.h.

Referenced by _setupusb(), and os_setupusb().

13.47.2.42 #define SET_KEYBIT(*array, index*) do { (array)[(index) / 8] |= 1 << ((index) % 8); } while(0)

Definition at line 15 of file structures.h.

Referenced by _cmd_macro(), cmd_notify(), corsair_mousecopy(), hid_kb_translate(), and hid_mouse_translate().

13.47.3 Variable Documentation

13.47.3.1 const union devcmd vtable_keyboard

Definition at line 52 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.2 const union devcmd vtable_keyboard_nonrgb

Definition at line 99 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.3 const union devcmd vtable_mouse

Definition at line 146 of file device_vtable.c.

Referenced by get_vtable().

13.48 src/ckb-daemon/usb.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for usb.c:

Functions

- const char ∗ vendor_str (short vendor)

  brief .
- const char ∗ product_str (short product)

  brief .
- static const devcmd ∗ get_vtable (short vendor, short product)

  brief .
- static void ∗ devmain (usbdevice ∗kb)

  brief .
- static void ∗ _setupusb (void ∗context)

  brief .
- void setupusb (usbdevice ∗kb)
- int revertusb (usbdevice ∗kb)
- int _resetusb (usbdevice ∗kb, const char ∗file, int line)
- int usb_tryreset (usbdevice ∗kb)
- int _usbsend (usbdevice ∗kb, const uchar ∗messages, int count, const char ∗file, int line)
- int _usbrecv (usbdevice ∗kb, const uchar ∗out_msg, uchar ∗in_msg, const char ∗file, int line)
- int closeusb (usbdevice ∗kb)

Variables

- pthread_mutex_t usbmutex = PTHREAD_MUTEX_INITIALIZER

  brief .
- volatile int reset_stop = 0

  brief .
- int features_mask = -1

  brief .
- int hwload_mode

  hwload_mode is defined in device.c

13.48.1 Function Documentation

13.48.1.1 int _resetusb (usbdevice * *kb*, const char * *file*, int *line*)

_resetusb Reset a USB device.

First reset the device via os_resetusb() after a long delay (it may send something to the host). If this worked (retval == 0), give the device another long delay Then perform the initialization via the device specific start() function entry in kb->vtable and if this is successful also, return the result of the device depenten updatergb() with force=true.

Definition at line 432 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
432                                                         {
433     // Perform a USB reset
434     DELAY_LONG(kb);
435     int res = os_resetusb(kb, file, line);
436     if(res)
437         return res;
438     DELAY_LONG(kb);
439     // Re-initialize the device
440     if(kb->vtable->start(kb, kb->active) != 0)
441         return -1;
442     if(kb->vtable->updatergb(kb, 1) != 0)
443         return -1;
444     return 0;
445 }
```

Here is the call graph for this function:

13.48.1.2 static void* _setupusb (void * *context*) [static]

_setupusb A horrible function for setting up an usb device

Parameters

context	As _setupusb() is called as a new thread, the kb∗ is transferred as void∗

Returns

a ptread_t∗ 0, here casted as void∗. Retval is always null

The basic structure of the function is somewhat habituated. It is more like an assembler routine than a structured program. This is not really bad, but just getting used to.

After every action, which can be practically fault-prone, the routine goes into the same error handling: It goes via goto to one of two exit labels. The difference is whether or not an unlock has to be performed on the imutex variable. In both cases, closeusb() is called, then an unlock is performed on the dmutex.

The only case where this error handling is not performed is the correct return of the call to devmain(). Here simply the return value of devmain() is passed to the caller.

In either case, the routine terminates with a void∗ 0 because either devmain() has returned constant null or the routine itself returns zero.

The basic idea of this routine is the following:

First some initialization of kb standard structured and local vars is done.

- **kb** is set to the pointer given from start environment
- local vars **vendor** and **product** are set to the values from the corresponding fields of kb
- local var **vt and** the **kb->vtable** are both set to the retval of *get_vtable()*
- **kb->features** are set depending on the type of hardware connected:
  - set either to standard non rgb (all common flags like binding, notify, FW, hardware-loading etc) or in case of RGB-device set to standard + RGB, pollrate-change and fw-update
  - exclude all features which are disabled via feature_mask (set by daemon CLI parameters)
  - if it is a mouse, add adjust-rate
  - if it is a monochrome device, set the flag for RGB-protocol, but single color
- the standard delay time is initialized in kb->usbdelay
- A fixed 100ms wait is the start. **Although the DELAY_LONG macro is given a parameter, it is ignored. Occasionally refactor it.**
- The first relevant point is the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1, otherwise 0).
- The following two statements deal with possible errors when setting the kb values in the current routine: If the version or the name was not read correctly, they are set to default values:
  - serial is set to "<vendor>: <product> -NoID"
  - the name is set to "<vendor> <product>".
- Then the user level input subsystem is activated via os_openinput(). There are two file descriptors, one for the mouse and one for the keyboard. **As mentioned in structures.h, not the just opened FD numbers are stored under kb->uinput_kb or kb->uinput_mouse, but the values increased by 1!** The reason is, if the open fails or not open has been done until now, that struct member is set to 0, not to -1 or other negative value. So all usage of this kb->handle must be something like "`kb->handle - 1`", as you can find it in the code.
- The next action is to create a separate thread, which gets as parameter kb and starts with os_inputmain(). The thread is immediately detached so that it can return its resource completely independently if it should terminate.

- The same happens with os_setupindicators(), which initially initializes all LED variables in kb to off and then starts the _ledthread() thread with kb as parameter and then detaches it. Here again only the generation of the thread can fail.

- Via an entry in the vable (allocprofile, identical for all three vtable types), allocprofile() is called in profile.c. With a valid parameter kb, a usbprofile structure is allocated and stored as a kb->profile. Then initmode() is called for each of the initializable modes (MODE_COUNT, currently 6). This procedure creates the memory space for the mode information, initializes the range to 0, and then sets the light.forceupdate and dpi.forceupdate to true. This forces an update later in the initialization of the device.

  The first mode is set as the current mode and two force flags are set (this seems to be mode-intersecting flags for light and update).

  Warning

  > There is no error handling for the allocprofile() and initmode() procedures. However, since they allocate storage areas, the subsequent assignments and initializations can run in a SEGV.

- Not completely understandable is why now via the vtable the function updateindicators() is called. But this actually happens in the just started thread _ledthread(). Either the initialization is wrong und must done here with force or the overview is lost, what happens when...

  Regardless: For a mouse nothing happens here, for a keyboard updateindicators_kb() is called via the entry in kb->vtable. The first parameter is kb again, the second is constant 1 (means force = true). This causes the LED status to be sent after a 5ms delay via os_sendindicators() (ioctl with a `usbdevfs_ctrltransfer`).

  The notification is sent to all currently open notification channels then.

  Setupindicators() and with it updateindicators_kb() can fail.

- From this point - if an error is detected - the error label is addressed by goto statement, which first performs an unlock on the imutex. This is interesting because the next statement is exactly this: An unlock on the imutex.

- Via vtable the *kb->start()* function is called next. This is the same for a mouse and an RGB keyboard: start_dev(), for a non RGB keyboard it is start_kb_nrgb().

  First parameter is as always kb, second is 0 (makeactive = false).

  - In start_kb_nrgb() set the keyboard into a so-called software mode (NK95_HWOFF) via ioctl with `usbdevfs_ctrltransfer` in function _nk95cmd(), which will in turn is called via macro nk95cmd() via start_kb_nrgb().

    Then two dummy values (active and pollrate) are set in the kb structure and ready.
  - start_dev() does a bit more - because this function is for both mouse and keyboard. start_dev() calls - after setting an extended timeout parameter - _start_dev(). Both are located in device.c.
  - First, _start_dev() attempts to determine the firmware version of the device, but only if two conditions are met: hwload-mode is not null (then hw-loading is disabled) and the device has the FEAT_HWLOAD feature. Then the firmware and the poll rate are fetched via getfwversion().

    If hwload_mode is set to "load only once" (==1), then the HWLOAD feature is masked, so that no further reading can take place.
  - Now check if device needs a firmware update. If so, set it up and leave the function without error.
  - Else load the hardware profile from device if the hw-pointer is not set and hw-loading is possible and allowed.

    Return error if mode == 2 (load always) and loading got an error. Else mask the HWLOAD feature, because hwload must be 1 and the error couold be a repeated hw-reading.

    Puh, that is real Horror code. It seems to be not faulty, but completely unreadable.
  - Finally, the second parameter of _startdev() is used to check whether the device is to be activated. Depending on the parameter, the active or the idle-member in the correspondig vtable is called. These are device-dependent again:

Device	active	idle
RGB Keyboard	cmd_active_kb() means: start the device with a lot of kb-specific initializers (software controlled mode)	cmd_idle_kb() set the device with a lot of kb-specific initializers into the hardware controlled mode)
non RGB Keyboard	cmd_io_none() means: Do nothing	cmd_io_none() means: Do nothing
Mouse	cmd_active_mouse() similar to cmd_active_kb()	cmd_idle_mouse similar to cmd_idle_kb()

- If either *start()* succeeded or the next following usb_tryreset(), it goes on, otherwise again a hard abort occurs.
- Next, go to mkdevpath(). After securing the EUID (effective UID) especially for macOS, work starts really in _mkdevpath(). Create - no matter how many devices were registered - either the ckb0/ files **version**, **pid** and **connected** or the **cmd** command fifo, the first notification fifo **notify0**, **model** and **serial** as well as the **features** of the device and the **pollrate**.
- If all this is done and no error has occurred, a debug info is printed ("Setup finished for ckbx") updateconnected() writes the new device into the text file under ckb0/ and devmain() is called.

devmain()'s return value is returned by _setupusb() when we terminate.

- The remaining code lines are the two exit labels as described above

Definition at line 220 of file usb.c.

References ckb_info, closeusb(), DELAY_LONG, devmain(), devpath, dmutex, FEAT_ADJRATE, FEAT_MONOCHROME, FEAT_STD_NRGB, FEAT_STD_RGB, usbdevice::features, features_mask, get_vtable(), imutex, INDEX_OF, usbdevice::inputthread, IS_MONOCHROME, IS_MOUSE, IS_RGB, KB_NAME_LEN, keyboard, mkdevpath(), usbdevice::name, os_inputmain(), os_inputopen(), os_setupindicators(), os_setupusb(), usbdevice::product, product_str(), usbdevice::serial, SERIAL_LEN, updateconnected(), USB_DELAY_DEFAULT, usb_tryreset(), usbdevice::usbdelay, usbdevice::vendor, vendor_str(), and usbdevice::vtable.

Referenced by setupusb().

```
220                                     {
233     usbdevice* kb = context;
234     // Set standard fields
235     short vendor = kb->vendor, product = kb->product;
236     const devcmd* vt = kb->vtable = get_vtable(vendor, product);
237     kb->features = (IS_RGB(vendor, product) ? FEAT_STD_RGB :
    FEAT_STD_NRGB) & features_mask;
238     if(IS_MOUSE(vendor, product)) kb->features |= FEAT_ADJRATE;
239     if(IS_MONOCHROME(vendor, product)) kb->features |=
    FEAT_MONOCHROME;
240     kb->usbdelay = USB_DELAY_DEFAULT;
241
242     // Perform OS-specific setup
246     DELAY_LONG(kb);
247
253     if(os_setupusb(kb))
254         goto fail;
255
261     // Make up a device name and serial if they weren't assigned
262     if(!kb->serial[0])
263         snprintf(kb->serial, SERIAL_LEN, "%04x:%04x-NoID", kb->
    vendor, kb->product);
264     if(!kb->name[0])
265         snprintf(kb->name, KB_NAME_LEN, "%s %s", vendor_str(kb->
    vendor), product_str(kb->product));
266
267     // Set up an input device for key events
275     if(os_inputopen(kb))
276         goto fail;
280     if(pthread_create(&kb->inputthread, 0, os_inputmain, kb))
281         goto fail;
282     pthread_detach(kb->inputthread);
288     if(os_setupindicators(kb))
289         goto fail;
290
291     // Set up device
304     vt->allocprofile(kb);
```

```
    vt->updateindicators(kb, 1);
    pthread_mutex_unlock(imutex(kb));
    if(vt->start(kb, 0) && usb_tryreset(kb))
        goto fail_noinput;
    // Make /dev path
    if(mkdevpath(kb))
        goto fail_noinput;
    // Finished. Enter main loop
    int index = INDEX_OF(kb, keyboard);
    ckb_info("Setup finished for %s%d\n", devpath, index);
    updateconnected();
    return devmain(kb);
    fail:
    pthread_mutex_unlock(imutex(kb));
    fail_noinput:
    closeusb(kb);
    pthread_mutex_unlock(dmutex(kb));
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.48.1.3 int _usbrecv (usbdevice * *kb*, const uchar * *out_msg*, uchar * *in_msg*, const char * *file*, int *line*)

_usbrecv Request data from a USB device by first sending an output packet and then reading the response.

To fully understand this, you need to know about usb: All control is at the usb host (the CPU). If the device wants to communicate something to the host, it must wait for the host to ask. The usb protocol defines the cycles and periods in which actions are to be taken.

So in order to receive a data packet from the device, the host must first send a send request.

This is done by _usbrecv() in the first block by sending the MSG_SIZE large data block from **out_msg** via os_usbsend() as it is a machine depending implementation. The usb target device is as always determined over kb.

For os_usbsend() to know that it is a receive request, the **is_recv** parameter is set to true (1). With this, os_usbsend () generates a control package for the hardware, not a data packet.

If sending of the control package is not successful, a maximum of 5 times the transmission is repeated (including the first attempt). If a non-cancelable error is signaled or the drive is stopped via reset_stop, _usbrecv() immediately returns 0.

After this, the function waits for the requested response from the device using os_usbrecv ().

os_usbrecv() returns 0, -1 or something else.

Zero signals a serious error which is not treatable and _usbrecv() also returns 0.

-1 means that it is a treatable error - a timeout for example - and therefore the next transfer attempt is started after a long pause (DELAY_LONG) if not reset_stop or the wrong hwload_mode require a termination with a return value of 0.

After 5 attempts, _usbrecv () returns and returns 0 as well as an error message.

When data is received, the number of received bytes is returned. This should always be MSG_SIZE, but os_usbrecv() can also return less. It should not be more, because then there would be an unhandled buffer overflow, but it could be less. This would be signaled in os_usbrecv () with a message.

The buffers behind **out_msg** and **in_msg** are MSG_SIZE at least (currently 64 Bytes). More is ok but useless, less brings unpredictable behavior. < Synchonization between macro and color information

Definition at line 607 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, mmutex, os_usbrecv(), os_usbsend(), and reset_stop.

```
607                                                                                                                {
608     // Try a maximum of 5 times
609     for (int try = 0; try < 5; try++) {
610         // Send the output message
611         pthread_mutex_lock(mmutex(kb));
612         DELAY_SHORT(kb);
613         int res = os_usbsend(kb, out_msg, 1, file, line);
614         pthread_mutex_unlock(mmutex(kb));
615         if (res == 0)
616             return 0;
617         else if (res == -1) {
618             // Retry on temporary failure
619             if (reset_stop)
620                 return 0;
621             DELAY_LONG(kb);
622             continue;
623         }
624         // Wait for the response
625         DELAY_MEDIUM(kb);
626         res = os_usbrecv(kb, in_msg, file, line);
627         if(res == 0)
628             return 0;
629         else if(res != -1)
630             return res;
631         if(reset_stop || hwload_mode != 2)
632             return 0;
633         DELAY_LONG(kb);
634     }
635     // Give up
636     ckb_err_fn("Too many send/recv failures. Dropping.\n", file, line);
637     return 0;
```

```
638 }
```

Here is the call graph for this function:

13.48.1.4 int _usbsend (usbdevice * *kb*, const uchar * *messages*, int *count*, const char * *file*, int *line*)

_usbsend send a logical message completely to the given device

Todo A lot of different conditions are combined in this code. Don't think, it is good in every combination...

The main task of _usbsend () is to transfer the complete logical message from the buffer beginning with *messages* to **count** * **MSG_SIZE**.

According to usb 2.0 specification, a USB transmits a maximum of 64 byte user data packets. For the transmission of longer messages we need a segmentation. And that is exactly what happens here.

The message is given one by one to os_usbsend() in MSG_SIZE (= 64) byte large bites.

Attention

This means that the buffer given as argument must be n * MSG_SIZE Byte long.

An essential constant parameter which is relevant for os_usbsend() only is is_recv = 0, which means sending.

Now it gets a little complicated again:

- If os_usbsend() returns 0, only zero bytes could be sent in one of the packets, or it was an error (-1 from the systemcall), but not a timeout. How many Bytes were sent in total from earlier calls does not seem to matter, _usbsend() returns a total of 0.
- Returns os_usbsend() -1, first check if **reset_stop** is set globally or (incomprehensible) hwload_mode is not set to "always". In either case, _usbsend() returns 0, otherwise it is assumed to be a temporary transfer error and it simply retransmits the physical packet after a long delay.
- If the return value of os_usbsend() was neither 0 nor -1, it specifies the numer of bytes transferred.

  Here is an information hiding conflict with os_usbsend() (at least in the Linux version):

  If os_usbsend() can not transfer the entire packet, errors are thrown and the number of bytes sent is returned. _usbsend() interprets this as well and remembers the total number of bytes transferred in the local variable **total_sent**. Subsequently, however, transmission is continued with the next complete MSG_SIZE block and not with the first of the possibly missing bytes.

  Todo Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

When the last packet is transferred, _usbsend() returns the effectively counted set of bytes (from **total_sent**). This at least gives the caller the opportunity to check whether something has been lost in the middle.

A bit strange is the structure of the program: Handling the **count** MSG_SIZE blocks to be transferred is done in the outer for (...) loop. Repeating the transfer with a treatable error is managed by the inner while(1) loop.

This must be considered when reading the code; The "break" on successful block transfer leaves the inner while, not the for (...). < Synchonization between macro and color information

Definition at line 538 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
538                                                                                                                    {
539     int total_sent = 0;
540     for(int i = 0; i < count; i++){
541         // Send each message via the OS function
542         while(1){
543             pthread_mutex_lock(mmutex(kb));
544             DELAY_SHORT(kb);
545             int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
546             pthread_mutex_unlock(mmutex(kb));
547             if(res == 0)
548                 return 0;
549             else if(res != -1){
550                 total_sent += res;
551                 break;
552             }
553             // Stop immediately if the program is shutting down or hardware load is set to tryonce
554             if(reset_stop || hwload_mode != 2)
555                 return 0;
556             // Retry as long as the result is temporary failure
557             DELAY_LONG(kb);
558         }
559     }
560     return total_sent;
561 }
```

Here is the call graph for this function:

13.48.1.5 int closeusb (usbdevice * *kb*)

closeusb Close a USB device and remove device entry.

An imutex lock ensures first of all, that no communication is currently running from the viewpoint of the driver to the user input device (ie the virtual driver with which characters or mouse movements are sent from the daemon to the operating system as inputs).

If the **kb** has an acceptable value != 0, the index of the device is looked for and with this index os_inputclose() is called. After this no more characters can be sent to the operating system.

Then the connection to the usb device is capped by os_closeusb().

Todo What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

If there is no valid **handle**, only updateconnected() is called. We are probably trying to disconnect a connection under construction. Not clear.

The cmd pipe as well as all open notify pipes are deleted via rmdevpath ().

This means that nothing can happen to the input path - so the device-specific imutex is unlocked again and remains unlocked.

Also the dmutex is unlocked now, but only to join the thread, which was originally taken under **kb->thread** (which started with _setupusb()) with pthread_join() again. Because of the closed devices that thread would have to quit sometime

See Also

the hack note with rmdevpath())

As soon as the thread is caught, the dmutex is locked again, which is what I do not understand yet: What other thread can do usb communication now?

If the vtabel exists for the given kb (why not? It seems to have race conditions here!!), via the vtable the actually device-specific, but still everywhere identical freeprofile() is called. This frees areas that are no longer needed. Then the **usbdevice** structure in its array is set to zero completely.

Error handling is rather unusual in closeusb(); Everything works (no matter what the called functions return), and closeusb() always returns zero (success).

Definition at line 683 of file usb.c.

References ckb_info, devpath, dmutex, usbdevice::handle, imutex, INDEX_OF, keyboard, os_closeusb(), os_inputclose(), rmdevpath(), usbdevice::thread, updateconnected(), and usbdevice::vtable.

Referenced by _setupusb(), devmain(), quitWithLock(), and usb_rm_device().

```
683                                 {
684     pthread_mutex_lock(imutex(kb));
685     if(kb->handle){
686         int index = INDEX_OF(kb, keyboard);
687         ckb_info("Disconnecting %s%d\n", devpath, index);
688         os_inputclose(kb);
689         updateconnected();
690         // Close USB device
691         os_closeusb(kb);
692     } else
693         updateconnected();
694     rmdevpath(kb);
695
696     // Wait for thread to close
697     pthread_mutex_unlock(imutex(kb));
698     pthread_mutex_unlock(dmutex(kb));
699     pthread_join(kb->thread, 0);
700     pthread_mutex_lock(dmutex(kb));
701
702     // Delete the profile and the control path
703     if(!kb->vtable)
704         return 0;
705     kb->vtable->freeprofile(kb);
706     memset(kb, 0, sizeof(usbdevice));
707     return 0;
708 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.48.1.6 static void* devmain (usbdevice * *kb*) [static]

devmain is called by _setupusb

Parameters

kb	the pointer to the device. Even if it has the name kb, it is valid also for a mouse (the whole driver seems to be implemented first for a keyboard).

Returns

always a nullptr

Synchronization

The syncing via mutexes is interesting:

1. *imutex* (the Input mutex)

   This one is locked in `setupusb()`. That function does only two things: Locking the mutex and trying to start a thread at `_setupusb()`. _setupusb() unlocks *imutex* after getting some buffers and initalizing internal structures from the indicators (this function often gets problems with error messages like "unable to read indicators" or "Timeout bla blubb").

Warning

have a look at *updateindicators()* later.
if creating the thread is not successful, the *imutex* remains blocked. Have a look at setupusb() later.

2. *dmutex* (the Device mutex)

   This one is very interesting, because it is handled in devmain(). It seems that it is locked only in *_ledthread()*, which is a thread created in *os_setupindicators()*. os_setupindicators() again is called in *_setupusb()* long before calling devmain(). So this mutex is locked when we start the function as the old comment says.

   Before reading from the FIFO and direct afterwards an unlock..lock sequence is implemented here. Even if only the function readlines() should be surrounded by the unlock..lock, the variable definition of the line pointer is also included here. Not nice, but does not bother either. Probably the Unlock..lock is needed so that now another process can change the control structure *linectx* while we wait in readlines().

   Todo Hope to find the need for dmutex usage later.
   Should this function be declared as pthread_t∗ function, because of the defintion of pthread-create? But void∗ works also...

Attention

dmutex should still be locked when this is called

First a *readlines_ctx* buffer structure is initialized by `readlines_ctx_init()`.

After some setup functions, beginning in _setupusb() which has called devmain(), we read the command input--Fifo designated to that device in an endless loop. This loop has two possible exits (plus reaction to signals, not mentioned here).

If the reading via readlines() is successful (we might have read multiple lines), the interpretation is done by readcmd() iff the connection to the device is still available (checked via IS_CONNECTED(kb)). This is true if the kb-structure has a handle and an event pointer both != Null). If not, the loop is left (the first exit point).

if nothing is in the line buffer (some magic interrupt?), continue in the endless while without any reaction.

Todo readcmd() gets a **line**, not **lines**. Have a look on that later.

Is the condition IS_CONNECTED valid? What functions change the condititon for the macro?

If interpretation and communication with the usb device got errors, they are signalled by readcmd() (non zero retcode). In this case the usb device is closed via closeusb() and the endless loop is left (the second exit point).

After leaving the endless loop the readlines-ctx structure and its buffers are freed by readlines_ctx_free().

Definition at line 141 of file usb.c.

References closeusb(), dmutex, usbdevice::infifo, IS_CONNECTED, readcmd(), readlines(), readlines_ctx_free(), and readlines_ctx_init().

Referenced by _setupusb().

```
141                                     {
143     int kbfifo = kb->infifo - 1;
146     readlines_ctx linectx;
147     readlines_ctx_init(&linectx);
152     while(1){
159         pthread_mutex_unlock(dmutex(kb));
160         // Read from FIFO
161         const char* line;
162         int lines = readlines(kbfifo, linectx, &line);
163         pthread_mutex_lock(dmutex(kb));
164         // End thread when the handle is removed
165         if(!IS_CONNECTED(kb))
166             break;
170         if(lines){
173             if(readcmd(kb, line)){
179                 // USB transfer failed; destroy device
180                 closeusb(kb);
181                 break;
```

```
            }
        }
    }
    pthread_mutex_unlock(dmutex(kb));
    readlines_ctx_free(linectx);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.48.1.7 static const devcmd* get_vtable (short *vendor*, short *product*) [static]

get_vtable returns the correct vtable pointer

Parameters

vendor	short usb vendor ID
product	short usb product ID

Returns

Depending on the type and model, the corresponding vtable pointer is returned (see below)

At present, we have three different vtables:

- `vtable_mouse` is used for all mouse types. This may be wrong with some newer mice?
- `vtable_keyboard` is used for all RGB Keyboards.

- `vtable_keyboard_nonrgb` for all the rest.

Todo Is the last point really a good decision and always correct?

Definition at line 108 of file usb.c.

References IS_MOUSE, IS_RGB, vtable_keyboard, vtable_keyboard_nonrgb, and vtable_mouse.

Referenced by _setupusb().

```
108                                                                 {
109     return IS_MOUSE(vendor, product) ? &vtable_mouse :
      IS_RGB(vendor, product) ? &vtable_keyboard : &
      vtable_keyboard_nonrgb;
110 }
```

Here is the caller graph for this function:

13.48.1.8 const char* product_str (short *product*)

product_str returns a condensed view on what type of device we have.

At present, various models and their properties are known from corsair products. Some models differ in principle (mice and keyboards), others differ in the way they function (for example, RGB and non RGB), but they are very similar.

Here, only the first point is taken into consideration and we return a unified model string. If the model is not known with its number, *product_str* returns an empty string.

The model numbers and corresponding strings wwith the numbers in hex-string are defined in `usb.h`

At present, this function is used to initialize `kb->name` and to give information in debug strings.

Attention

The combinations below have to fit to the combinations in the macros mentioned above. So if you add a device with a new number, change both.

Todo There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb*, product_str() needs the *product ID*

Definition at line 70 of file usb.c.

References P_GLAIVE, P_HARPOON, P_K63_NRGB, P_K65, P_K65_LUX, P_K65_NRGB, P_K65_RFIRE, P_K70, P_K70_LUX, P_K70_LUX_NRGB, P_K70_NRGB, P_K70_RFIRE, P_K70_RFIRE_NRGB, P_K95, P_K95_NRGB, P_K95_PLATINUM, P_M65, P_M65_PRO, P_SABRE_L, P_SABRE_N, P_SABRE_O, P_SABRE_O2, P_SCIMITAR, P_SCIMITAR_PRO, P_STRAFE, and P_STRAFE_NRGB.

Referenced by _mkdevpath(), and _setupusb().

```
70                                      {
71     if(product == P_K95 || product == P_K95_NRGB || product ==
      P_K95_PLATINUM)
72         return "k95";
73     if(product == P_K70 || product == P_K70_NRGB || product ==
      P_K70_LUX || product == P_K70_LUX_NRGB || product ==
      P_K70_RFIRE || product == P_K70_RFIRE_NRGB)
74         return "k70";
75     if(product == P_K65 || product == P_K65_NRGB || product ==
```

```
    P_K65_LUX || product == P_K65_RFIRE)
        return "k65";
    if(product == P_K63_NRGB)
        return "k63";
    if(product == P_STRAFE || product == P_STRAFE_NRGB)
        return "strafe";
    if(product == P_M65 || product == P_M65_PRO)
        return "m65";
    if(product == P_SABRE_O || product == P_SABRE_L || product ==
    P_SABRE_N || product == P_SABRE_O2)
        return "sabre";
    if(product == P_SCIMITAR || product == P_SCIMITAR_PRO)
        return "scimitar";
    if(product == P_HARPOON)
        return "harpoon";
    if(product == P_GLAIVE)
        return "glaive";
    return "";
}
```

Here is the caller graph for this function:

13.48.1.9 int revertusb (usbdevice * *kb*)

revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated

First is checked, whether a firmware-upgrade is indicated for the device. If so, revertusb() returns 0.

Todo Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

Anyway, the following steps are similar to some other procs, dealing with low level usb handling:

- If we do not have an RGB device, a simple setting to Hardware-mode (NK95_HWON) is sent to the device via n95cmd().

  Todo The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

- If we have an RGB device, setactive() is called with second param active = false. That function will have a look on differences between keyboards and mice.

  More precisely setactive() is just a macro to call via the kb->vtable enties either the active() or the idle() function where the vtable points to. setactive() may return error indications. If so, revertusb() returns -1, otherwise 0 in any other case.

Definition at line 413 of file usb.c.

References FEAT_RGB, HAS_FEATURES, NEEDS_FW_UPDATE, NK95_HWON, nk95cmd, and setactive.

Referenced by quitWithLock().

```
                                {
    if(NEEDS_FW_UPDATE(kb))
        return 0;
    if(!HAS_FEATURES(kb, FEAT_RGB)){
        nk95cmd(kb, NK95_HWON);
        return 0;
    }
    if(setactive(kb, 0))
        return -1;
    return 0;
}
```

Here is the caller graph for this function:

13.48.1.10 void setupusb (usbdevice * kb)

setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.

Set up a USB device after its handle is open. Spawns a new thread _setupusb() with standard parameter kb. dmutex must be locked prior to calling this function. The function will unlock it when finished. In kb->thread the thread id is mentioned, because closeusb() needs this info for joining that thread again.

Definition at line 392 of file usb.c.

References _setupusb(), ckb_err, imutex, and usbdevice::thread.

Referenced by usbadd().

```
392                                 {
393     pthread_mutex_lock(imutex(kb));
394     if(pthread_create(&kb->thread, 0, _setupusb, kb))
395         ckb_err("Failed to create USB thread\n");
396 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.48.1.11 int usb_tryreset (usbdevice * *kb*)

usb_tryreset does what the name means: Try to reset the usb via resetusb()

This function is called if an usb command ran into an error in case of one of the following two situations:

- When setting up a new usb device and the start() function got an error (

  See Also

  _setupusb())

- If upgrading to a new firmware gets an error (

  See Also

  cmd_fwupdate()).

  The previous action which got the error will NOT be re-attempted.

In an endless loop usb_tryreset() tries to reset the given usb device via the macro resetusb().

This macro calls _resetusb() with debugging information.

_resetusb() sends a command via the operating system dependent function os_resetusb() and - if successful - reinitializes the device. os_resetusb() returns -2 to indicate a broken device and all structures should be removed for it.

In that case, the loop is terminated, an error message is produced and usb_tryreset() returns -1.

In case resetusb() has success, the endless loop is left via a return 0 (success).

If the return value from resetusb() is -1, the loop is continued with the next try.

If the global variable **reset_stop** is set directly when the function is called or after each try, usb_tryreset() stops working and returns -1.

Todo Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

Definition at line 471 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
471                                 {
472     if(reset_stop)
473         return -1;
474     ckb_info("Attempting reset...\n");
475     while(1){
476         int res = resetusb(kb);
477         if(!res){
478             ckb_info("Reset success\n");
479             return 0;
480         }
481         if(res == -2 || reset_stop)
482             break;
483     }
484     ckb_err("Reset failed. Disconnecting.\n");
485     return -1;
486 }
```

Here is the caller graph for this function:

13.48.1.12 const char* vendor_str (short *vendor*)

uncomment to see USB packets sent to the device

vendor_str returns "corsair" if the given *vendor* argument is equal to *V_CORSAIR* (0x1bc) else it returns ""

Attention

There is also a string defined V_CORSAIR_STR, which returns the device number as string in hex "1b1c".

Definition at line 43 of file usb.c.

References V_CORSAIR.

Referenced by _mkdevpath(), and _setupusb().

```
43                                      {
44     if(vendor == V_CORSAIR)
45         return "corsair";
46     return "";
47 }
```

Here is the caller graph for this function:

13.48.2 Variable Documentation

13.48.2.1 int features_mask = -1

features_mask Mask of features to exclude from all devices

That bit mask ist set to enable all (-1). When interpreting the input parameters, some of these bits can be cleared.

At the moment binding, notifying and mouse-acceleration can be disabled via command line.

Have a look at *main()* in main.c for details.

Definition at line 35 of file usb.c.

Referenced by _setupusb(), and main().

13.48.2.2 int hwload_mode

hwload_mode is defined in device.c

Definition at line 7 of file device.c.

Referenced by _start_dev(), _usbrecv(), and _usbsend().

13.48.2.3 volatile int reset_stop = 0

reset_stop is boolean: Reset stopper for when the program shuts down.

Is set only by *quit()* to true (1) to inform several usb_∗ functions to end their loops and tries.

Definition at line 25 of file usb.c.

Referenced by _usbrecv(), _usbsend(), quitWithLock(), and usb_tryreset().

13.48.2.4 pthread_mutex_t usbmutex = PTHREAD_MUTEX_INITIALIZER

usbmutex is a never referenced mutex!

Todo We should have a look why this mutex is never used.

Definition at line 17 of file usb.c.

13.49 src/ckb-daemon/usb.h File Reference

Definitions for using USB interface.

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for usb.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define V_CORSAIR 0x1b1c

  For the following Defines please see "Detailed Description".
- #define V_CORSAIR_STR "1b1c"
- #define P_K63_NRGB 0x1b40
- #define P_K63_NRGB_STR "1b40"
- #define IS_K63(kb) ((kb)->vendor == V_CORSAIR && (kb)->product == P_K63_NRGB)
- #define P_K65 0x1b17
- #define P_K65_STR "1b17"

- #define P_K65_NRGB 0x1b07
- #define P_K65_NRGB_STR "1b07"
- #define P_K65_LUX 0x1b37
- #define P_K65_LUX_STR "1b37"
- #define P_K65_RFIRE 0x1b39
- #define P_K65_RFIRE_STR "1b39"
- #define IS_K65(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K65 || (kb)->product == P_K65_NRGB || (kb)->product == P_K65_LUX || (kb)->product == P_K65_RFIRE))
- #define P_K70 0x1b13
- #define P_K70_STR "1b13"
- #define P_K70_NRGB 0x1b09
- #define P_K70_NRGB_STR "1b09"
- #define P_K70_LUX 0x1b33
- #define P_K70_LUX_STR "1b33"
- #define P_K70_LUX_NRGB 0x1b36
- #define P_K70_LUX_NRGB_STR "1b36"
- #define P_K70_RFIRE 0x1b38
- #define P_K70_RFIRE_STR "1b38"
- #define P_K70_RFIRE_NRGB 0x1b3a
- #define P_K70_RFIRE_NRGB_STR "1b3a"
- #define IS_K70(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K70 || (kb)->product == P_K70_NRGB || (kb)->product == P_K70_RFIRE || (kb)->product == P_K70_RFIRE_NRGB || (kb)->product == P_K70_LUX || (kb)->product == P_K70_LUX_NRGB))
- #define P_K95 0x1b11
- #define P_K95_STR "1b11"
- #define P_K95_NRGB 0x1b08
- #define P_K95_NRGB_STR "1b08"
- #define P_K95_PLATINUM 0x1b2d
- #define P_K95_PLATINUM_STR "1b2d"
- #define IS_K95(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95 || (kb)->product == P_K95_NRGB || (kb)->product == P_K95_PLATINUM))
- #define P_STRAFE 0x1b20
- #define P_STRAFE_STR "1b20"
- #define P_STRAFE_NRGB 0x1b15
- #define P_STRAFE_NRGB_STR "1b15"
- #define IS_STRAFE(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_STRAFE || (kb)->product == P_STRAFE_NRGB))
- #define P_M65 0x1b12
- #define P_M65_STR "1b12"
- #define P_M65_PRO 0x1b2e
- #define P_M65_PRO_STR "1b2e"
- #define IS_M65(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_M65 || (kb)->product == P_M65_PRO))
- #define P_SABRE_O 0x1b14 /* optical */
- #define P_SABRE_O_STR "1b14"
- #define P_SABRE_L 0x1b19 /* laser */
- #define P_SABRE_L_STR "1b19"
- #define P_SABRE_N 0x1b2f /* new? */
- #define P_SABRE_N_STR "1b2f"
- #define P_SABRE_O2 0x1b32 /* Observed on a CH-9000111-EU model SABRE */
- #define P_SABRE_O2_STR "1b32"
- #define IS_SABRE(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SABRE_O || (kb)->product == P_SABRE_L || (kb)->product == P_SABRE_N || (kb)->product == P_SABRE_O2))
- #define P_SCIMITAR 0x1b1e
- #define P_SCIMITAR_STR "1b1e"

- #define P_SCIMITAR_PRO 0x1b3e
- #define P_SCIMITAR_PRO_STR "1b3e"
- #define IS_SCIMITAR(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SCIMITAR || (kb)->product == P_SCIMITAR_PRO))
- #define P_HARPOON 0x1b3c
- #define P_HARPOON_STR "1b3c"
- #define IS_HARPOON(kb) ((kb)->vendor == V_CORSAIR && (kb)->product == P_HARPOON)
- #define P_GLAIVE 0x1b34
- #define P_GLAIVE_STR "1b34"
- #define IS_GLAIVE(kb) ((kb)->vendor == V_CORSAIR && (kb)->product == P_GLAIVE)
- #define IS_RGB(vendor, product) ((vendor) == (V_CORSAIR) && (product) != (P_K65_NRGB) && (product) != (P_K70_NRGB) && (product) != (P_K95_NRGB))

  RGB vs non-RGB test (note: non-RGB Strafe is still considered "RGB" in that it shares the same protocol. The difference is denoted with the "monochrome" feature).
- #define IS_MONOCHROME(vendor, product) ((vendor) == (V_CORSAIR) && (product) == (P_STRAFE_NRGB))

  *The difference between non RGB and monochrome is, that monochrome has lights, but just in one color. nonRGB has no lights. Change this if new **monochrome** devices are added.*
- #define IS_RGB_DEV(kb) IS_RGB((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_RGB() is returned.
- #define IS_MONOCHROME_DEV(kb) IS_MONOCHROME((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_MONOCHROME() is returned.
- #define IS_FULLRANGE(kb) (IS_RGB((kb)->vendor, (kb)->product) && (kb)->product != P_K65 && (kb)->product != P_K70 && (kb)->product != P_K95)

  Full color range (16.8M) vs partial color range (512)
- #define IS_MOUSE(vendor, product) ((vendor) == (V_CORSAIR) && ((product) == (P_M65) || (product) == (P_M65_PRO) || (product) == (P_SABRE_O) || (product) == (P_SABRE_L) || (product) == (P_SABRE_N) || (product) == (P_SCIMITAR) || (product) == (P_SCIMITAR_PRO) || (product) == (P_SABRE_O2) || (product) == (P_GLAIVE) || (product) == (P_HARPOON)))

  Mouse vs keyboard test.
- #define IS_MOUSE_DEV(kb) IS_MOUSE((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_MOUSE() is returned.
- #define IS_PLATINUM(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95_PLATINUM))

  Used to apply quirks and features to the PLATINUM devices.
- #define IS_NEW_PROTOCOL(kb) (IS_PLATINUM(kb) || IS_K63(kb) || IS_HARPOON(kb) || IS_GLAIVE(kb))

  Used when a device has a firmware with a low version number that uses the new protocol.
- #define DELAY_SHORT(kb) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = ((int) (kb->usbdelay)) ∗ 1000000}, NULL)

  USB delays for when the keyboards get picky about timing That was the original comment, but it is used anytime.
- #define DELAY_MEDIUM(kb) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = ((int) (kb->usbdelay)) ∗ 10000000}, NULL)

  the medium delay is used after sending a command before waiting for the answer.
- #define DELAY_LONG(kb) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = 100000000}, NULL)

  The longest delay takes place where something went wrong (eg when resetting the device)
- #define USB_DELAY_DEFAULT 5

  *This constant is used to initialize **kb->usbdelay**. It is used in many places (see macros above) but often also overwritten to the fixed value of 10. Pure Hacker code.*
- #define resetusb(kb) _resetusb(kb, __FILE_NOPATH__, __LINE__)

  resetusb() is just a macro to call _resetusb() with debuggin constants (file, lineno)
- #define usbsend(kb, messages, count) _usbsend(kb, messages, count, __FILE_NOPATH__, __LINE__)

  usbsend macro is used to wrap _usbsend() with debugging information (file and lineno)
- #define usbrecv(kb, out_msg, in_msg) _usbrecv(kb, out_msg, in_msg, __FILE_NOPATH__, __LINE__)

usbrecv macro is used to wrap _usbrecv() with debugging information (file and lineno)

- #define nk95cmd(kb, command) _nk95cmd(kb, (command) >> 16 & 0xFF, (command) & 0xFFFF, __FILE_NOPATH__, __LINE__)

  nk95cmd() macro is used to wrap _nk95cmd() with debugging information (file and lineno). the command structure is different:
  Just the bits 23..16 are used as bits 7..0 for bRequest
  Bits 15..0 are used as wValue
- #define NK95_HWOFF 0x020030

  Hardware-specific commands for the K95 nonRGB,.
- #define NK95_HWON 0x020001

  Hardware playback on.
- #define NK95_M1 0x140001

  Switch to mode 1.
- #define NK95_M2 0x140002

  Switch to mode 2.
- #define NK95_M3 0x140003

  Switch to mode 3.

Functions

- const char * vendor_str (short vendor)

  uncomment to see USB packets sent to the device
- const char * product_str (short product)

  product_str returns a condensed view on what type of device we have.
- int usbmain ()

  Start the USB main loop. Returns program exit code when finished.
- void usbkill ()

  Stop the USB system.
- void setupusb (usbdevice *kb)

  setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.
- int os_setupusb (usbdevice *kb)

  os_setupusb OS-specific setup for a specific usb device.
- void * os_inputmain (void *context)

  os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.
- int revertusb (usbdevice *kb)

  revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated
- int closeusb (usbdevice *kb)

  closeusb Close a USB device and remove device entry.
- void os_closeusb (usbdevice *kb)

  os_closeusb unclaim it, destroy the udev device and clear data structures at kb
- int _resetusb (usbdevice *kb, const char *file, int line)

  _resetusb Reset a USB device.
- int os_resetusb (usbdevice *kb, const char *file, int line)

  os_resetusb is the os specific implementation for resetting usb
- int _usbsend (usbdevice *kb, const uchar *messages, int count, const char *file, int line)

  _usbsend send a logical message completely to the given device
- int _usbrecv (usbdevice *kb, const uchar *out_msg, uchar *in_msg, const char *file, int line)

  _usbrecv Request data from a USB device by first sending an output packet and then reading the response.
- int os_usbsend (usbdevice *kb, const uchar *out_msg, int is_recv, const char *file, int line)

  os_usbsend sends a data packet (MSG_SIZE = 64) Bytes long

- int os_usbrecv (usbdevice *kb, uchar *in_msg, const char *file, int line)

  os_usbrecv receives a max MSGSIZE long buffer from usb device
- void os_sendindicators (usbdevice *kb)

  os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)
- int _nk95cmd (usbdevice *kb, uchar bRequest, ushort wValue, const char *file, int line)

  _nk95cmd If we control a non RGB keyboard, set the keyboard via ioctl with usbdevfs_ctrltransfer
- int usb_tryreset (usbdevice *kb)

  usb_tryreset does what the name means: Try to reset the usb via resetusb()

13.49.1 Detailed Description

Vendor/product codes

The list of defines in the first part of the file describes the various types of equipment from Corsair and summarizes them according to specific characteristics.

Each device type is described with two defines:

- On the one hand the device ID with which the device can be recognized on the USB as a short
- and on the other hand the same representation as a string, but without leading "0x".

First entry-pair is the Provider ID (vendorID) from Corsair.

Block No. | contains | Devices are bundled via --------— | -------— | ----------— 1 | The first block contains the K63 Non RGB Keyboard. No other K63 is known so far. 2 | the K65-like keyboards, regardless of their properties (RGB, ...). | In summary, they can be queried using the macro IS_K65(). 3 | the K70-like Keyboards with all their configuration types | summarized by IS_K70(). 4 | the K95 series keyboards | collected with the macro IS_K95(). 5 | strafe keyboards | IS_STRAFE() 6 | M65 mice with and without RGB | IS_M65() 7 | Sabre mice | IS_SABRE() 8 | Scimitar mice | IS_SCIMITAR() 9 | Harpoon mice | IS_HARPOON() 10| Glaive mice | IS_GLAIVE()

Definition in file usb.h.

13.49.2 Macro Definition Documentation

13.49.2.1 #define DELAY_LONG(*kb*) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = 100000000}, NULL)

Definition at line 179 of file usb.h.

Referenced by _resetusb(), _setupusb(), _usbrecv(), _usbsend(), cmd_hwload_kb(), cmd_hwload_mouse(), cmd_-hwsave_kb(), and cmd_hwsave_mouse().

13.49.2.2 #define DELAY_MEDIUM(*kb*) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = ((int) (kb->usbdelay)) * 10000000}, NULL)

Definition at line 175 of file usb.h.

Referenced by _usbrecv(), and setactive_kb().

13.49.2.3 #define DELAY_SHORT(*kb*) clock_nanosleep(CLOCK_MONOTONIC, 0, &(struct timespec) {.tv_nsec = ((int) (kb->usbdelay)) * 1000000}, NULL)

The short delay is used before any send or receive

Definition at line 171 of file usb.h.

Referenced by _usbrecv(), _usbsend(), and updateindicators_kb().

13.49.2.4 #define IS_FULLRANGE(*kb*) (IS_RGB((kb)->vendor, (kb)->product) && (kb)->product != P_K65 && (kb)->product != P_K70 && (kb)->product != P_K95)

Definition at line 153 of file usb.h.

Referenced by readcmd(), and updatergb_kb().

13.49.2.5 #define IS_GLAIVE(*kb*) ((kb)->vendor == V_CORSAIR && (kb)->product == P_GLAIVE)

Definition at line 114 of file usb.h.

Referenced by updatergb_mouse().

13.49.2.6 #define IS_HARPOON(*kb*) ((kb)->vendor == V_CORSAIR && (kb)->product == P_HARPOON)

Definition at line 110 of file usb.h.

13.49.2.7 #define IS_K63(*kb*) ((kb)->vendor == V_CORSAIR && (kb)->product == P_K63_NRGB)

Definition at line 46 of file usb.h.

Referenced by has_key().

13.49.2.8 #define IS_K65(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K65 || (kb)->product == P_K65_NRGB || (kb)->product == P_K65_LUX || (kb)->product == P_K65_RFIRE))

Definition at line 56 of file usb.h.

Referenced by has_key().

13.49.2.9 #define IS_K70(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K70 || (kb)->product == P_K70_NRGB || (kb)->product == P_K70_RFIRE || (kb)->product == P_K70_RFIRE_NRGB || (kb)->product == P_K70_LUX || (kb)->product == P_K70_LUX_NRGB))

Definition at line 70 of file usb.h.

13.49.2.10 #define IS_K95(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95 || (kb)->product == P_K95_NRGB || (kb)->product == P_K95_PLATINUM))

Definition at line 78 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwsave_kb(), and has_key().

13.49.2.11 #define IS_M65(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_M65 || (kb)->product == P_M65_PRO))

Definition at line 90 of file usb.h.

Referenced by isblack().

13.49.2.12 #define IS_MONOCHROME(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) == (P_STRAFE_NRGB))

Definition at line 144 of file usb.h.

Referenced by _setupusb().

13.49.2.13 #define IS_MONOCHROME_DEV(*kb*) IS_MONOCHROME((kb)->vendor, (kb)->product)

Definition at line 150 of file usb.h.

13.49.2.14 #define IS_MOUSE(*vendor, product*) ((vendor) == (V_CORSAIR) && ((product) == (P_M65) || (product) == (P_M65_PRO) || (product) == (P_SABRE_O) || (product) == (P_SABRE_L) || (product) == (P_SABRE_N) || (product) == (P_SCIMITAR) || (product) == (P_SCIMITAR_PRO) || (product) == (P_SABRE_O2) || (product) == (P_GLAIVE) || (product) == (P_HARPOON)))

Definition at line 156 of file usb.h.

Referenced by _setupusb(), get_vtable(), has_key(), and os_inputmain().

13.49.2.15 #define IS_MOUSE_DEV(*kb*) IS_MOUSE((kb)->vendor, (kb)->product)

Definition at line 159 of file usb.h.

Referenced by readcmd().

13.49.2.16 #define IS_NEW_PROTOCOL(*kb*) (IS_PLATINUM(kb) || IS_K63(kb) || IS_HARPOON(kb) || IS_GLAIVE(kb))

Definition at line 165 of file usb.h.

Referenced by loadrgb_kb(), os_usbsend(), and savergb_kb().

13.49.2.17 #define IS_PLATINUM(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95_PLATINUM))

Definition at line 162 of file usb.h.

13.49.2.18 #define IS_RGB(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) != (P_K65_NRGB) && (product) != (P_K70_NRGB) && (product) != (P_K95_NRGB))

Definition at line 139 of file usb.h.

Referenced by _setupusb(), get_vtable(), and os_inputmain().

13.49.2.19 #define IS_RGB_DEV(*kb*) IS_RGB((kb)->vendor, (kb)->product)

Definition at line 147 of file usb.h.

13.49.2.20 #define IS_SABRE(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SABRE_O || (kb)->product == P_SABRE_L || (kb)->product == P_SABRE_N || (kb)->product == P_SABRE_O2))

Definition at line 100 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.21 #define IS_SCIMITAR(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SCIMITAR || (kb)->product == P_SCIMITAR_PRO))

Definition at line 106 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.22 #define IS_STRAFE(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_STRAFE || (kb)->product == P_STRAFE_NRGB))

Definition at line 84 of file usb.h.

Referenced by savergb_kb().

13.49.2.23 #define NK95_HWOFF 0x020030

See Also

usb2.0 documentation for details. Set Hardware playback off

Definition at line 326 of file usb.h.

Referenced by start_kb_nrgb().

13.49.2.24 #define NK95_HWON 0x020001

Definition at line 329 of file usb.h.

Referenced by revertusb().

13.49.2.25 #define NK95_M1 0x140001

Definition at line 332 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.26 #define NK95_M2 0x140002

Definition at line 335 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.27 #define NK95_M3 0x140003

Definition at line 338 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.28 #define nk95cmd(*kb, command*) _nk95cmd(kb, (command) >> 16 & 0xFF, (command) & 0xFFFF, __FILE_NOPATH__, __LINE__)

Definition at line 321 of file usb.h.

Referenced by revertusb(), setmodeindex_nrgb(), and start_kb_nrgb().

13.49.2.29 #define P_GLAIVE 0x1b34

Definition at line 112 of file usb.h.

Referenced by product_str().

13.49.2.30 #define P_GLAIVE_STR "1b34"

Definition at line 113 of file usb.h.

13.49.2.31 #define P_HARPOON 0x1b3c

Definition at line 108 of file usb.h.

Referenced by product_str().

13.49.2.32 #define P_HARPOON_STR "1b3c"

Definition at line 109 of file usb.h.

13.49.2.33 #define P_K63_NRGB 0x1b40

Definition at line 44 of file usb.h.

Referenced by product_str().

13.49.2.34 #define P_K63_NRGB_STR "1b40"

Definition at line 45 of file usb.h.

13.49.2.35 #define P_K65 0x1b17

Definition at line 48 of file usb.h.

Referenced by product_str().

13.49.2.36 #define P_K65_LUX 0x1b37

Definition at line 52 of file usb.h.

Referenced by product_str().

13.49.2.37 #define P_K65_LUX_STR "1b37"

Definition at line 53 of file usb.h.

13.49.2.38 #define P_K65_NRGB 0x1b07

Definition at line 50 of file usb.h.

Referenced by product_str().

13.49.2.39 #define P_K65_NRGB_STR "1b07"

Definition at line 51 of file usb.h.

13.49.2.40 #define P_K65_RFIRE 0x1b39

Definition at line 54 of file usb.h.

Referenced by product_str().

13.49.2.41 #define P_K65_RFIRE_STR "1b39"

Definition at line 55 of file usb.h.

13.49.2.42 #define P_K65_STR "1b17"

Definition at line 49 of file usb.h.

13.49.2.43 #define P_K70 0x1b13

Definition at line 58 of file usb.h.

Referenced by product_str().

13.49.2.44 #define P_K70_LUX 0x1b33

Definition at line 62 of file usb.h.

Referenced by loadrgb_kb(), and product_str().

13.49.2.45 #define P_K70_LUX_NRGB 0x1b36

Definition at line 64 of file usb.h.

Referenced by loadrgb_kb(), and product_str().

13.49.2.46 #define P_K70_LUX_NRGB_STR "1b36"

Definition at line 65 of file usb.h.

13.49.2.47 #define P_K70_LUX_STR "1b33"

Definition at line 63 of file usb.h.

13.49.2.48 #define P_K70_NRGB 0x1b09

Definition at line 60 of file usb.h.

Referenced by product_str().

13.49.2.49 #define P_K70_NRGB_STR "1b09"

Definition at line 61 of file usb.h.

13.49.2.50 #define P_K70_RFIRE 0x1b38

Definition at line 66 of file usb.h.

Referenced by product_str().

13.49.2.51 #define P_K70_RFIRE_NRGB 0x1b3a

Definition at line 68 of file usb.h.

Referenced by product_str().

13.49.2.52 #define P_K70_RFIRE_NRGB_STR "1b3a"

Definition at line 69 of file usb.h.

13.49.2.53 #define P_K70_RFIRE_STR "1b38"

Definition at line 67 of file usb.h.

13.49.2.54 #define P_K70_STR "1b13"

Definition at line 59 of file usb.h.

13.49.2.55 #define P_K95 0x1b11

Definition at line 72 of file usb.h.

Referenced by product_str().

13.49.2.56 #define P_K95_NRGB 0x1b08

Definition at line 74 of file usb.h.

Referenced by _nk95cmd(), and product_str().

13.49.2.57 #define P_K95_NRGB_STR "1b08"

Definition at line 75 of file usb.h.

13.49.2.58 #define P_K95_PLATINUM 0x1b2d

Definition at line 76 of file usb.h.

Referenced by product_str().

13.49.2.59 #define P_K95_PLATINUM_STR "1b2d"

Definition at line 77 of file usb.h.

13.49.2.60 #define P_K95_STR "1b11"

Definition at line 73 of file usb.h.

13.49.2.61 #define P_M65 0x1b12

Definition at line 86 of file usb.h.

Referenced by product_str().

13.49.2.62 #define P_M65_PRO 0x1b2e

Definition at line 88 of file usb.h.

Referenced by product_str().

13.49.2.63 #define P_M65_PRO_STR "1b2e"

Definition at line 89 of file usb.h.

13.49.2.64 #define P_M65_STR "1b12"

Definition at line 87 of file usb.h.

13.49.2.65 #define P_SABRE_L 0x1b19 /∗ laser ∗/

Definition at line 94 of file usb.h.

Referenced by product_str().

13.49.2.66 #define P_SABRE_L_STR "1b19"

Definition at line 95 of file usb.h.

13.49.2.67 #define P_SABRE_N 0x1b2f /∗ new? ∗/

Definition at line 96 of file usb.h.

Referenced by product_str().

13.49.2.68 #define P_SABRE_N_STR "1b2f"

Definition at line 97 of file usb.h.

13.49.2.69 #define P_SABRE_O 0x1b14 /∗ optical ∗/

Definition at line 92 of file usb.h.

Referenced by product_str().

13.49.2.70 #define P_SABRE_O2 0x1b32 /∗ Observed on a CH-9000111-EU model SABRE ∗/

Definition at line 98 of file usb.h.

Referenced by product_str().

13.49.2.71 #define P_SABRE_O2_STR "1b32"

Definition at line 99 of file usb.h.

13.49.2.72 #define P_SABRE_O_STR "1b14"

Definition at line 93 of file usb.h.

13.49.2.73 #define P_SCIMITAR 0x1b1e

Definition at line 102 of file usb.h.

Referenced by product_str().

13.49.2.74 #define P_SCIMITAR_PRO 0x1b3e

Definition at line 104 of file usb.h.

Referenced by product_str().

13.49.2.75 #define P_SCIMITAR_PRO_STR "1b3e"

Definition at line 105 of file usb.h.

13.49.2.76 #define P_SCIMITAR_STR "1b1e"

Definition at line 103 of file usb.h.

13.49.2.77 #define P_STRAFE 0x1b20

Definition at line 80 of file usb.h.

Referenced by product_str().

13.49.2.78 #define P_STRAFE_NRGB 0x1b15

Definition at line 82 of file usb.h.

Referenced by product_str().

13.49.2.79 #define P_STRAFE_NRGB_STR "1b15"

Definition at line 83 of file usb.h.

13.49.2.80 #define P_STRAFE_STR "1b20"

Definition at line 81 of file usb.h.

13.49.2.81 #define resetusb(*kb*) _resetusb(kb, __FILE_NOPATH__, __LINE__)

Definition at line 239 of file usb.h.

Referenced by usb_tryreset().

13.49.2.82 #define USB_DELAY_DEFAULT 5

Definition at line 185 of file usb.h.

Referenced by _setupusb(), and start_dev().

13.49.2.83 #define usbrecv(*kb, out_msg, in_msg*) _usbrecv(kb, out_msg, in_msg, __FILE_NOPATH__, __LINE__)

Parameters

kb	THE usbdevice∗
IN]	out_msg What information does the caller want from the device?
OUT]	in_msg Here comes the answer; The names represent the usb view, not the view of this function! So INput from usb is OUTput of this function.

Definition at line 281 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwload_mouse(), getfwversion(), hwloadmode(), loaddpi(), loadrgb_kb(), and loadrgb_mouse().

13.49.2.84 #define usbsend(*kb, messages, count*) _usbsend(kb, messages, count, __FILE_NOPATH__, __LINE__)

Parameters

kb	THE usbdevice∗
IN]	messages a Pointer to the first byte of the logical message
IN]	count how many MSG_SIZE buffers is the logical message long?

Definition at line 264 of file usb.h.

Referenced by cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_pollrate(), fwupdate(), loadrgb_kb(), savedpi(), savergb_kb(), savergb_mouse(), setactive_kb(), setactive_mouse(), updatedpi(), updatergb_kb(), and updatergb_mouse().

13.49.2.85 #define V_CORSAIR 0x1b1c

Warning

> When adding new devices please update src/ckb/fwupgradedialog.cpp as well.
> It should contain the same vendor/product IDs for any devices supporting firmware updates.
> In the same way, all other corresponding files have to be supplemented or modified: Currently known for this are **usb_linux.c** and **usb_mac.c**

Definition at line 41 of file usb.h.

Referenced by usb_add_device(), and vendor_str().

13.49.2.86 #define V_CORSAIR_STR "1b1c"

Definition at line 42 of file usb.h.

Referenced by udev_enum(), and usb_add_device().

13.49.3 Function Documentation

13.49.3.1 int _nk95cmd (usbdevice ∗ *kb*, uchar *bRequest*, ushort *wValue*, const char ∗ *file*, int *line*)

Parameters

kb	THE usbdevice∗
bRequest	the byte array with the usb request
wValue	a usb wValue

file	for error message
line	for error message

Returns

1 (true) on failure, 0 (false) on success.

To send control packets to a non RGB non color K95 Keyboard, use this function. Normally it is called via the nk95cmd() macro.

If it is the wrong device for which the function is called, 0 is returned and nothing done. Otherwise a usbdevfs_ctrltransfer structure is filled and an USBDEVFS_CONTROL ioctl() called.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x40	see table below to switch hardware-modus at Keyboard	wValue	device	MSG_SIZE	5ms	the message buffer pointer
Host to Device, Type=Vendor, Recipi-ent=Device	bRequest parameter	given wValue Parameter	device 0	0 data to write	5000	null

If a 0 or a negative error number is returned by the ioctl, an error message is shown depending on the errno or "No data written" if retval was 0. In either case 1 is returned to indicate the error. If the ioctl returned a value $>$ 0, 0 is returned to indicate no error.

Currently the following combinations for bRequest and wValue are used:

Device	what it might to do	constant	bRequest	wValue
non RGB Keyboard	set HW-modus on (leave the ckb driver)	HWON	0x0002	0x0030
non RGB Keyboard	set HW-modus off (initialize the ckb driver)	HWOFF	0x0002	0x0001
non RGB Keyboard	set light modus M1 in single-color keyboards	NK95_M1	0x0014	0x0001
non RGB Keyboard	set light modus M2 in single-color keyboards	NK95_M2	0x0014	0x0002
non RGB Keyboard	set light modus M3 in single-color keyboards	NK95_M3	0x0014	0x0003

See Also

usb.h

Definition at line 188 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
188                                                                                                    {
189     if(kb->product != P_K95_NRGB)
190         return 0;
```

```
    struct usbdevfs_ctrltransfer transfer = { 0x40, bRequest, wValue, 0, 0, 5000, 0 };
    int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
    if(res <= 0){
        ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
        return 1;
    }
    return 0;
}
```

13.49.3.2 int _resetusb (usbdevice * *kb*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
file	filename for error messages
line	line where it is called for error messages

Returns

Returns 0 on success, -1 if device should be removed

_resetusb Reset a USB device.

First reset the device via os_resetusb() after a long delay (it may send something to the host). If this worked (retval == 0), give the device another long delay Then perform the initialization via the device specific start() function entry in kb->vtable and if this is successful also, return the result of the device depenten updatergb() with force=true.

Definition at line 432 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
432                                                                 {
433     // Perform a USB reset
434     DELAY_LONG(kb);
435     int res = os_resetusb(kb, file, line);
436     if(res)
437         return res;
438     DELAY_LONG(kb);
439     // Re-initialize the device
440     if(kb->vtable->start(kb, kb->active) != 0)
441         return -1;
442     if(kb->vtable->updatergb(kb, 1) != 0)
443         return -1;
444     return 0;
445 }
```

Here is the call graph for this function:

13.49.3.3 int _usbrecv (usbdevice * *kb*, const uchar * *out_msg*, uchar * *in_msg*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice∗
IN]	out_msg What information does the caller want from the device?
OUT]	in_msg Here comes the answer; The names represent the usb view, not the view of this function! So INput from usb is OUTput of this function.
IN]	file for debugging
IN]	line for debugging
IN]	reset_stop global variable is read

Returns

number of bytes read or zero on failure.

_usbrecv Request data from a USB device by first sending an output packet and then reading the response.

To fully understand this, you need to know about usb: All control is at the usb host (the CPU). If the device wants to communicate something to the host, it must wait for the host to ask. The usb protocol defines the cycles and periods in which actions are to be taken.

So in order to receive a data packet from the device, the host must first send a send request.

This is done by _usbrecv() in the first block by sending the MSG_SIZE large data block from **out_msg** via os_usbsend() as it is a machine depending implementation. The usb target device is as always determined over kb.

For os_usbsend() to know that it is a receive request, the **is_recv** parameter is set to true (1). With this, os_usbsend () generates a control package for the hardware, not a data packet.

If sending of the control package is not successful, a maximum of 5 times the transmission is repeated (including the first attempt). If a non-cancelable error is signaled or the drive is stopped via reset_stop, _usbrecv() immediately returns 0.

After this, the function waits for the requested response from the device using os_usbrecv ().

os_usbrecv() returns 0, -1 or something else.

Zero signals a serious error which is not treatable and _usbrecv() also returns 0.

-1 means that it is a treatable error - a timeout for example - and therefore the next transfer attempt is started after a long pause (DELAY_LONG) if not reset_stop or the wrong hwload_mode require a termination with a return value of 0.

After 5 attempts, _usbrecv () returns and returns 0 as well as an error message.

When data is received, the number of received bytes is returned. This should always be MSG_SIZE, but os_usbrecv() can also return less. It should not be more, because then there would be an unhandled buffer overflow, but it could be less. This would be signaled in os_usbrecv () with a message.

The buffers behind **out_msg** and **in_msg** are MSG_SIZE at least (currently 64 Bytes). More is ok but useless, less brings unpredictable behavior. < Synchonization between macro and color information

Definition at line 607 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, mmutex, os_usbrecv(), os_usbsend(), and reset_stop.

```
607                                                                                                    {
608     // Try a maximum of 5 times
609     for (int try = 0; try < 5; try++) {
610         // Send the output message
611         pthread_mutex_lock(mmutex(kb));
612         DELAY_SHORT(kb);
613         int res = os_usbsend(kb, out_msg, 1, file, line);
614         pthread_mutex_unlock(mmutex(kb));
615         if (res == 0)
616             return 0;
617         else if (res == -1) {
618             // Retry on temporary failure
619             if (reset_stop)
```

```
                return 0;
            DELAY_LONG(kb);
            continue;
        }
        // Wait for the response
        DELAY_MEDIUM(kb);
        res = os_usbrecv(kb, in_msg, file, line);
        if(res == 0)
            return 0;
        else if(res != -1)
            return res;
        if(reset_stop || hwload_mode != 2)
            return 0;
        DELAY_LONG(kb);
    }
    // Give up
    ckb_err_fn("Too many send/recv failures. Dropping.\n", file, line);
    return 0;
}
```

Here is the call graph for this function:

13.49.3.4 int _usbsend (usbdevice * *kb*, const uchar * *messages*, int *count*, const char * *file*, int *line*)

Parameters

	kb	THE usbdevice*
	IN]	messages a Pointer to the first byte of the logical message
	IN]	count how many MSG_SIZE buffers is the logical message long?
	IN]	file for debugging
	IN]	line for debugging
in	*reset_stop*	global variable is read

Returns

number of Bytes sent (ideal == count * MSG_SIZE);
0 if a block could not be sent and it was not a timeout OR **reset_stop** was required or **hwload_mode** is not set to "always"

_usbsend send a logical message completely to the given device

Todo A lot of different conditions are combined in this code. Don't think, it is good in every combination...

The main task of _usbsend () is to transfer the complete logical message from the buffer beginning with *messages* to **count** * **MSG_SIZE**.

According to usb 2.0 specification, a USB transmits a maximum of 64 byte user data packets. For the transmission of longer messages we need a segmentation. And that is exactly what happens here.

The message is given one by one to os_usbsend() in MSG_SIZE (= 64) byte large bites.

Attention

This means that the buffer given as argument must be n ∗ MSG_SIZE Byte long.

An essential constant parameter which is relevant for os_usbsend() only is is_recv = 0, which means sending.

Now it gets a little complicated again:

- If os_usbsend() returns 0, only zero bytes could be sent in one of the packets, or it was an error (-1 from the systemcall), but not a timeout. How many Bytes were sent in total from earlier calls does not seem to matter, _usbsend() returns a total of 0.

- Returns os_usbsend() -1, first check if **reset_stop** is set globally or (incomprehensible) hwload_mode is not set to "always". In either case, _usbsend() returns 0, otherwise it is assumed to be a temporary transfer error and it simply retransmits the physical packet after a long delay.

- If the return value of os_usbsend() was neither 0 nor -1, it specifies the numer of bytes transferred.

  Here is an information hiding conflict with os_usbsend() (at least in the Linux version):

  If os_usbsend() can not transfer the entire packet, errors are thrown and the number of bytes sent is returned. _usbsend() interprets this as well and remembers the total number of bytes transferred in the local variable **total_sent**. Subsequently, however, transmission is continued with the next complete MSG_SIZE block and not with the first of the possibly missing bytes.

  Todo Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

When the last packet is transferred, _usbsend() returns the effectively counted set of bytes (from **total_sent**). This at least gives the caller the opportunity to check whether something has been lost in the middle.

A bit strange is the structure of the program: Handling the **count** MSG_SIZE blocks to be transferred is done in the outer for (...) loop. Repeating the transfer with a treatable error is managed by the inner while(1) loop.

This must be considered when reading the code; The "break" on successful block transfer leaves the inner while, not the for (...). < Synchonization between macro and color information

Definition at line 538 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
538                                                                                                                    {
539     int total_sent = 0;
540     for(int i = 0; i < count; i++){
541         // Send each message via the OS function
542         while(1){
543             pthread_mutex_lock(mmutex(kb));
544             DELAY_SHORT(kb);
545             int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
546             pthread_mutex_unlock(mmutex(kb));
547             if(res == 0)
548                 return 0;
549             else if(res != -1){
550                 total_sent += res;
551                 break;
552             }
553             // Stop immediately if the program is shutting down or hardware load is set to tryonce
554             if(reset_stop || hwload_mode != 2)
555                 return 0;
556             // Retry as long as the result is temporary failure
557             DELAY_LONG(kb);
558         }
559     }
560     return total_sent;
561 }
```

Here is the call graph for this function:

13.49.3.5 int closeusb (usbdevice * *kb*)

Parameters

IN,OUT]	kb

Returns

Returns 0 (everytime. No error handling is done!)

closeusb Close a USB device and remove device entry.

An imutex lock ensures first of all, that no communication is currently running from the viewpoint of the driver to the user input device (ie the virtual driver with which characters or mouse movements are sent from the daemon to the operating system as inputs).

If the **kb** has an acceptable value != 0, the index of the device is looked for and with this index os_inputclose() is called. After this no more characters can be sent to the operating system.

Then the connection to the usb device is capped by os_closeusb().

Todo What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

If there is no valid **handle**, only updateconnected() is called. We are probably trying to disconnect a connection under construction. Not clear.

The cmd pipe as well as all open notify pipes are deleted via rmdevpath ().

This means that nothing can happen to the input path - so the device-specific imutex is unlocked again and remains unlocked.

Also the dmutex is unlocked now, but only to join the thread, which was originally taken under **kb->thread** (which started with _setupusb()) with pthread_join() again. Because of the closed devices that thread would have to quit sometime

See Also

the hack note with rmdevpath())

As soon as the thread is caught, the dmutex is locked again, which is what I do not understand yet: What other thread can do usb communication now?

If the vtabel exists for the given kb (why not? It seems to have race conditions here!!), via the vtable the actually device-specific, but still everywhere identical freeprofile() is called. This frees areas that are no longer needed. Then the **usbdevice** structure in its array is set to zero completely.

Error handling is rather unusual in closeusb(); Everything works (no matter what the called functions return), and closeusb() always returns zero (success).

Definition at line 683 of file usb.c.

References ckb_info, devpath, dmutex, usbdevice::handle, imutex, INDEX_OF, keyboard, os_closeusb(), os_inputclose(), rmdevpath(), usbdevice::thread, updateconnected(), and usbdevice::vtable.

Referenced by _setupusb(), devmain(), quitWithLock(), and usb_rm_device().

```
683                                 {
684     pthread_mutex_lock(imutex(kb));
685     if(kb->handle){
686         int index = INDEX_OF(kb, keyboard);
687         ckb_info("Disconnecting %s%d\n", devpath, index);
688         os_inputclose(kb);
689         updateconnected();
690         // Close USB device
691         os_closeusb(kb);
692     } else
693         updateconnected();
694     rmdevpath(kb);
695
696     // Wait for thread to close
697     pthread_mutex_unlock(imutex(kb));
698     pthread_mutex_unlock(dmutex(kb));
699     pthread_join(kb->thread, 0);
700     pthread_mutex_lock(dmutex(kb));
701
702     // Delete the profile and the control path
703     if(!kb->vtable)
704         return 0;
705     kb->vtable->freeprofile(kb);
706     memset(kb, 0, sizeof(usbdevice));
707     return 0;
708 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.6 void os_closeusb (usbdevice * kb)

Parameters

IN,OUT]	kb THE usbdevice∗

os_closeusb unclaim it, destroy the udev device and clear data structures at kb

os_closeusb is the linux specific implementation for closing an active usb port.

If a valid handle is given in the kb structure, the usb port is unclaimed (usbunclaim()).

The device in unrefenced via library function udev_device_unref().

handle, udev and the first char of kbsyspath are cleared to 0 (empty string for kbsyspath).

Definition at line 435 of file usb_linux.c.

References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
435                                 {
436     if(kb->handle){
437         usbunclaim(kb, 0);
438         close(kb->handle - 1);
439     }
440     if(kb->udev)
441         udev_device_unref(kb->udev);
442     kb->handle = 0;
443     kb->udev = 0;
444     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
445 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.7 void∗ os_inputmain (void ∗ *context*)

Parameters

context	THE usbdevice∗ ; Because os_inputmain() is started as a new thread, its formal parameter is named "context".

Returns

null

os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.

Todo This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

1. set up an URB (Userspace Ressource Buffer) to communicate with the USBDEVFS_∗ ioctl()s
2. perform the ioctl()
3. interpretate the information got into the URB buffer or handle error situations and retry operation or leave the endless loop
4. inform the os about the data
5. loop endless via 2.
6. if endless loop has gone, deinitalize the interface, free buffers etc.
7. return null

Here the actions in detail:

Monitor input transfers on all endpoints for non-RGB devices For RGB, monitor all but the last, as it's used for input/output

Get an usbdevfs_urb data structure and clear it via memset()

Hopefully the buffer lengths are equal for all devices with congruent types. You can find out the correctness for your device with lsusb –v or similar on macOS. Currently the following combinations are known and implemented:

device	detect with macro combination	endpoint #	buffer-length
each	none	0	8
RGB Mouse	IS_RGB && IS_MOUSE	1	10
RGB Keyboard	IS_RGB && !IS_MOUSE	1	21
RGB Mouse or Keyboard	IS_RGB	2	MSG_SIZE (64)
non RGB Mouse or Keyboard	!IS_RGB	1	4
non RGB Mouse or Keyboard	!IS_RGB	2	15

Now submit all the URBs via ioctl(USBDEVFS_SUBMITURB) with type USBDEVFS_URB_TYPE_INTERRUPT (the endpoints are defined as type interrupt). Endpoint number is 0x80..0x82 or 0x83, depending on the model.

The userSpaceFS knows the URBs now, so start monitoring input

if the ioctl returns something != 0, let's have a deeper look what happened. Broken devices or shutting down the entire system leads to closing the device and finishing this thread.

If just an EPIPE ocurred, give the device a CLEAR_HALT and resubmit the URB.

A correct REAPURB returns a Pointer to the URB which we now have a closer look into. Lock all following actions with imutex.

Process the input depending on type of device. Interprete the actual size of the URB buffer

device	detect with macro combination	seems to be endpoint #	actual buffer-length	function called

mouse (RGB and non RGB)	IS_MOUSE	nA	8, 10 or 11	hid_mouse_translate()
mouse (RGB and non RGB)	IS_MOUSE	nA	MSG_SIZE (64)	corsair_mousecopy()
RGB Keyboard	IS_RGB && !IS_MOUSE	1	8 (BIOS Mode)	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	2	5 or 21, KB inactive!	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	3?	MSG_SIZE	corsair_kbcopy()
non RGB Keyboard	!IS_RGB && !IS_MOUSE	nA	nA	hid_kb_translate()

The input data is transformed and copied to the kb structure. Now give it to the OS and unlock the imutex afterwards.

Re-submit the URB for the next run.

If the endless loop is terminated, clean up by discarding the URBs via ioctl(USBDEVFS_DISCARDURB), free the URB buffers and return a null pointer as thread exit code.

Definition at line 238 of file usb_linux.c.

References usbdevice::active, ckb_err, ckb_info, corsair_kbcopy(), corsair_mousecopy(), devpath, usbdevice::epcount, usbdevice::handle, hid_kb_translate(), hid_mouse_translate(), imutex, INDEX_OF, usbdevice::input, inputupdate(), IS_MOUSE, IS_RGB, keyboard, usbinput::keys, MSG_SIZE, usbdevice::product, usbinput::rel_x, usbinput::rel_y, and usbdevice::vendor.

Referenced by _setupusb().

```
238                                 {
239     usbdevice* kb = context;
240     int fd = kb->handle - 1;
241     short vendor = kb->vendor, product = kb->product;
242     int index = INDEX_OF(kb, keyboard);
243     ckb_info("Starting input thread for %s%d\n", devpath, index);
244
249     int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->
    epcount;
250     if (urbcount == 0) {
251         ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
252         return 0;
253     }
254
256     struct usbdevfs_urb urbs[urbcount + 1];
257     memset(urbs, 0, sizeof(urbs));
258
272     urbs[0].buffer_length = 8;
273     if(urbcount > 1 && IS_RGB(vendor, product)) {
274         if(IS_MOUSE(vendor, product))
275             urbs[1].buffer_length = 10;
276         else
277             urbs[1].buffer_length = 21;
278         urbs[2].buffer_length = MSG_SIZE;
279         if(urbcount != 3)
280             urbs[urbcount - 1].buffer_length = MSG_SIZE;
281     } else {
282         urbs[1].buffer_length = 4;
283         urbs[2].buffer_length = 15;
284     }
285
288     for(int i = 0; i < urbcount; i++){
289         urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
290         urbs[i].endpoint = 0x80 | (i + 1);
291         urbs[i].buffer = malloc(urbs[i].buffer_length);
292         ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
293     }
294
296     while (1) {
297         struct usbdevfs_urb* urb = 0;
298
301         if (ioctl(fd, USBDEVFS_REAPURB, &urb)) {
302             if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
303                 // Stop the thread if the handle closes
304                 break;
305             else if(errno == EPIPE && urb){
307                 ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
308                 // Re-submit the URB
309                 if(urb)
```

```
                    ioctl(fd, USBDEVFS_SUBMITURB, urb);
                urb = 0;
            }
            continue;
        }

        if (urb) {

            pthread_mutex_lock(imutex(kb));
            if(IS_MOUSE(vendor, product)){
                switch(urb->actual_length){
                case 8:
                case 10:
                case 11:
                    // HID mouse input
                    hid_mouse_translate(kb->input.keys, &kb->input.rel_x, &kb->input.rel_y, -(urb->endpoint & 0xF), urb->actual_length, urb->buffer);
                    break;
                case MSG_SIZE:
                    // Corsair mouse input
                    corsair_mousecopy(kb->input.keys, -(urb->endpoint & 0xF), urb->buffer);
                    break;
                }
            } else if(IS_RGB(vendor, product)){
                switch(urb->actual_length){
                case 8:
                    // RGB EP 1: 6KRO (BIOS mode) input
                    hid_kb_translate(kb->input.keys, -1, urb->actual_length, urb->buffer);
                    break;
                case 21:
                case 5:
                    // RGB EP 2: NKRO (non-BIOS) input. Accept only if keyboard is inactive
                    if(!kb->active)
                        hid_kb_translate(kb->input.keys, -2, urb->actual_length, urb->buffer);
                    break;
                case MSG_SIZE:
                    // RGB EP 3: Corsair input
                    corsair_kbcopy(kb->input.keys, -(urb->endpoint & 0xF), urb->buffer);
                    break;
                }
            } else {
                // Non-RGB input
                hid_kb_translate(kb->input.keys, urb->endpoint & 0xF, urb->actual_length, urb->buffer);
            }
            inputupdate(kb);
            pthread_mutex_unlock(imutex(kb));

            ioctl(fd, USBDEVFS_SUBMITURB, urb);
            urb = 0;
        }
    }

    ckb_info("Stopping input thread for %s%d\n", devpath, index);
    for(int i = 0; i < urbcount; i++){
        ioctl(fd, USBDEVFS_DISCARDURB, urbs + i);
        free(urbs[i].buffer);
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.8 int os_resetusb (usbdevice * *kb*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
file	filename for error messages
line	line where it is called for error messages

Returns

Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

os_resetusb is the os specific implementation for resetting usb

Try to reset an usb device in a linux user space driver.

1. unclaim the device, but do not reconnect the system driver (second param resetting = true)
2. reset the device via USBDEVFS_RESET command
3. claim the device again. Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

Todo it seems that no one wants to try the reset again. But I'v seen it somewhere...

Definition at line 497 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
497                                                     {
498     TEST_RESET(usbunclaim(kb, 1));
499     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
500     TEST_RESET(usbclaim(kb));
501     // Success!
502     return 0;
503 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.9 void os_sendindicators (usbdevice * *kb*)

Parameters

kb	THE usbdevice*

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

Read the data from kb->ileds ans send them via ioctl() to the keyboard.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	Interface 0	MSG_SIZE 1 Byte	timeout 0,5ms	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface (why not endpoint?)	9 = SEND?	specific	0	1	500	struct* kb->ileds

The ioctl command is USBDEVFS_CONTROL.

Definition at line 213 of file usb_linux.c.

References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
213                                     {
```

```
    static int countForReset = 0;
    struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->ileds };
    int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
    if(res <= 0) {
        ckb_err("%s\n", res ? strerror(errno) : "No data written");
        if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
            os_sendindicators(kb);
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.10 int os_setupusb (usbdevice * *kb*)

Parameters

kb	THE usbdevice*

Returns

0 on success, -1 otherwise.

os_setupusb OS-specific setup for a specific usb device.

Perform the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1).

- Copy device description and serial
- Copy firmware version (needed to determine USB protocol)
- Do some output about connecting interfaces
- Claim the USB interfaces

Todo in these modules a pullrequest is outstanding

< Try to reset the device and recall the function

< Don't do this endless in recursion

< os_setupusb() has a return value (used as boolean)

Definition at line 535 of file usb_linux.c.

References ckb_err, ckb_info, devpath, usbdevice::epcount, usbdevice::fwversion, INDEX_OF, KB_NAME_LEN, keyboard, usbdevice::name, usbdevice::serial, SERIAL_LEN, strtrim(), usbdevice::udev, usb_tryreset(), and usb-claim().

Referenced by _setupusb().

```
535                                 {
538     struct udev_device* dev = kb->udev;
539     const char* name = udev_device_get_sysattr_value(dev, "product");
540     if(name)
541         strncpy(kb->name, name, KB_NAME_LEN);
542     strtrim(kb->name);
543     const char* serial = udev_device_get_sysattr_value(dev, "serial");
544     if(serial)
545         strncpy(kb->serial, serial, SERIAL_LEN);
546     strtrim(kb->serial);
549     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
550     if(firmware)
551         sscanf(firmware, "%hx", &kb->fwversion);
552     else
553         kb->fwversion = 0;
554     int index = INDEX_OF(kb, keyboard);
555
557     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
558
564     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
565 #ifdef DEBUG
566     ckb_info("claiming interfaces. name=%s, firmware=%s; Got >>%s<< as ep_str\n", name, firmware,
      ep_str);
567 #endif //DEBUG
568     kb->epcount = 0;
569     if(ep_str)
570         sscanf(ep_str, "%d", &kb->epcount);
571     if(kb->epcount < 2){
572         // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
573         ckb_err("Unable to read endpoint count from udev, assuming %d and reading >>%s<< or device
      is in BIOS mode\n", kb->epcount, ep_str);
574         if (usb_tryreset(kb) == 0) {
575             static int retryCount = 0;
576             if (retryCount++ < 5) {
577                 return os_setupusb(kb);
578             }
579         }
580         return -1;
581         // ToDo are there special versions we have to detect? If there are, that was the old code to handle
      it:
582         // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is
      supposed to have
583         // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
584         // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n",
      kb->epcount, ep_str);
585     }
586     if(usbclaim(kb)){
587         ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
588         return -1;
589     }
590     return 0;
591 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.11 int os_usbrecv (usbdevice * *kb*, uchar * *in_msg*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
in_msg	the buffer to fill with the message received
file	for debugging
line	for debugging

Returns

-1 on timeout, 0 on hard error, numer of bytes received otherwise

os_usbrecv does what its name says:

The comment at the beginning of the procedure causes the suspicion that the firmware versionspecific distinction is missing for receiving from usb endpoint 3 or 4. The commented code contains only the reception from EP4, but this may be wrong for a software version 2.0 or higher (see the code for os-usbsend ()).

So all the receiving is done via an ioctl() like in os_usbsend. The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0xA1	0x01	0x0200	endpoint to be addressed from epcount - 1	MSG_SIZE	5ms	the message buffer pointer

Device to Host, Type=Class, Recipi-ent=Interface	1 = RECEIVE?	specific	Interface #	64	5000	in_msg

The ioctl() returns the number of bytes received. Here is the usual check again:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbrecv() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes are received, 0 is returned as an identifier for a heavy error.
- In all other cases, the function returns the number of bytes received.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Read YY bytes (expected 64)"].

Definition at line 129 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv().

```
129                                                                                 {
130     int res;
131     // This is what CUE does, but it doesn't seem to work on linux.
132     /*if(kb->fwversion >= 0x130){
133         struct usbdevfs_bulktransfer transfer = {0};
134         transfer.ep = 0x84;
135         transfer.len = MSG_SIZE;
136         transfer.timeout = 5000;
137         transfer.data = in_msg;
138         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
139     } else {*/
140         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
      epcount - 1, MSG_SIZE, 5000, in_msg };
141         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
142     //}
143     if(res <= 0){
144         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
145         if(res == -1 && errno == ETIMEDOUT)
146             return -1;
147         else
148             return 0;
149     } else if(res != MSG_SIZE)
150         ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
      MSG_SIZE);
151 #ifdef DEBUG_USB_RECV
152     char converted[MSG_SIZE*3 + 1];
153     for(int i=0;i<MSG_SIZE;i++)
154         sprintf(&converted[i*3], "%02x ", in_msg[i]);
155     ckb_warn_fn("Recv %s\n", file, line, converted);
156 #endif
157     return res;
158 }
```

Here is the caller graph for this function:

13.49.3.12 int os_usbsend (usbdevice * *kb*, const uchar * *out_msg*, int *is_recv*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice∗
out_msg	the MSGSIZE char long buffer to send
is_recv	if true, just send an ioctl for further reading packets. If false, send the data at **out_msg**.
file	for debugging
line	for debugging

Returns

-1 on timeout (try again), 0 on hard error, numer of bytes sent otherwise

os_usbsend has two functions:

- if is_recv == false, it tries to send a given MSG_SIZE buffer via the usb interface given with kb.
- otherwise a request is sent via the usb device to initiate the receiving of a message from the remote device.

The functionality for sending distinguishes two cases, depending on the version number of the firmware of the connected device:

If the firmware is less or equal 1.2, the transmission is done via an ioctl(). The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequestType	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	endpoint / IF to be addressed from epcount-1	MSG_SIZE	5000 (=5ms)	the message buffer pointer
Host to Device, Type=Class, Recipient=Interface	9 = Send data?	specific	last or pre-last device #	64	5000	out_msg

The ioctl command is USBDEVFS_CONTROL.

The same constellation is used if the device is requested to send its data (is_recv = true).

For a more recent firmware and is_recv = false, the ioctl command USBDEVFS_CONTROL is not used (this tells the bus to enter the control mode), but the bulk method is used: USBDEVFS_BULK. This is astonishing, because all of the endpoints are type Interrupt, not bulk.

Anyhow, forthis purpose a different structure is used for the ioctl() (struct **usbdevfs_bulktransfer**) and this is also initialized differently:

The length and timeout parameters are given the same values as above. The formal parameter out_msg is also passed as a buffer pointer. For the endpoints, the firmware version is differentiated again:

For a firmware version between 1.3 and <2.0 endpoint 4 is used, otherwise (it can only be >=2.0) endpoint 3 is used.

Todo Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

The ioctl() - no matter what type - returns the number of bytes sent. Now comes the usual check:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbsend() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.

- For another negative value or other error identifier OR 0 bytes sent, 0 is returned as a heavy error identifier.
- In all other cases, the function returns the number of bytes sent.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Wrote YY bytes (expected 64)"].

If DEBUG_USB_SEND is set during compilation, the number of bytes sent and their representation are logged to the error channel.

Definition at line 68 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::fwversion, usbdevice::handle, IS_NEW_PROTOCOL, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                                  {
69     int res;
70     if ((kb->fwversion >= 0x120 || IS_NEW_PROTOCOL(kb)) && !is_recv){
71         struct usbdevfs_bulktransfer transfer = {0};
72         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
73         transfer.len = MSG_SIZE;
74         transfer.timeout = 5000;
75         transfer.data = (void*)out_msg;
76         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
77     } else {
78         struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
    epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
79         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
80     }
81
82     if (res <= 0){
83         ckb_err_fn(" %s, res = 0x%x\n", file, line, res ? strerror(errno) : "No data written",
    res);
84         if(res == -1 && errno == ETIMEDOUT)
85             return -1;
86         else
87             return 0;
88     } else if (res != MSG_SIZE)
89         ckb_warn_fn("Wrote %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
90 #ifdef DEBUG_USB_SEND
91     char converted[MSG_SIZE*3 + 1];
92     for(int i=0;i<MSG_SIZE;i++)
93         sprintf(&converted[i*3], "%02x ", out_msg[i]);
94     ckb_warn_fn("Sent %s\n", file, line, converted);
95 #endif
96     return res;
97 }
```

Here is the caller graph for this function:

13.49.3.13 const char* product_str (short *product*)

Parameters

product	is the *short* USB device product ID

Returns

string to identify a type of device (see below)

product_str returns a condensed view on what type of device we have.

At present, various models and their properties are known from corsair products. Some models differ in principle (mice and keyboards), others differ in the way they function (for example, RGB and non RGB), but they are very similar.

Here, only the first point is taken into consideration and we return a unified model string. If the model is not known with its number, *product_str* returns an empty string.

The model numbers and corresponding strings wwith the numbers in hex-string are defined in `usb.h`

At present, this function is used to initialize `kb->name` and to give information in debug strings.

Attention

The combinations below have to fit to the combinations in the macros mentioned above. So if you add a device with a new number, change both.

Todo There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb*∗, product_str() needs the *product ID*

Definition at line 70 of file usb.c.

References P_GLAIVE, P_HARPOON, P_K63_NRGB, P_K65, P_K65_LUX, P_K65_NRGB, P_K65_RFIRE, P_K70, P_K70_LUX, P_K70_LUX_NRGB, P_K70_NRGB, P_K70_RFIRE, P_K70_RFIRE_NRGB, P_K95, P_K95_NRGB, P_K95_PLATINUM, P_M65, P_M65_PRO, P_SABRE_L, P_SABRE_N, P_SABRE_O, P_SABRE_O2, P_SCIMITAR, P_SCIMITAR_PRO, P_STRAFE, and P_STRAFE_NRGB.

Referenced by _mkdevpath(), and _setupusb().

```
70                                      {
71     if(product == P_K95 || product == P_K95_NRGB || product ==
       P_K95_PLATINUM)
72         return "k95";
73     if(product == P_K70 || product == P_K70_NRGB || product ==
       P_K70_LUX || product == P_K70_LUX_NRGB || product ==
       P_K70_RFIRE || product == P_K70_RFIRE_NRGB)
74         return "k70";
75     if(product == P_K65 || product == P_K65_NRGB || product ==
       P_K65_LUX || product == P_K65_RFIRE)
76         return "k65";
77     if(product == P_K63_NRGB)
78         return "k63";
79     if(product == P_STRAFE || product == P_STRAFE_NRGB)
80         return "strafe";
81     if(product == P_M65 || product == P_M65_PRO)
82         return "m65";
83     if(product == P_SABRE_O || product == P_SABRE_L || product ==
       P_SABRE_N || product == P_SABRE_O2)
84         return "sabre";
85     if(product == P_SCIMITAR || product == P_SCIMITAR_PRO)
86         return "scimitar";
87     if(product == P_HARPOON)
88         return "harpoon";
89     if(product == P_GLAIVE)
90         return "glaive";
91     return "";
92 }
```

Here is the caller graph for this function:

13.49.3.14 int revertusb (usbdevice * *kb*)

Parameters

kb	THE usbdevice*

Returns

0 on success or if device needs firmware upgrade, -1 otherwise

revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated

First is checked, whether a firmware-upgrade is indicated for the device. If so, revertusb() returns 0.

Todo Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

Anyway, the following steps are similar to some other procs, dealing with low level usb handling:

- If we do not have an RGB device, a simple setting to Hardware-mode (NK95_HWON) is sent to the device via n95cmd().

  Todo The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

- If we have an RGB device, setactive() is called with second param active = false. That function will have a look on differences between keyboards and mice.

  More precisely setactive() is just a macro to call via the kb->vtable enties either the active() or the idle() function where the vtable points to. setactive() may return error indications. If so, revertusb() returns -1, otherwise 0 in any other case.

Definition at line 413 of file usb.c.

References FEAT_RGB, HAS_FEATURES, NEEDS_FW_UPDATE, NK95_HWON, nk95cmd, and setactive.

Referenced by quitWithLock().

```
413                                 {
414     if(NEEDS_FW_UPDATE(kb))
415         return 0;
416     if(!HAS_FEATURES(kb, FEAT_RGB)){
417         nk95cmd(kb, NK95_HWON);
418         return 0;
419     }
420     if(setactive(kb, 0))
421         return -1;
422     return 0;
423 }
```

Here is the caller graph for this function:

13.49.3.15 void setupusb (usbdevice * *kb*)

Attention

Lock a device's dmutex (see device.h) before accessing the USB interface.

Parameters

kb	THE usbdevice* used everywhere
OUT]	kb->thread is used to store the thread ID of the fresh created thread.

setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.

Set up a USB device after its handle is open. Spawns a new thread _setupusb() with standard parameter kb. dmutex must be locked prior to calling this function. The function will unlock it when finished. In kb->thread the thread id is mentioned, because closeusb() needs this info for joining that thread again.

Definition at line 392 of file usb.c.

References _setupusb(), ckb_err, imutex, and usbdevice::thread.

Referenced by usbadd().

```
392                                 {
393     pthread_mutex_lock(imutex(kb));
394     if(pthread_create(&kb->thread, 0, _setupusb, kb))
395         ckb_err("Failed to create USB thread\n");
396 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.16 int usb_tryreset (usbdevice * *kb*)

Parameters

in,out	*kb*	THE usbdevice*
in	*reset_stop*	global variable is read

Returns

0 on success, -1 otherwise

usb_tryreset does what the name means: Try to reset the usb via resetusb()

This function is called if an usb command ran into an error in case of one of the following two situations:

- When setting up a new usb device and the start() function got an error (

See Also

_setupusb())

- If upgrading to a new firmware gets an error (

  See Also

  cmd_fwupdate()).

  The previous action which got the error will NOT be re-attempted.

In an endless loop usb_tryreset() tries to reset the given usb device via the macro resetusb().

This macro calls _resetusb() with debugging information.

_resetusb() sends a command via the operating system dependent function os_resetusb() and - if successful - reinitializes the device. os_resetusb() returns -2 to indicate a broken device and all structures should be removed for it.

In that case, the loop is terminated, an error message is produced and usb_tryreset() returns -1.

In case resetusb() has success, the endless loop is left via a return 0 (success).

If the return value from resetusb() is -1, the loop is continued with the next try.

If the global variable **reset_stop** is set directly when the function is called or after each try, usb_tryreset() stops working and returns -1.

Todo Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

Definition at line 471 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
471                                 {
472     if(reset_stop)
473         return -1;
474     ckb_info("Attempting reset...\n");
475     while(1){
476         int res = resetusb(kb);
477         if(!res){
478             ckb_info("Reset success\n");
479             return 0;
480         }
481         if(res == -2 || reset_stop)
482             break;
483     }
484     ckb_err("Reset failed. Disconnecting.\n");
485     return -1;
486 }
```

Here is the caller graph for this function:

13.49.3.17 void usbkill ( )

Definition at line 838 of file usb_linux.c.

Referenced by quitWithLock().

```
838             {
839     udev_unref(udev);
840     udev = 0;
841 }
```

Here is the caller graph for this function:

13.49.3.18 int usbmain ( )

Start the USB main loop. Returns program exit code when finished.

usbmain is called by main() after setting up all other stuff.

Returns

0 normally or -1 if fatal error occurs (up to now only if no new devices are available)

First check whether the uinput module is loaded by the kernel.

Todo Why isn't missing of uinput a fatal error?

Create the udev object with udev_new() (is a function from libudev.h) terminate -1 if error

Enumerate all currently connected devices

Todo lae. here the work has to go on...

Definition at line 778 of file usb_linux.c.

References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

Referenced by main().

```
778             {
783     // Load the uinput module (if it's not loaded already)
784     if(system("modprobe uinput") != 0)
785         ckb_warn("Failed to load uinput module\n");
786
790     if(!(udev = udev_new())) {
791         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
792         return -1;
793     }
794
797     udev_enum();
798
801     // Done scanning. Enter a loop to poll for device updates
802     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
803     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
804     udev_monitor_enable_receiving(monitor);
805     // Get an fd for the monitor
806     int fd = udev_monitor_get_fd(monitor);
807     fd_set fds;
808     while(udev){
809         FD_ZERO(&fds);
810         FD_SET(fd, &fds);
811         // Block until an event is read
812         if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
813             struct udev_device* dev = udev_monitor_receive_device(monitor);
814             if(!dev)
```

```
                continue;
            const char* action = udev_device_get_action(dev);
            if(!action){
                udev_device_unref(dev);
                continue;
            }
            // Add/remove device
            if(!strcmp(action, "add")){
                int res = usb_add_device(dev);
                if(res == 0)
                    continue;
                // If the device matched but the handle wasn't opened correctly, re-enumerate (this sometimes solves the problem)
                if(res == -1)
                    udev_enum();
            } else if(!strcmp(action, "remove"))
                usb_rm_device(dev);
            udev_device_unref(dev);
        }
    }
    udev_monitor_unref(monitor);
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.49.3.19 const char* vendor_str (short *vendor*)

uncomment to see USB packets received from the device vendor_str Vendor/product string representations

Parameters

vendor	*short* vendor ID

Returns

a string: either "" or "corsair"

uncomment to see USB packets sent to the device

vendor_str returns "corsair" if the given *vendor* argument is equal to *V_CORSAIR* (0x1bc) else it returns ""

Attention

There is also a string defined V_CORSAIR_STR, which returns the device number as string in hex "1b1c".

Definition at line 43 of file usb.c.

References V_CORSAIR.

Referenced by _mkdevpath(), and _setupusb().

```
43                                      {
44     if(vendor == V_CORSAIR)
45         return "corsair";
46     return "";
47 }
```

Here is the caller graph for this function:

13.50 src/ckb-daemon/usb_linux.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "notify.h"
#include "usb.h"
```

Include dependency graph for usb_linux.c:

Data Structures

- struct _model

Macros

- #define DEBUG

  all open usb devices have their system path names here in this array.
- #define TEST_RESET(op)

  TEST_RESET doesa "try / catch" for resetting the usb interface.
- #define N_MODELS (sizeof(models) / sizeof(_model))

Functions

- int os_usbsend (usbdevice *kb, const uchar *out_msg, int is_recv, const char *file, int line)

  os_usbsend sends a data packet (MSG_SIZE = 64) Bytes long
- int os_usbrecv (usbdevice *kb, uchar *in_msg, const char *file, int line)

  os_usbrecv receives a max MSGSIZE long buffer from usb device
- int _nk95cmd (usbdevice *kb, uchar bRequest, ushort wValue, const char *file, int line)

  _nk95cmd If we control a non RGB keyboard, set the keyboard via ioctl with usbdevfs_ctrltransfer
- void os_sendindicators (usbdevice *kb)
- void * os_inputmain (void *context)

  os_inputmain This function is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.
- static int usbunclaim (usbdevice *kb, int resetting)
- void os_closeusb (usbdevice *kb)
- static int usbclaim (usbdevice *kb)
- int os_resetusb (usbdevice *kb, const char *file, int line)
- void strtrim (char *string)
- int os_setupusb (usbdevice *kb)
- int usbadd (struct udev_device *dev, short vendor, short product)
- static int usb_add_device (struct udev_device *dev)

  Add a udev device. Returns 0 if device was recognized/added.
- static void usb_rm_device (struct udev_device *dev)

  usb_rm_device find the usb port to remove and close it via closeusb().
- static void udev_enum ()

  udev_enum use the udev_enumerate_add_match_subsystem() to get all you need but only that.
- int usbmain ()
- void usbkill ()

  Stop the USB system.

Variables

- static char kbsyspath [9][FILENAME_MAX]
- static struct udev * udev

  struct udef is defined in /usr/include/libudev.h
- pthread_t usbthread
- pthread_t udevthread
- static _model models []

13.50.1 Data Structure Documentation

13.50.1.1 struct _model

Definition at line 645 of file usb_linux.c.

Collaboration diagram for _model:

Data Fields

const char *	name	
short	number	

13.50.2 Macro Definition Documentation

13.50.2.1 #define DEBUG

Definition at line 11 of file usb_linux.c.

13.50.2.2 #define N_MODELS (sizeof(models) / sizeof(_model))

Definition at line 685 of file usb_linux.c.

Referenced by usb_add_device().

13.50.2.3 #define TEST_RESET(*op*)

Value:

```
if(op){                                                                 \
        ckb_err_fn("resetusb failed: %s\n", file, line, strerror(errno));   \
        if(errno == EINTR || errno == EAGAIN)                           \
            return -1;              /* try again if status code says so */  \
        return -2;                  /* else, remove device */               \
    }
```

Definition at line 479 of file usb_linux.c.

Referenced by os_resetusb().

13.50.3 Function Documentation

13.50.3.1 int _nk95cmd (usbdevice * *kb*, uchar *bRequest*, ushort *wValue*, const char * *file*, int *line*)

To send control packets to a non RGB non color K95 Keyboard, use this function. Normally it is called via the nk95cmd() macro.

If it is the wrong device for which the function is called, 0 is returned and nothing done. Otherwise a usbdevfs_-ctrltransfer structure is filled and an USBDEVFS_CONTROL ioctl() called.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x40	see table below to switch hardware-modus at Keyboard	wValue	device	MSG_SIZE	5ms	the message buffer pointer
Host to Device, Type=Vendor, Recipi-ent=Device	bRequest parameter	given wValue Parameter	device 0	0 data to write	5000	null

If a 0 or a negative error number is returned by the ioctl, an error message is shown depending on the errno or "No data written" if retval was 0. In either case 1 is returned to indicate the error. If the ioctl returned a value > 0, 0 is returned to indicate no error.

Currently the following combinations for bRequest and wValue are used:

Device	what it might to do	constant	bRequest	wValue
non RGB Keyboard	set HW-modus on (leave the ckb driver)	HWON	0x0002	0x0030
non RGB Keyboard	set HW-modus off (initialize the ckb driver)	HWOFF	0x0002	0x0001
non RGB Keyboard	set light modus M1 in single-color keyboards	NK95_M1	0x0014	0x0001
non RGB Keyboard	set light modus M2 in single-color keyboards	NK95_M2	0x0014	0x0002
non RGB Keyboard	set light modus M3 in single-color keyboards	NK95_M3	0x0014	0x0003

See Also

usb.h

Definition at line 188 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
188                                                                                                    {
189     if(kb->product != P_K95_NRGB)
```

```
        return 0;
    struct usbdevfs_ctrltransfer transfer = { 0x40, bRequest, wValue, 0, 0, 5000, 0 };
    int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
    if(res <= 0){
        ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
        return 1;
    }
    return 0;
}
```

13.50.3.2 void os_closeusb (usbdevice * *kb*)

os_closeusb unclaim it, destroy the udev device and clear data structures at kb

os_closeusb is the linux specific implementation for closing an active usb port.

If a valid handle is given in the kb structure, the usb port is unclaimed (usbunclaim()).

The device in unrefenced via library function udev_device_unref().

handle, udev and the first char of kbsyspath are cleared to 0 (empty string for kbsyspath).

Definition at line 435 of file usb_linux.c.

References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
435                                 {
436     if(kb->handle){
437         usbunclaim(kb, 0);
438         close(kb->handle - 1);
439     }
440     if(kb->udev)
441         udev_device_unref(kb->udev);
442     kb->handle = 0;
443     kb->udev = 0;
444     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
445 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.3 void∗ os_inputmain (void ∗ *context*)

os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.

Todo This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

1. set up an URB (Userspace Ressource Buffer) to communicate with the USBDEVFS_∗ ioctl()s
2. perform the ioctl()
3. interpretate the information got into the URB buffer or handle error situations and retry operation or leave the endless loop
4. inform the os about the data
5. loop endless via 2.
6. if endless loop has gone, deinitalize the interface, free buffers etc.
7. return null

Here the actions in detail:

Monitor input transfers on all endpoints for non-RGB devices For RGB, monitor all but the last, as it's used for input/output

Get an usbdevfs_urb data structure and clear it via memset()

Hopefully the buffer lengths are equal for all devices with congruent types. You can find out the correctness for your device with lsusb –v or similar on macOS. Currently the following combinations are known and implemented:

device	detect with macro combination	endpoint #	buffer-length
each	none	0	8
RGB Mouse	IS_RGB && IS_MOUSE	1	10
RGB Keyboard	IS_RGB && !IS_MOUSE	1	21
RGB Mouse or Keyboard	IS_RGB	2	MSG_SIZE (64)
non RGB Mouse or Keyboard	!IS_RGB	1	4
non RGB Mouse or Keyboard	!IS_RGB	2	15

Now submit all the URBs via ioctl(USBDEVFS_SUBMITURB) with type USBDEVFS_URB_TYPE_INTERRUPT (the endpoints are defined as type interrupt). Endpoint number is 0x80..0x82 or 0x83, depending on the model.

The userSpaceFS knows the URBs now, so start monitoring input

if the ioctl returns something != 0, let's have a deeper look what happened. Broken devices or shutting down the entire system leads to closing the device and finishing this thread.

If just an EPIPE ocurred, give the device a CLEAR_HALT and resubmit the URB.

A correct REAPURB returns a Pointer to the URB which we now have a closer look into. Lock all following actions with imutex.

Process the input depending on type of device. Interprete the actual size of the URB buffer

device	detect with macro combination	seems to be endpoint #	actual buffer-length	function called

mouse (RGB and non RGB)	IS_MOUSE	nA	8, 10 or 11	hid_mouse_-translate()
mouse (RGB and non RGB)	IS_MOUSE	nA	MSG_SIZE (64)	corsair_-mousecopy()
RGB Keyboard	IS_RGB && !IS_MOUSE	1	8 (BIOS Mode)	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	2	5 or 21, KB inactive!	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	3?	MSG_SIZE	corsair_kbcopy()
non RGB Keyboard	!IS_RGB && !IS_MOUSE	nA	nA	hid_kb_translate()

The input data is transformed and copied to the kb structure. Now give it to the OS and unlock the imutex afterwards.

Re-submit the URB for the next run.

If the endless loop is terminated, clean up by discarding the URBs via ioctl(USBDEVFS_DISCARDURB), free the URB buffers and return a null pointer as thread exit code.

Definition at line 238 of file usb_linux.c.

References usbdevice::active, ckb_err, ckb_info, corsair_kbcopy(), corsair_mousecopy(), devpath, usbdevice::epcount, usbdevice::handle, hid_kb_translate(), hid_mouse_translate(), imutex, INDEX_OF, usbdevice::input, inputupdate(), IS_MOUSE, IS_RGB, keyboard, usbinput::keys, MSG_SIZE, usbdevice::product, usbinput::rel_x, usbinput::rel_y, and usbdevice::vendor.

Referenced by _setupusb().

```
238                                 {
239     usbdevice* kb = context;
240     int fd = kb->handle - 1;
241     short vendor = kb->vendor, product = kb->product;
242     int index = INDEX_OF(kb, keyboard);
243     ckb_info("Starting input thread for %s%d\n", devpath, index);
244
249     int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->
    epcount;
250     if (urbcount == 0) {
251         ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
252         return 0;
253     }
254
256     struct usbdevfs_urb urbs[urbcount + 1];
257     memset(urbs, 0, sizeof(urbs));
258
272     urbs[0].buffer_length = 8;
273     if(urbcount > 1 && IS_RGB(vendor, product)) {
274         if(IS_MOUSE(vendor, product))
275             urbs[1].buffer_length = 10;
276         else
277             urbs[1].buffer_length = 21;
278         urbs[2].buffer_length = MSG_SIZE;
279         if(urbcount != 3)
280             urbs[urbcount - 1].buffer_length = MSG_SIZE;
281     } else {
282         urbs[1].buffer_length = 4;
283         urbs[2].buffer_length = 15;
284     }
285
288     for(int i = 0; i < urbcount; i++){
289         urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
290         urbs[i].endpoint = 0x80 | (i + 1);
291         urbs[i].buffer = malloc(urbs[i].buffer_length);
292         ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
293     }
294
296     while (1) {
297         struct usbdevfs_urb* urb = 0;
298
301         if (ioctl(fd, USBDEVFS_REAPURB, &urb)) {
302             if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
303                 // Stop the thread if the handle closes
304                 break;
305             else if(errno == EPIPE && urb){
307                 ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
308                 // Re-submit the URB
309                 if(urb)
```

```
                    ioctl(fd, USBDEVFS_SUBMITURB, urb);
                urb = 0;
            }
            continue;
        }

        if (urb) {

            pthread_mutex_lock(imutex(kb));
            if(IS_MOUSE(vendor, product)){
                switch(urb->actual_length){
                case 8:
                case 10:
                case 11:
                    // HID mouse input
                    hid_mouse_translate(kb->input.keys, &kb->input.rel_x, &kb->input.rel_y, -(urb->endpoint & 0xF), urb->actual_length, urb->buffer);
                    break;
                case MSG_SIZE:
                    // Corsair mouse input
                    corsair_mousecopy(kb->input.keys, -(urb->endpoint & 0xF), urb->buffer);
                    break;
                }
            } else if(IS_RGB(vendor, product)){
                switch(urb->actual_length){
                case 8:
                    // RGB EP 1: 6KRO (BIOS mode) input
                    hid_kb_translate(kb->input.keys, -1, urb->actual_length, urb->buffer);
                    break;
                case 21:
                case 5:
                    // RGB EP 2: NKRO (non-BIOS) input. Accept only if keyboard is inactive
                    if(!kb->active)
                        hid_kb_translate(kb->input.keys, -2, urb->actual_length, urb->buffer);
                    break;
                case MSG_SIZE:
                    // RGB EP 3: Corsair input
                    corsair_kbcopy(kb->input.keys, -(urb->endpoint & 0xF), urb->buffer);
                    break;
                }
            } else {
                // Non-RGB input
                hid_kb_translate(kb->input.keys, urb->endpoint & 0xF, urb->actual_length, urb->buffer);
            }
            inputupdate(kb);
            pthread_mutex_unlock(imutex(kb));

            ioctl(fd, USBDEVFS_SUBMITURB, urb);
            urb = 0;
        }
    }

    ckb_info("Stopping input thread for %s%d\n", devpath, index);
    for(int i = 0; i < urbcount; i++){
        ioctl(fd, USBDEVFS_DISCARDURB, urbs + i);
        free(urbs[i].buffer);
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.4 int os_resetusb (usbdevice * *kb*, const char * *file*, int *line*)

os_resetusb is the os specific implementation for resetting usb

Try to reset an usb device in a linux user space driver.

1. unclaim the device, but do not reconnect the system driver (second param resetting = true)

2. reset the device via USBDEVFS_RESET command

3. claim the device again. Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

Todo it seems that no one wants to try the reset again. But I'v seen it somewhere...

Definition at line 497 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
497                                                     {
498     TEST_RESET(usbunclaim(kb, 1));
499     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
500     TEST_RESET(usbclaim(kb));
501     // Success!
502     return 0;
503 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.5 void os_sendindicators (usbdevice * *kb*)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

Read the data from kb->ileds ans send them via ioctl() to the keyboard.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	Interface 0	MSG_SIZE 1 Byte	timeout 0,5ms	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface (why not endpoint?)	9 = SEND?	specific	0	1	500	struct* kb->ileds

The ioctl command is USBDEVFS_CONTROL.

Definition at line 213 of file usb_linux.c.

References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
213                                     {
214     static int countForReset = 0;
215     struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->
      ileds };
216     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
217     if(res <= 0) {
```

```
        ckb_err("%s\n", res ? strerror(errno) : "No data written");
        if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
            os_sendindicators(kb);
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.6 int os_setupusb (usbdevice * *kb*)

os_setupusb OS-specific setup for a specific usb device.

Perform the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1).

- Copy device description and serial
- Copy firmware version (needed to determine USB protocol)
- Do some output about connecting interfaces
- Claim the USB interfaces

Todo in these modules a pullrequest is outstanding

< Try to reset the device and recall the function

< Don't do this endless in recursion

< os_setupusb() has a return value (used as boolean)

Definition at line 535 of file usb_linux.c.

References ckb_err, ckb_info, devpath, usbdevice::epcount, usbdevice::fwversion, INDEX_OF, KB_NAME_LEN, keyboard, usbdevice::name, usbdevice::serial, SERIAL_LEN, strtrim(), usbdevice::udev, usb_tryreset(), and usbclaim().

Referenced by _setupusb().

```
535                                 {
538     struct udev_device* dev = kb->udev;
539     const char* name = udev_device_get_sysattr_value(dev, "product");
540     if(name)
541         strncpy(kb->name, name, KB_NAME_LEN);
542     strtrim(kb->name);
543     const char* serial = udev_device_get_sysattr_value(dev, "serial");
544     if(serial)
545         strncpy(kb->serial, serial, SERIAL_LEN);
546     strtrim(kb->serial);
549     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
550     if(firmware)
551         sscanf(firmware, "%hx", &kb->fwversion);
552     else
553         kb->fwversion = 0;
554     int index = INDEX_OF(kb, keyboard);
555
557     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
558
564     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
565 #ifdef DEBUG
566     ckb_info("claiming interfaces. name=%s, firmware=%s; Got >>%s<< as ep_str\n", name, firmware,
      ep_str);
567 #endif //DEBUG
568     kb->epcount = 0;
569     if(ep_str)
570         sscanf(ep_str, "%d", &kb->epcount);
571     if(kb->epcount < 2){
572         // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
573         ckb_err("Unable to read endpoint count from udev, assuming %d and reading >>%s<< or device
      is in BIOS mode\n", kb->epcount, ep_str);
574         if (usb_tryreset(kb) == 0) {
575             static int retryCount = 0;
576             if (retryCount++ < 5) {
577                 return os_setupusb(kb);
578             }
579         }
580         return -1;
581         // ToDo are there special versions we have to detect? If there are, that was the old code to handle
      it:
582         // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is
      supposed to have
583         // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
584         // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n",
      kb->epcount, ep_str);
585     }
586     if(usbclaim(kb)){
587         ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
588         return -1;
589     }
590     return 0;
591 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.7 int os_usbrecv (usbdevice * *kb*, uchar * *in_msg*, const char * *file*, int *line*)

os_usbrecv does what its name says:

The comment at the beginning of the procedure causes the suspicion that the firmware versionspecific distinction is missing for receiving from usb endpoint 3 or 4. The commented code contains only the reception from EP4, but this may be wrong for a software version 2.0 or higher (see the code for os-usbsend ()).

So all the receiving is done via an ioctl() like in os_usbsend. The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0xA1	0x01	0x0200	endpoint to be addressed from epcount - 1	MSG_SIZE	5ms	the message buffer pointer
Device to Host, Type=Class, Recipi-ent=Interface	1 = RECEIVE?	specific	Interface #	64	5000	in_msg

The ioctl() returns the number of bytes received. Here is the usual check again:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbrecv() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes are received, 0 is returned as an identifier for a heavy error.
- In all other cases, the function returns the number of bytes received.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Read YY bytes (expected 64)"].

Definition at line 129 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv().

```
129                                                                 {
130     int res;
131     // This is what CUE does, but it doesn't seem to work on linux.
132     /*if(kb->fwversion >= 0x130){
133         struct usbdevfs_bulktransfer transfer = {0};
134         transfer.ep = 0x84;
135         transfer.len = MSG_SIZE;
136         transfer.timeout = 5000;
137         transfer.data = in_msg;
138         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
139     } else {*/
140         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
      epcount - 1, MSG_SIZE, 5000, in_msg };
141         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
142     //}
```

```
    if(res <= 0){
        ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
        if(res == -1 && errno == ETIMEDOUT)
            return -1;
        else
            return 0;
    } else if(res != MSG_SIZE)
        ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
#ifdef DEBUG_USB_RECV
    char converted[MSG_SIZE*3 + 1];
    for(int i=0;i<MSG_SIZE;i++)
        sprintf(&converted[i*3], "%02x ", in_msg[i]);
    ckb_warn_fn("Recv %s\n", file, line, converted);
#endif
    return res;
}
```

Here is the caller graph for this function:

13.50.3.8 int os_usbsend (usbdevice * *kb*, const uchar * *out_msg*, int *is_recv*, const char * *file*, int *line*)

os_usbsend has two functions:

- if is_recv == false, it tries to send a given MSG_SIZE buffer via the usb interface given with kb.
- otherwise a request is sent via the usb device to initiate the receiving of a message from the remote device.

The functionality for sending distinguishes two cases, depending on the version number of the firmware of the connected device:

If the firmware is less or equal 1.2, the transmission is done via an ioctl(). The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	endpoint / IF to be addressed from epcount-1	MSG_SIZE	5000 (=5ms)	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface	9 = Send data?	specific	last or pre-last device #	64	5000	out_msg

The ioctl command is USBDEVFS_CONTROL.

The same constellation is used if the device is requested to send its data (is_recv = true).

For a more recent firmware and is_recv = false, the ioctl command USBDEVFS_CONTROL is not used (this tells the bus to enter the control mode), but the bulk method is used: USBDEVFS_BULK. This is astonishing, because all of the endpoints are type Interrupt, not bulk.

Anyhow, forthis purpose a different structure is used for the ioctl() (struct **usbdevfs_bulktransfer**) and this is also initialized differently:

The length and timeout parameters are given the same values as above. The formal parameter out_msg is also passed as a buffer pointer. For the endpoints, the firmware version is differentiated again:

For a firmware version between 1.3 and <2.0 endpoint 4 is used, otherwise (it can only be >=2.0) endpoint 3 is used.

Todo Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

The ioctl() - no matter what type - returns the number of bytes sent. Now comes the usual check:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbsend() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes sent, 0 is returned as a heavy error identifier.
- In all other cases, the function returns the number of bytes sent.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Wrote YY bytes (expected 64)"].

If DEBUG_USB_SEND is set during compilation, the number of bytes sent and their representation are logged to the error channel.

Definition at line 68 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::fwversion, usbdevice::handle, IS_NEW_PROTOCOL, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                                                  {
69     int res;
70     if ((kb->fwversion >= 0x120 || IS_NEW_PROTOCOL(kb)) && !is_recv){
71         struct usbdevfs_bulktransfer transfer = {0};
72         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
73         transfer.len = MSG_SIZE;
74         transfer.timeout = 5000;
75         transfer.data = (void*)out_msg;
76         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
77     } else {
78         struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
    epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
79         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
80     }
81
82     if (res <= 0){
83         ckb_err_fn(" %s, res = 0x%x\n", file, line, res ? strerror(errno) : "No data written",
    res);
84         if(res == -1 && errno == ETIMEDOUT)
85             return -1;
86         else
87             return 0;
88     } else if (res != MSG_SIZE)
89         ckb_warn_fn("Wrote %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
90 #ifdef DEBUG_USB_SEND
91     char converted[MSG_SIZE*3 + 1];
92     for(int i=0;i<MSG_SIZE;i++)
93         sprintf(&converted[i*3], "%02x ", out_msg[i]);
94     ckb_warn_fn("Sent %s\n", file, line, converted);
95 #endif
96     return res;
97 }
```

Here is the caller graph for this function:

13.50.3.9 void strtrim (char * *string*)

strtrim trims a string by removing leading and trailing spaces.

Parameters

string	

Definition at line 510 of file usb_linux.c.

Referenced by os_setupusb().

```
510                             {
511     // Find last non-space
512     char* last = string;
513     for(char* c = string; *c != 0; c++){
514         if(!isspace(*c))
515             last = c;
516     }
517     last[1] = 0;
518     // Find first non-space
519     char* first = string;
520     for(; *first != 0; first++){
521         if(!isspace(*first))
522             break;
523     }
524     if(first != string)
525         memmove(string, first, last - first);
526 }
```

Here is the caller graph for this function:

13.50.3.10 static void udev_enum ( ) [static]

Reduce the hits of the enumeration by limiting to usb as technology and corsair as idVendor. Then filter with udev-_enumerate_scan_devices () all hits.

The following call to udev_enumerate_get_list_entry() fetches the entire hitlist as udev_list_entry *.

Use udev_list_entry_foreach() to iterate through the hit set.

If both the device name exists (udev_list_entry_get_name) and the subsequent creation of a new udev_device (udev_device_new_from_syspath) is ok, the new device is added to the list with usb_add_device().

If the latter does not work, the new device is released again (udev_device_unref ()).

After the last iteration, the enumerator is released with udev_enumerate_unref ().

Definition at line 750 of file usb_linux.c.

References usb_add_device(), and V_CORSAIR_STR.

Referenced by usbmain().

```
750                         {
751     struct udev_enumerate* enumerator = udev_enumerate_new(udev);
752     udev_enumerate_add_match_subsystem(enumerator, "usb");
753     udev_enumerate_add_match_sysattr(enumerator, "idVendor", V_CORSAIR_STR);
754     udev_enumerate_scan_devices(enumerator);
755     struct udev_list_entry* devices, *dev_list_entry;
756     devices = udev_enumerate_get_list_entry(enumerator);
757
758     udev_list_entry_foreach(dev_list_entry, devices){
759         const char* path = udev_list_entry_get_name(dev_list_entry);
760         if(!path)
761             continue;
762         struct udev_device* dev = udev_device_new_from_syspath(udev, path);
763         if(!dev)
764             continue;
765         // If the device matches a recognized device ID, open it
766         if(usb_add_device(dev))
767             // Release device if not
768             udev_device_unref(dev);
769     }
770     udev_enumerate_unref(enumerator);
771 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.11 static int usb_add_device (struct udev_device * *dev*) [static]

If the device id can be found, call usbadd() with the appropriate parameters.

Parameters

dev	the functions usb_*_device get a struct udev* with the neccessary hardware-related information.

Returns

the retval of usbadd() or 1 if either vendor is not corsair or product is not mentioned in model[].

First get the idVendor via udev_device_get_sysattr_value(). If this is equal to the ID-string of corsair ("1b1c"), get the idProduct on the same way.

If we can find the model name in the model array, call usbadd() with the model number.

Todo So why the hell not a transformation between the string and the short presentation? Lets check if the string representation is used elsewhere.

Definition at line 698 of file usb_linux.c.

References N_MODELS, usbadd(), V_CORSAIR, and V_CORSAIR_STR.

Referenced by udev_enum(), and usbmain().

```
698                                                 {
699     const char* vendor = udev_device_get_sysattr_value(dev, "idVendor");
700     if(vendor && !strcmp(vendor, V_CORSAIR_STR)){
701         const char* product = udev_device_get_sysattr_value(dev, "idProduct");
702         if(product){
703             for(_model* model = models; model < models +
      N_MODELS; model++){
704                 if(!strcmp(product, model->name)){
705                     return usbadd(dev, V_CORSAIR, model->number);
706                 }
707             }
708         }
709     }
710     return 1;
711 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.12 static void usb_rm_device (struct udev_device * *dev*) [static]

Parameters

dev	the functions usb_*_device get a struct udev* with the neccessary hardware-related information.

First try to find the system path of the device given in parameter dev. The index where the name is found is the same index we need to address the global keyboard array. That array holds all usbdevices.

Searching for the correct name in kbsyspath-array and closing the usb via closeusb() are protected by lock..unlock of the corresponding devmutex arraymember.

Definition at line 723 of file usb_linux.c.

References closeusb(), DEV_MAX, devmutex, kbsyspath, and keyboard.

Referenced by usbmain().

```
723                                                 {
724     // Device removed. Look for it in our list of keyboards
725     const char* syspath = udev_device_get_syspath(dev);
726     if(!syspath || syspath[0] == 0)
727         return;
```

```
    for(int i = 1; i < DEV_MAX; i++){
        pthread_mutex_lock(devmutex + i);
        if(!strcmp(syspath, kbsyspath[i]))
            closeusb(keyboard + i);
        pthread_mutex_unlock(devmutex + i);
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.13 int usbadd (struct udev_device * *dev*, short *vendor*, short *product*)

Definition at line 593 of file usb_linux.c.

References ckb_err, ckb_info, DEV_MAX, dmutex, usbdevice::handle, IS_CONNECTED, kbsyspath, keyboard, usbdevice::product, setupusb(), usbdevice::udev, and usbdevice::vendor.

Referenced by usb_add_device().

```
593                                                                 {
594     const char* path = udev_device_get_devnode(dev);
595     const char* syspath = udev_device_get_syspath(dev);
596     if(!path || !syspath || path[0] == 0 || syspath[0] == 0){
597         ckb_err("Failed to get device path\n");
598         return -1;
599     }
600 #ifdef DEBUG
601     ckb_info(">>>vendor = 0x%x, product = 0x%x, path = %s, syspath = %s\n", vendor, product, path,
      syspath);
602 #endif // DEDBUG
603     // Find a free USB slot
604     for(int index = 1; index < DEV_MAX; index++){
605         usbdevice* kb = keyboard + index;
606         if(pthread_mutex_trylock(dmutex(kb))){
607             // If the mutex is locked then the device is obviously in use, so keep going
608             if(!strcmp(syspath, kbsyspath[index])){
609                 // Make sure this existing keyboard doesn't have the same syspath (this shouldn't happen)
610                 return 0;
611             }
612             continue;
613         }
614         if(!IS_CONNECTED(kb)){
615             // Open the sysfs device
```

```
            kb->handle = open(path, O_RDWR) + 1;
            if(kb->handle <= 0){
                ckb_err("Failed to open USB device: %s\n", strerror(errno));
                kb->handle = 0;
                pthread_mutex_unlock(dmutex(kb));
                return -1;
            } else {
                // Set up device
                kb->udev = dev;
                kb->vendor = vendor;
                kb->product = product;
                strncpy(kbsyspath[index], syspath, FILENAME_MAX);
                // Mutex remains locked
                setupusb(kb);
                return 0;
            }
        }
        pthread_mutex_unlock(dmutex(kb));
    }
    ckb_err("No free devices\n");
    return -1;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.14 static int usbclaim (usbdevice * *kb*) [static]

usbclaim does claiming all EPs for the usb device gicen by kb.

Parameters

kb	THE usbdevice*

Returns

0 on success, -1 otherwise.

Claim all endpoints for a given device (remeber the decrementing of the file descriptor) via ioctl(USBDEVFS_DISCONNECT) and ioctl(USBDEVFS_CLAIMINTERFACE).

Error handling is done for the ioctl(USBDEVFS_CLAIMINTERFACE) only. If this fails, now an error message is thrown and -1 is returned. Function is called in usb_linux.c only, so it is declared as static now.

Definition at line 459 of file usb_linux.c.

References ckb_err, ckb_info, usbdevice::epcount, and usbdevice::handle.

Referenced by os_resetusb(), and os_setupusb().

```
459                                 {
460     int count = kb->epcount;
461 #ifdef DEBUG
462     ckb_info("claiming %d endpoints\n", count);
463 #endif // DEBUG
464
465     for(int i = 0; i < count; i++){
466         struct usbdevfs_ioctl ctl = { i, USBDEVFS_DISCONNECT, 0 };
467         ioctl(kb->handle - 1, USBDEVFS_IOCTL, &ctl);
468         if(ioctl(kb->handle - 1, USBDEVFS_CLAIMINTERFACE, &i)) {
469             ckb_err("Failed to claim interface %d: %s\n", i, strerror(errno));
470             return -1;
471         }
472     }
473     return 0;
474 }
```

Here is the caller graph for this function:

13.50.3.15 void usbkill ( )

Definition at line 838 of file usb_linux.c.

Referenced by quitWithLock().

```
838                 {
839     udev_unref(udev);
840     udev = 0;
841 }
```

Here is the caller graph for this function:

13.50.3.16 int usbmain ( )

Start the USB main loop. Returns program exit code when finished.

usbmain is called by main() after setting up all other stuff.

Returns

0 normally or -1 if fatal error occurs (up to now only if no new devices are available)

First check whether the uinput module is loaded by the kernel.

Todo Why isn't missing of uinput a fatal error?

Create the udev object with udev_new() (is a function from libudev.h) terminate -1 if error

Enumerate all currently connected devices

Todo lae. here the work has to go on...

Definition at line 778 of file usb_linux.c.

References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

Referenced by main().

```
778             {
783     // Load the uinput module (if it's not loaded already)
784     if(system("modprobe uinput") != 0)
785         ckb_warn("Failed to load uinput module\n");
786
790     if(!(udev = udev_new())) {
791         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
792         return -1;
793     }
794
797     udev_enum();
798
801     // Done scanning. Enter a loop to poll for device updates
802     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
803     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
804     udev_monitor_enable_receiving(monitor);
805     // Get an fd for the monitor
806     int fd = udev_monitor_get_fd(monitor);
807     fd_set fds;
808     while(udev){
809         FD_ZERO(&fds);
810         FD_SET(fd, &fds);
811         // Block until an event is read
812         if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
813             struct udev_device* dev = udev_monitor_receive_device(monitor);
814             if(!dev)
815                 continue;
816             const char* action = udev_device_get_action(dev);
817             if(!action){
818                 udev_device_unref(dev);
819                 continue;
820             }
821             // Add/remove device
822             if(!strcmp(action, "add")){
823                 int res = usb_add_device(dev);
824                 if(res == 0)
825                     continue;
826                 // If the device matched but the handle wasn't opened correctly, re-enumerate (this
        sometimes solves the problem)
827                 if(res == -1)
828                     udev_enum();
829             } else if(!strcmp(action, "remove"))
830                 usb_rm_device(dev);
831             udev_device_unref(dev);
832         }
833     }
834     udev_monitor_unref(monitor);
835     return 0;
836 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.50.3.17 static int usbunclaim (usbdevice * *kb*, int *resetting*) [static]

usbunclaim do an unclaiming of the usb device gicen by kb.

Parameters

kb	THE usbdevice*
resetting	boolean flag: If resseting is true, the caller will perform a bus reset command after unclaiming the device.

Returns

always 0.

Unclaim all endpoints for a given device (remeber the decrementing of the file descriptor) via ioctl(USBDEVFS_DISCARDURB).

Afterwards - if ressetting is false - do a USBDEVFS_CONNECT for EP 0 and 1. If it is a non RGB device, connect EP 2 also. The comment mentions RGB keyboards only, but as I understand the code, this is valid also for RGB mice.

There is no error handling yet. Function is called in usb_linux.c only, so it is declared as static now.

Definition at line 406 of file usb_linux.c.

References usbdevice::epcount, FEAT_RGB, usbdevice::handle, and HAS_FEATURES.

Referenced by os_closeusb(), and os_resetusb().

```
406                                                 {
407     int handle = kb->handle - 1;
408     int count = kb->epcount;
409     for (int i = 0; i < count; i++) {
410         ioctl(handle, USBDEVFS_RELEASEINTERFACE, &i);
411     }
412     // For RGB keyboards, the kernel driver should only be reconnected to interfaces 0 and 1 (HID), and
        only if we're not about to do a USB reset.
413     // Reconnecting any of the others causes trouble.
414     if (!resetting) {
415         struct usbdevfs_ioctl ctl = { 0, USBDEVFS_CONNECT, 0 };
416         ioctl(handle, USBDEVFS_IOCTL, &ctl);
417         ctl.ifno = 1;
418         ioctl(handle, USBDEVFS_IOCTL, &ctl);
419         // Also reconnect iface #2 (HID) for non-RGB keyboards
420         if(!HAS_FEATURES(kb, FEAT_RGB)){
421             ctl.ifno = 2;
422             ioctl(handle, USBDEVFS_IOCTL, &ctl);
423         }
424     }
425     return 0;
426 }
```

Here is the caller graph for this function:

13.50.4 Variable Documentation

13.50.4.1 char kbsyspath[9][FILENAME_MAX] [static]

Definition at line 13 of file usb_linux.c.

Referenced by os_closeusb(), usb_rm_device(), and usbadd().

13.50.4.2 _model models[] [static]

Initial value:

```
= {

    {  "1b40" ,  0x1b40  },
    {  "1b17" ,  0x1b17  },
    {  "1b07" ,  0x1b07  },
    {  "1b37" ,  0x1b37  },
    {  "1b39" ,  0x1b39  },
    {  "1b13" ,  0x1b13  },
    {  "1b09" ,  0x1b09  },
    {  "1b33" ,  0x1b33  },
    {  "1b36" ,  0x1b36  },
    {  "1b38" ,  0x1b38  },
    {  "1b3a" ,  0x1b3a  },
    {  "1b11" ,  0x1b11  },
    {  "1b08" ,  0x1b08  },
    {  "1b2d" ,  0x1b2d  },
    {  "1b20" ,  0x1b20  },
    {  "1b15" ,  0x1b15  },
```

```
    {  "1b12" ,  0x1b12  },
    {  "1b2e" ,  0x1b2e  },
    {  "1b34" ,  0x1b34  },
    {  "1b14" ,  0x1b14   },
    {  "1b19" ,  0x1b19   },
    {  "1b2f" ,  0x1b2f   },
    {  "1b1e" ,  0x1b1e  },
    {  "1b3e" ,  0x1b3e  },
    {  "1b32" ,  0x1b32   },
    {  "1b3c" ,  0x1b3c  }
}
```

Attention

when adding new hardware this file hat to be changed too.

In this structure array *models*[] for each device the name (the device id as string in hex without leading 0x) and its usb device id as short must be entered in this array.

Definition at line 655 of file usb_linux.c.

13.50.4.3 struct udev* udev [static]

Definition at line 639 of file usb_linux.c.

13.50.4.4 pthread_t udevthread

Definition at line 642 of file usb_linux.c.

13.50.4.5 pthread_t usbthread

Todo These two thread vasriables seem to be unused: usbtread, udevthread

Definition at line 642 of file usb_linux.c.

13.51 src/ckb-daemon/usb_mac.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "notify.h"
#include "usb.h"
```

Include dependency graph for usb_mac.c:

13.52 src/ckb-mviz/_kiss_fft_guts.h File Reference

```
#include "kiss_fft.h"
#include <limits.h>
```

Include dependency graph for _kiss_fft_guts.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct kiss_fft_state

Macros

- #define MAXFACTORS 32
- #define S_MUL(a, b) ((a)∗(b))
- #define C_MUL(m, a, b)
- #define C_FIXDIV(c, div) /∗ NOOP ∗/
- #define C_MULBYSCALAR(c, s)

- #define CHECK_OVERFLOW_OP(a, op, b) /∗ noop ∗/
- #define C_ADD(res, a, b)
- #define C_SUB(res, a, b)
- #define C_ADDTO(res, a)
- #define C_SUBFROM(res, a)
- #define KISS_FFT_COS(phase) (kiss_fft_scalar) cos(phase)
- #define KISS_FFT_SIN(phase) (kiss_fft_scalar) sin(phase)
- #define HALF_OF(x) ((x)∗.5)
- #define kf_cexp(x, phase)
- #define pcpx(c) fprintf(stderr,"%g + %gi\n",(double)((c)->r),(double)((c)->i))
- #define KISS_FFT_TMP_ALLOC(nbytes) KISS_FFT_MALLOC(nbytes)
- #define KISS_FFT_TMP_FREE(ptr) KISS_FFT_FREE(ptr)

13.52.1 Data Structure Documentation

13.52.1.1 struct kiss_fft_state

Definition at line 28 of file _kiss_fft_guts.h.

Collaboration diagram for kiss_fft_state:

Data Fields

int	factors[2 ∗32]	
int	inverse	
int	nfft	
kiss_fft_cpx	twiddles[1]	

13.52.2 Macro Definition Documentation

13.52.2.1 #define C_ADD(*res, a, b*)

Value:

```
do { \
        CHECK_OVERFLOW_OP((a).r,+,(b).r)\
        CHECK_OVERFLOW_OP((a).i,+,(b).i)\
        (res).r=(a).r+(b).r;  (res).i=(a).i+(b).i; \
    }while(0)
```

Definition at line 100 of file _kiss_fft_guts.h.

Referenced by kf_bfly3(), kf_bfly4(), kf_bfly5(), kiss_fftr(), and kiss_fftri().

13.52.2.2 #define C_ADDTO(*res, a*)

Value:

```
do { \
        CHECK_OVERFLOW_OP((res).r,+,(a).r)\
        CHECK_OVERFLOW_OP((res).i,+,(a).i)\
        (res).r += (a).r;  (res).i += (a).i;\
    }while(0)
```

Definition at line 112 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), and kf_bfly_generic().

13.52.2.3 #define C_FIXDIV(*c, div*) /∗ NOOP ∗/

Definition at line 90 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kf_bfly_generic(), kiss_fftr(), and kiss_fftri().

13.52.2.4 #define C_MUL(*m, a, b*)

Value:

```
do{ (m).r = (a).r*(b).r - (a).i*(b).i;\
        (m).i = (a).r*(b).i + (a).i*(b).r; }while(0)
```

Definition at line 87 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kf_bfly_generic(), kiss_fftr(), and kiss_fftri().

13.52.2.5 #define C_MULBYSCALAR(*c, s*)

Value:

```
do{ (c).r *= (s);\
        (c).i *= (s); }while(0)
```

Definition at line 91 of file _kiss_fft_guts.h.

Referenced by kf_bfly3().

13.52.2.6 #define C_SUB(*res, a, b*)

Value:

```
do { \
        CHECK_OVERFLOW_OP((a).r,-,(b).r)\
        CHECK_OVERFLOW_OP((a).i,-,(b).i)\
        (res).r=(a).r-(b).r;  (res).i=(a).i-(b).i; \
    }while(0)
```

Definition at line 106 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kiss_fftr(), and kiss_fftri().

13.52.2.7 #define C_SUBFROM(*res, a*)

Value:

```
do {\
        CHECK_OVERFLOW_OP((res).r,-,(a).r)\
        CHECK_OVERFLOW_OP((res).i,-,(a).i)\
        (res).r -= (a).r;  (res).i -= (a).i; \
    }while(0)
```

Definition at line 119 of file _kiss_fft_guts.h.

13.52.2.8 #define CHECK_OVERFLOW_OP(*a, op, b*) /∗ noop ∗/

Definition at line 97 of file _kiss_fft_guts.h.

Referenced by kiss_fftr().

13.52.2.9 #define HALF_OF(x) ((x)∗.5)

Definition at line 138 of file _kiss_fft_guts.h.

Referenced by kf_bfly3(), and kiss_fftr().

13.52.2.10 #define kf_cexp(x, phase)

Value:

```
do{ \
        (x)->r = KISS_FFT_COS(phase);\
        (x)->i = KISS_FFT_SIN(phase);\
    }while(0)
```

Definition at line 141 of file _kiss_fft_guts.h.

Referenced by kiss_fft_alloc(), and kiss_fftr_alloc().

13.52.2.11 #define KISS_FFT_COS(phase) (kiss_fft_scalar) cos(phase)

Definition at line 136 of file _kiss_fft_guts.h.

13.52.2.12 #define KISS_FFT_SIN(phase) (kiss_fft_scalar) sin(phase)

Definition at line 137 of file _kiss_fft_guts.h.

13.52.2.13 #define KISS_FFT_TMP_ALLOC(nbytes) KISS_FFT_MALLOC(nbytes)

Definition at line 162 of file _kiss_fft_guts.h.

Referenced by kf_bfly_generic(), and kiss_fft_stride().

13.52.2.14 #define KISS_FFT_TMP_FREE(ptr) KISS_FFT_FREE(ptr)

Definition at line 163 of file _kiss_fft_guts.h.

Referenced by kf_bfly_generic(), and kiss_fft_stride().

13.52.2.15 #define MAXFACTORS 32

Definition at line 22 of file _kiss_fft_guts.h.

13.52.2.16 #define pcpx(c) fprintf(stderr,"%g + %gi\n",(double)((c)->r),(double)((c)->i))

Definition at line 149 of file _kiss_fft_guts.h.

13.52.2.17 #define S_MUL(a, b) ((a)*(b))

Definition at line 86 of file _kiss_fft_guts.h.

Referenced by kf_bfly5().

13.53 src/ckb-mviz/kiss_fft.c File Reference

```
#include "_kiss_fft_guts.h"
```

Include dependency graph for kiss_fft.c:

Functions

- static void kf_bfly2 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m)
- static void kf_bfly4 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, const size_t m)
- static void kf_bfly3 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, size_t m)
- static void kf_bfly5 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m)
- static void kf_bfly_generic (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m, int p)
- static void kf_work (kiss_fft_cpx ∗Fout, const kiss_fft_cpx ∗f, const size_t fstride, int in_stride, int ∗factors, const kiss_fft_cfg st)
- static void kf_factor (int n, int ∗facbuf)
- kiss_fft_cfg kiss_fft_alloc (int nfft, int inverse_fft, void ∗mem, size_t ∗lenmem)
- void kiss_fft_stride (kiss_fft_cfg st, const kiss_fft_cpx ∗fin, kiss_fft_cpx ∗fout, int in_stride)
- void kiss_fft (kiss_fft_cfg cfg, const kiss_fft_cpx ∗fin, kiss_fft_cpx ∗fout)
- void kiss_fft_cleanup (void)
- int kiss_fft_next_fast_size (int n)

13.53.1 Function Documentation

13.53.1.1 static void kf_bfly2 (kiss_fft_cpx ∗ *Fout*, const size_t *fstride*, const kiss_fft_cfg *st*, int *m*) [static]

Definition at line 21 of file kiss_fft.c.

References C_ADDTO, C_FIXDIV, C_MUL, C_SUB, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
{
    kiss_fft_cpx * Fout2;
    kiss_fft_cpx * tw1 = st->twiddles;
    kiss_fft_cpx t;
    Fout2 = Fout + m;
    do{
```

```
        C_FIXDIV(*Fout,2); C_FIXDIV(*Fout2,2);

        C_MUL (t,  *Fout2 , *tw1);
        tw1 += fstride;
        C_SUB( *Fout2 ,  *Fout , t );
        C_ADDTO( *Fout ,  t );
        ++Fout2;
        ++Fout;
    }while (--m);
}
```

Here is the caller graph for this function:

13.53.1.2 static void kf_bfly3 (kiss_fft_cpx * *Fout*, const size_t *fstride*, const kiss_fft_cfg *st*, size_t *m*) [static]

Definition at line 92 of file kiss_fft.c.

References C_ADD, C_ADDTO, C_FIXDIV, C_MUL, C_MULBYSCALAR, C_SUB, HALF_OF, kiss_fft_cpx::i, kiss_fft_cpx::r, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
{
    size_t k=m;
    const size_t m2 = 2*m;
    kiss_fft_cpx *tw1,*tw2;
    kiss_fft_cpx scratch[5];
    kiss_fft_cpx epi3;
    epi3 = st->twiddles[fstride*m];

    tw1=tw2=st->twiddles;

    do{
        C_FIXDIV(*Fout,3); C_FIXDIV(Fout[m],3); C_FIXDIV(Fout[m2],3);

        C_MUL(scratch[1],Fout[m] , *tw1);
        C_MUL(scratch[2],Fout[m2] , *tw2);

        C_ADD(scratch[3],scratch[1],scratch[2]);
        C_SUB(scratch[0],scratch[1],scratch[2]);
        tw1 += fstride;
        tw2 += fstride*2;

        Fout[m].r = Fout->r - HALF_OF(scratch[3].r);
        Fout[m].i = Fout->i - HALF_OF(scratch[3].i);

        C_MULBYSCALAR( scratch[0] , epi3.i );

        C_ADDTO(*Fout,scratch[3]);

        Fout[m2].r = Fout[m].r + scratch[0].i;
        Fout[m2].i = Fout[m].i - scratch[0].r;

        Fout[m].r -= scratch[0].i;
        Fout[m].i += scratch[0].r;

        ++Fout;
    }while(--k);
}
```

Here is the caller graph for this function:

13.53.1.3 static void kf_bfly4 (kiss_fft_cpx * *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* const size_t *m*) [static]

Definition at line 44 of file kiss_fft.c.

References C_ADD, C_ADDTO, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft_cpx::r, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
{
    kiss_fft_cpx *tw1,*tw2,*tw3;
    kiss_fft_cpx scratch[6];
    size_t k=m;
    const size_t m2=2*m;
    const size_t m3=3*m;


    tw3 = tw2 = tw1 = st->twiddles;

    do {
        C_FIXDIV(*Fout,4); C_FIXDIV(Fout[m],4); C_FIXDIV(Fout[m2],4);
    C_FIXDIV(Fout[m3],4);

        C_MUL(scratch[0],Fout[m] , *tw1 );
        C_MUL(scratch[1],Fout[m2] , *tw2 );
        C_MUL(scratch[2],Fout[m3] , *tw3 );

        C_SUB( scratch[5] , *Fout, scratch[1] );
        C_ADDTO(*Fout, scratch[1]);
        C_ADD( scratch[3] , scratch[0] , scratch[2] );
        C_SUB( scratch[4] , scratch[0] , scratch[2] );
        C_SUB( Fout[m2], *Fout, scratch[3] );
        tw1 += fstride;
        tw2 += fstride*2;
        tw3 += fstride*3;
        C_ADDTO( *Fout , scratch[3] );

        if(st->inverse) {
            Fout[m].r = scratch[5].r - scratch[4].i;
            Fout[m].i = scratch[5].i + scratch[4].r;
            Fout[m3].r = scratch[5].r + scratch[4].i;
            Fout[m3].i = scratch[5].i - scratch[4].r;
        }else{
            Fout[m].r = scratch[5].r + scratch[4].i;
            Fout[m].i = scratch[5].i - scratch[4].r;
            Fout[m3].r = scratch[5].r - scratch[4].i;
            Fout[m3].i = scratch[5].i + scratch[4].r;
        }
        ++Fout;
    }while(--k);
}
```

Here is the caller graph for this function:

13.53.1.4 static void kf_bfly5 (kiss_fft_cpx * *Fout*, const size_t *fstride*, const kiss_fft_cfg *st*, int *m*) [static]

Definition at line 136 of file kiss_fft.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_cpx::r, S_MUL, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
{
    kiss_fft_cpx *Fout0,*Fout1,*Fout2,*Fout3,*Fout4;
    int u;
    kiss_fft_cpx scratch[13];
    kiss_fft_cpx * twiddles = st->twiddles;
    kiss_fft_cpx *tw;
    kiss_fft_cpx ya,yb;
    ya = twiddles[fstride*m];
    yb = twiddles[fstride*2*m];

    Fout0=Fout;
    Fout1=Fout0+m;
    Fout2=Fout0+2*m;
    Fout3=Fout0+3*m;
    Fout4=Fout0+4*m;

    tw=st->twiddles;
    for ( u=0; u<m; ++u ) {
        C_FIXDIV( *Fout0,5); C_FIXDIV( *Fout1,5); C_FIXDIV( *Fout2,5); C_FIXDIV( *Fout3,5); C_FIXDIV( *Fout4,5);
        scratch[0] = *Fout0;

        C_MUL(scratch[1] ,*Fout1, tw[u*fstride]);
        C_MUL(scratch[2] ,*Fout2, tw[2*u*fstride]);
        C_MUL(scratch[3] ,*Fout3, tw[3*u*fstride]);
        C_MUL(scratch[4] ,*Fout4, tw[4*u*fstride]);

        C_ADD( scratch[7],scratch[1],scratch[4]);
        C_SUB( scratch[10],scratch[1],scratch[4]);
        C_ADD( scratch[8],scratch[2],scratch[3]);
        C_SUB( scratch[9],scratch[2],scratch[3]);

        Fout0->r += scratch[7].r + scratch[8].r;
        Fout0->i += scratch[7].i + scratch[8].i;

        scratch[5].r = scratch[0].r + S_MUL(scratch[7].r,ya.r) + S_MUL(scratch[8].r,yb.r);
        scratch[5].i = scratch[0].i + S_MUL(scratch[7].i,ya.r) + S_MUL(scratch[8].i,yb.r);

        scratch[6].r =  S_MUL(scratch[10].i,ya.i) + S_MUL(scratch[9].i,yb.i);
        scratch[6].i = -S_MUL(scratch[10].r,ya.i) - S_MUL(scratch[9].r,yb.i);

        C_SUB(*Fout1,scratch[5],scratch[6]);
        C_ADD(*Fout4,scratch[5],scratch[6]);

        scratch[11].r = scratch[0].r + S_MUL(scratch[7].r,yb.r) + S_MUL(scratch[8].r,ya.r);
        scratch[11].i = scratch[0].i + S_MUL(scratch[7].i,yb.r) + S_MUL(scratch[8].i,ya.r);
        scratch[12].r = - S_MUL(scratch[10].i,yb.i) + S_MUL(scratch[9].i,ya.i);
```

```
        scratch[12].i = S_MUL(scratch[10].r,yb.i) - S_MUL(scratch[9].r,ya.i);

        C_ADD(*Fout2,scratch[11],scratch[12]);
        C_SUB(*Fout3,scratch[11],scratch[12]);

        ++Fout0;++Fout1;++Fout2;++Fout3;++Fout4;
    }
}
```

Here is the caller graph for this function:

13.53.1.5 static void kf_bfly_generic (kiss_fft_cpx * *Fout*, const size_t *fstride*, const kiss_fft_cfg *st*, int *m*, int *p*) [static]

Definition at line 198 of file kiss_fft.c.

References C_ADDTO, C_FIXDIV, C_MUL, KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, kiss_fft_state::nfft, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
{
    int u,k,q1,q;
    kiss_fft_cpx * twiddles = st->twiddles;
    kiss_fft_cpx t;
    int Norig = st->nfft;

    kiss_fft_cpx * scratch = (kiss_fft_cpx*)KISS_FFT_TMP_ALLOC(sizeof(kiss_fft_cpx)*p);

    for ( u=0; u<m; ++u ) {
        k=u;
        for ( q1=0 ; q1<p ; ++q1 ) {
            scratch[q1] = Fout[ k  ];
            C_FIXDIV(scratch[q1],p);
            k += m;
        }

        k=u;
        for ( q1=0 ; q1<p ; ++q1 ) {
            int twidx=0;
            Fout[ k ] = scratch[0];
            for (q=1;q<p;++q ) {
                twidx += fstride * k;
                if (twidx>=Norig) twidx-=Norig;
                C_MUL(t,scratch[q] , twiddles[twidx] );
                C_ADDTO( Fout[ k ] ,t);
            }
            k += m;
        }
    }
    KISS_FFT_TMP_FREE(scratch);
}
```

Here is the caller graph for this function:

13.53.1.6 static void kf_factor (int *n*, int * *facbuf*) [static]

Definition at line 309 of file kiss_fft.c.

Referenced by kiss_fft_alloc().

```
{
    int p=4;
    double floor_sqrt;
    floor_sqrt = floor( sqrt((double)n) );

    /*factor out powers of 4, powers of 2, then any remaining primes */
    do {
        while (n % p) {
            switch (p) {
                case 4: p = 2; break;
                case 2: p = 3; break;
                default: p += 2; break;
            }
            if (p > floor_sqrt)
                p = n;          /* no more factors, skip to end */
        }
        n /= p;
        *facbuf++ = p;
        *facbuf++ = n;
    } while (n > 1);
}
```

Here is the caller graph for this function:

13.53.1.7 static void kf_work (kiss_fft_cpx * *Fout*, const kiss_fft_cpx * *f*, const size_t *fstride*, int *in_stride*, int * *factors*, const kiss_fft_cfg *st*) [static]

Definition at line 238 of file kiss_fft.c.

References kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), and kf_bfly_generic().

Referenced by kiss_fft_stride().

```
{
```

```
    kiss_fft_cpx * Fout_beg=Fout;
    const int p=*factors++; /* the radix  */
    const int m=*factors++; /* stage's fft length/p */
    const kiss_fft_cpx * Fout_end = Fout + p*m;

#ifdef _OPENMP
    // use openmp extensions at the
    // top-level (not recursive)
    if (fstride==1 && p<=5)
    {
        int k;

        // execute the p different work units in different threads
#       pragma omp parallel for
        for (k=0;k<p;++k)
            kf_work( Fout +k*m, f+ fstride*in_stride*k,fstride*p,in_stride,factors,st);
        // all threads have joined by this point

        switch (p) {
            case 2: kf_bfly2(Fout,fstride,st,m); break;
            case 3: kf_bfly3(Fout,fstride,st,m); break;
            case 4: kf_bfly4(Fout,fstride,st,m); break;
            case 5: kf_bfly5(Fout,fstride,st,m); break;
            default: kf_bfly_generic(Fout,fstride,st,m,p); break;
        }
        return;
    }
#endif

    if (m==1) {
        do{
            *Fout = *f;
            f += fstride*in_stride;
        }while(++Fout != Fout_end );
    }else{
        do{
            // recursive call:
            // DFT of size m*p performed by doing
            // p instances of smaller DFTs of size m,
            // each one takes a decimated version of the input
            kf_work( Fout , f, fstride*p, in_stride, factors,st);
            f += fstride*in_stride;
        }while( (Fout += m) != Fout_end );
    }

    Fout=Fout_beg;

    // recombine the p smaller DFTs
    switch (p) {
        case 2: kf_bfly2(Fout,fstride,st,m); break;
        case 3: kf_bfly3(Fout,fstride,st,m); break;
        case 4: kf_bfly4(Fout,fstride,st,m); break;
        case 5: kf_bfly5(Fout,fstride,st,m); break;
        default: kf_bfly_generic(Fout,fstride,st,m,p); break;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.53.1.8 void kiss_fft (kiss_fft_cfg *cfg*, const kiss_fft_cpx ∗ *fin*, kiss_fft_cpx ∗ *fout*)

Definition at line 385 of file kiss_fft.c.

References kiss_fft_stride().

Referenced by getFreqDec(), kiss_fftr(), and kiss_fftri().

```
{
    kiss_fft_stride(cfg,fin,fout,1);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.53.1.9 kiss_fft_cfg kiss_fft_alloc (int *nfft,* int *inverse_fft,* void * *mem,* size_t * *lenmem*)

Definition at line 339 of file kiss_fft.c.

References kiss_fft_state::factors, kiss_fft_state::inverse, kf_cexp, kf_factor(), KISS_FFT_MALLOC, kiss_fft_state::nfft, phase, and kiss_fft_state::twiddles.

Referenced by getFreqDec(), and kiss_fftr_alloc().

```
{
    kiss_fft_cfg st=NULL;
    size_t memneeded = sizeof(struct kiss_fft_state)
        + sizeof(kiss_fft_cpx)*(nfft-1); /* twiddle factors*/

    if ( lenmem==NULL ) {
        st = ( kiss_fft_cfg)KISS_FFT_MALLOC( memneeded );
    }else{
        if (mem != NULL && *lenmem >= memneeded)
            st = (kiss_fft_cfg)mem;
        *lenmem = memneeded;
    }
    if (st) {
        int i;
```

```
        st->nfft=nfft;
        st->inverse = inverse_fft;

        for (i=0;i<nfft;++i) {
            const double pi=3.14159265358979323846264338327950288419716939937510582097494 4;
            double phase = -2*pi*i / nfft;
            if (st->inverse)
                phase *= -1;
            kf_cexp(st->twiddles+i, phase );
        }

        kf_factor(nfft,st->factors);
    }
    return st;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.53.1.10 void kiss_fft_cleanup (void)

Definition at line 391 of file kiss_fft.c.

Referenced by getFreqDec().

```
{
    // nothing needed any more
}
```

Here is the caller graph for this function:

13.53.1.11 int kiss_fft_next_fast_size (int *n*)

Definition at line 396 of file kiss_fft.c.

```
{
    while(1) {
        int m=n;
        while ( (m%2) == 0 ) m/=2;
        while ( (m%3) == 0 ) m/=3;
        while ( (m%5) == 0 ) m/=5;
        if (m<=1)
            break; /* n is completely factorable by twos, threes, and fives */
        n++;
    }
    return n;
}
```

13.53.1.12 void kiss_fft_stride (kiss_fft_cfg *st*, const kiss_fft_cpx ∗ *fin*, kiss_fft_cpx ∗ *fout*, int *in_stride*)

Definition at line 371 of file kiss_fft.c.

References kiss_fft_state::factors, kf_work(), KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, and kiss_fft_state::nfft.

Referenced by kiss_fft().

```
{
    if (fin == fout) {
        //NOTE: this is not really an in-place FFT algorithm.
        //It just performs an out-of-place FFT into a temp buffer
        kiss_fft_cpx * tmpbuf = (kiss_fft_cpx*)
    KISS_FFT_TMP_ALLOC( sizeof(kiss_fft_cpx)*st->nfft);
        kf_work(tmpbuf,fin,1,in_stride, st->factors,st);
        memcpy(fout,tmpbuf,sizeof(kiss_fft_cpx)*st->nfft);
        KISS_FFT_TMP_FREE(tmpbuf);
    }else{
        kf_work( fout, fin, 1,in_stride, st->factors,st );
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.54 src/ckb-mviz/kiss_fft.h File Reference

```
#include <stdlib.h>
#include <stdio.h>
#include <math.h>
#include <string.h>
```

Include dependency graph for kiss_fft.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct kiss_fft_cpx

Macros

- #define KISS_FFT_MALLOC malloc
- #define KISS_FFT_FREE free
- #define kiss_fft_scalar float
- #define kiss_fft_free free
- #define kiss_fftr_next_fast_size_real(n) (kiss_fft_next_fast_size(((n)+1)>>1)<<1)

Typedefs

- typedef struct kiss_fft_state * kiss_fft_cfg

Functions

- kiss_fft_cfg kiss_fft_alloc (int nfft, int inverse_fft, void *mem, size_t *lenmem)

- void kiss_fft (kiss_fft_cfg cfg, const kiss_fft_cpx *fin, kiss_fft_cpx *fout)
- void kiss_fft_stride (kiss_fft_cfg cfg, const kiss_fft_cpx *fin, kiss_fft_cpx *fout, int fin_stride)
- void kiss_fft_cleanup (void)
- int kiss_fft_next_fast_size (int n)

13.54.1 Data Structure Documentation

13.54.1.1 struct kiss_fft_cpx

Definition at line 51 of file kiss_fft.h.

Collaboration diagram for kiss_fft_cpx:

Data Fields

float	i	
float	r	

13.54.2 Macro Definition Documentation

13.54.2.1 #define KISS_FFT_FREE free

Definition at line 33 of file kiss_fft.h.

13.54.2.2 #define kiss_fft_free free

Definition at line 102 of file kiss_fft.h.

Referenced by getFreqDec().

13.54.2.3 #define KISS_FFT_MALLOC malloc

Definition at line 32 of file kiss_fft.h.

Referenced by kiss_fft_alloc(), and kiss_fftr_alloc().

13.54.2.4 #define kiss_fft_scalar float

Definition at line 47 of file kiss_fft.h.

13.54.2.5 #define kiss_fftr_next_fast_size_real(*n*) (kiss_fft_next_fast_size(((n)+1)>>1)<<1)

Definition at line 117 of file kiss_fft.h.

13.54.3 Typedef Documentation

13.54.3.1 typedef struct kiss_fft_state* kiss_fft_cfg

Definition at line 56 of file kiss_fft.h.

13.54.4 Function Documentation

13.54.4.1 void kiss_fft (kiss_fft_cfg *cfg*, const kiss_fft_cpx * *fin*, kiss_fft_cpx * *fout*)

Definition at line 385 of file kiss_fft.c.

References kiss_fft_stride().

Referenced by getFreqDec(), kiss_fftr(), and kiss_fftri().

```
{
    kiss_fft_stride(cfg,fin,fout,1);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.54.4.2 kiss_fft_cfg kiss_fft_alloc (int *nfft,* int *inverse_fft,* void * *mem,* size_t * *lenmem*)

Definition at line 339 of file kiss_fft.c.

References kiss_fft_state::factors, kiss_fft_state::inverse, kf_cexp, kf_factor(), KISS_FFT_MALLOC, kiss_fft_state::nfft, phase, and kiss_fft_state::twiddles.

Referenced by getFreqDec(), and kiss_fftr_alloc().

```
{
    kiss_fft_cfg st=NULL;
    size_t memneeded = sizeof(struct kiss_fft_state)
        + sizeof(kiss_fft_cpx)*(nfft-1); /* twiddle factors*/

    if ( lenmem==NULL ) {
        st = ( kiss_fft_cfg)KISS_FFT_MALLOC( memneeded );
    }else{
        if (mem != NULL && *lenmem >= memneeded)
            st = (kiss_fft_cfg)mem;
        *lenmem = memneeded;
    }
    if (st) {
        int i;
        st->nfft=nfft;
        st->inverse = inverse_fft;

        for (i=0;i<nfft;++i) {
            const double pi=3.14159265358979323846264338327950288419716939937510582097494 4;
            double phase = -2*pi*i / nfft;
            if (st->inverse)
                phase *= -1;
            kf_cexp(st->twiddles+i, phase );
        }

        kf_factor(nfft,st->factors);
    }
    return st;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.54.4.3 void kiss_fft_cleanup (void)

Definition at line 391 of file kiss_fft.c.

Referenced by getFreqDec().

```
{
    // nothing needed any more
}
```

Here is the caller graph for this function:

13.54.4.4 int kiss_fft_next_fast_size (int *n*)

Definition at line 396 of file kiss_fft.c.

```
{
    while(1) {
        int m=n;
```

```
        while ( (m%2) == 0 ) m/=2;
        while ( (m%3) == 0 ) m/=3;
        while ( (m%5) == 0 ) m/=5;
        if (m<=1)
            break; /* n is completely factorable by twos, threes, and fives */
        n++;
    }
    return n;
}
```

13.54.4.5 void kiss_fft_stride (kiss_fft_cfg *cfg*, const kiss_fft_cpx ∗ *fin*, kiss_fft_cpx ∗ *fout*, int *fin_stride*)

Definition at line 371 of file kiss_fft.c.

References kiss_fft_state::factors, kf_work(), KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, and kiss_fft_state::nfft.

Referenced by kiss_fft().

```
{
    if (fin == fout) {
        //NOTE: this is not really an in-place FFT algorithm.
        //It just performs an out-of-place FFT into a temp buffer
        kiss_fft_cpx * tmpbuf = (kiss_fft_cpx*)
    KISS_FFT_TMP_ALLOC( sizeof(kiss_fft_cpx)*st->nfft);
        kf_work(tmpbuf,fin,1,in_stride, st->factors,st);
        memcpy(fout,tmpbuf,sizeof(kiss_fft_cpx)*st->nfft);
        KISS_FFT_TMP_FREE(tmpbuf);
    }else{
        kf_work( fout, fin, 1,in_stride, st->factors,st );
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.55 src/ckb-mviz/kiss_fftr.c File Reference

```
#include "kiss_fftr.h"
#include "_kiss_fft_guts.h"
```

Include dependency graph for kiss_fftr.c:

Data Structures

- struct kiss_fftr_state

Functions

- kiss_fftr_cfg kiss_fftr_alloc (int nfft, int inverse_fft, void ∗mem, size_t ∗lenmem)
- void kiss_fftr (kiss_fftr_cfg st, const float ∗timedata, kiss_fft_cpx ∗freqdata)
- void kiss_fftri (kiss_fftr_cfg st, const kiss_fft_cpx ∗freqdata, float ∗timedata)

13.55.1 Data Structure Documentation

13.55.1.1 struct kiss_fftr_state

Definition at line 18 of file kiss_fftr.c.

Collaboration diagram for kiss_fftr_state:

Data Fields

kiss_fft_cfg	substate	
kiss_fft_cpx *	super_twiddles	

kiss_fft_cpx *	tmpbuf	

13.55.2 Function Documentation

13.55.2.1 void kiss_fftr (kiss_fftr_cfg *st*, const float * *timedata*, kiss_fft_cpx * *freqdata*)

Definition at line 67 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, CHECK_OVERFLOW_OP, HALF_OF, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
68 {
69     /* input buffer timedata is stored row-wise */
70     int k,ncfft;
71     kiss_fft_cpx fpnk,fpk,f1k,f2k,tw,tdc;
72
73     if ( st->substate->inverse) {
74         fprintf(stderr,"kiss fft usage error: improper alloc\n");
75         exit(1);
76     }
77
78     ncfft = st->substate->nfft;
79
80     /*perform the parallel fft of two real signals packed in real,imag*/
81     kiss_fft( st->substate , (const kiss_fft_cpx*)timedata, st->
    tmpbuf );
82     /* The real part of the DC element of the frequency spectrum in st->tmpbuf
83      * contains the sum of the even-numbered elements of the input time sequence
84      * The imag part is the sum of the odd-numbered elements
85      *
86      * The sum of tdc.r and tdc.i is the sum of the input time sequence.
87      *      yielding DC of input time sequence
88      * The difference of tdc.r - tdc.i is the sum of the input (dot product) [1,-1,1,-1...
89      *      yielding Nyquist bin of input time sequence
90      */
91
92     tdc.r = st->tmpbuf[0].r;
93     tdc.i = st->tmpbuf[0].i;
94     C_FIXDIV(tdc,2);
95     CHECK_OVERFLOW_OP(tdc.r ,+, tdc.i);
96     CHECK_OVERFLOW_OP(tdc.r ,-, tdc.i);
97     freqdata[0].r = tdc.r + tdc.i;
98     freqdata[ncfft].r = tdc.r - tdc.i;
99 #ifdef USE_SIMD
100     freqdata[ncfft].i = freqdata[0].i = _mm_set1_ps(0);
101 #else
102     freqdata[ncfft].i = freqdata[0].i = 0;
103 #endif
104
105     for ( k=1;k <= ncfft/2 ; ++k ) {
106         fpk    = st->tmpbuf[k];
107         fpnk.r =   st->tmpbuf[ncfft-k].r;
108         fpnk.i = - st->tmpbuf[ncfft-k].i;
109         C_FIXDIV(fpk,2);
110         C_FIXDIV(fpnk,2);
111
112         C_ADD( f1k, fpk , fpnk );
113         C_SUB( f2k, fpk , fpnk );
114         C_MUL( tw , f2k , st->super_twiddles[k-1]);
115
116         freqdata[k].r = HALF_OF(f1k.r + tw.r);
117         freqdata[k].i = HALF_OF(f1k.i + tw.i);
118         freqdata[ncfft-k].r = HALF_OF(f1k.r - tw.r);
119         freqdata[ncfft-k].i = HALF_OF(tw.i - f1k.i);
120     }
121 }
```

Here is the call graph for this function:

13.55.2.2 kiss_fftr_cfg kiss_fftr_alloc (int *nfft*, int *inverse_fft*, void * *mem*, size_t * *lenmem*)

Definition at line 27 of file kiss_fftr.c.

References kf_cexp, kiss_fft_alloc(), KISS_FFT_MALLOC, phase, kiss_fftr_state::substate, kiss_fftr_state::super_-twiddles, and kiss_fftr_state::tmpbuf.

```
{
    int i;
    kiss_fftr_cfg st = NULL;
    size_t subsize, memneeded;

    if (nfft & 1) {
        fprintf(stderr,"Real FFT optimization must be even.\n");
        return NULL;
    }
    nfft >>= 1;

    kiss_fft_alloc (nfft, inverse_fft, NULL, &subsize);
    memneeded = sizeof(struct kiss_fftr_state) + subsize + sizeof(
   kiss_fft_cpx) * ( nfft * 3 / 2);

    if (lenmem == NULL) {
        st = (kiss_fftr_cfg) KISS_FFT_MALLOC (memneeded);
    } else {
        if (*lenmem >= memneeded)
            st = (kiss_fftr_cfg) mem;
        *lenmem = memneeded;
    }
    if (!st)
        return NULL;

    st->substate = (kiss_fft_cfg) (st + 1); /*just beyond kiss_fftr_state struct */
    st->tmpbuf = (kiss_fft_cpx *) (((char *) st->substate) + subsize);
    st->super_twiddles = st->tmpbuf + nfft;
    kiss_fft_alloc(nfft, inverse_fft, st->substate, &subsize);

    for (i = 0; i < nfft/2; ++i) {
        double phase =
            -3.141592653589793238462643383 27 * ((double) (i+1) / nfft + .5);
        if (inverse_fft)
            phase *= -1;
        kf_cexp (st->super_twiddles+i,phase);
    }
    return st;
}
```

Here is the call graph for this function:

13.55.2.3 void kiss_fftri (kiss_fftr_cfg *st*, const kiss_fft_cpx * *freqdata*, float * *timedata*)

Definition at line 123 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
124 {
125     /* input buffer timedata is stored row-wise */
126     int k, ncfft;
127
128     if (st->substate->inverse == 0) {
129         fprintf (stderr, "kiss fft usage error: improper alloc\n");
130         exit (1);
131     }
132
133     ncfft = st->substate->nfft;
134
135     st->tmpbuf[0].r = freqdata[0].r + freqdata[ncfft].r;
136     st->tmpbuf[0].i = freqdata[0].r - freqdata[ncfft].r;
137     C_FIXDIV(st->tmpbuf[0],2);
138
139     for (k = 1; k <= ncfft / 2; ++k) {
140         kiss_fft_cpx fk, fnkc, fek, fok, tmp;
141         fk = freqdata[k];
142         fnkc.r = freqdata[ncfft - k].r;
143         fnkc.i = -freqdata[ncfft - k].i;
144         C_FIXDIV( fk , 2 );
145         C_FIXDIV( fnkc , 2 );
146
147         C_ADD (fek, fk, fnkc);
148         C_SUB (tmp, fk, fnkc);
149         C_MUL (fok, tmp, st->super_twiddles[k-1]);
150         C_ADD (st->tmpbuf[k],     fek, fok);
151         C_SUB (st->tmpbuf[ncfft - k], fek, fok);
152 #ifdef USE_SIMD
153         st->tmpbuf[ncfft - k].i *= _mm_set1_ps(-1.0);
154 #else
155         st->tmpbuf[ncfft - k].i *= -1;
156 #endif
157     }
158     kiss_fft (st->substate, st->tmpbuf, (kiss_fft_cpx *) timedata);
159 }
```

Here is the call graph for this function:

13.56 src/ckb-mviz/kiss_fftr.h File Reference

```
#include "kiss_fft.h"
```

Include dependency graph for kiss_fftr.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define kiss_fftr_free free

Typedefs

- typedef struct kiss_fftr_state ∗ kiss_fftr_cfg

Functions

- kiss_fftr_cfg kiss_fftr_alloc (int nfft, int inverse_fft, void ∗mem, size_t ∗lenmem)
- void kiss_fftr (kiss_fftr_cfg cfg, const float ∗timedata, kiss_fft_cpx ∗freqdata)
- void kiss_fftri (kiss_fftr_cfg cfg, const kiss_fft_cpx ∗freqdata, float ∗timedata)

13.56.1 Macro Definition Documentation

13.56.1.1 #define kiss_fftr_free free

Definition at line 41 of file kiss_fftr.h.

13.56.2 Typedef Documentation

13.56.2.1 typedef struct kiss_fftr_state∗ kiss_fftr_cfg

Definition at line 18 of file kiss_fftr.h.

13.56.3 Function Documentation

13.56.3.1 void kiss_fftr (kiss_fftr_cfg *cfg,* const float ∗ *timedata,* kiss_fft_cpx ∗ *freqdata*)

Definition at line 67 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, CHECK_OVERFLOW_OP, HALF_OF, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
{
    /* input buffer timedata is stored row-wise */
    int k,ncfft;
    kiss_fft_cpx fpnk,fpk,f1k,f2k,tw,tdc;

    if ( st->substate->inverse) {
        fprintf(stderr,"kiss fft usage error: improper alloc\n");
        exit(1);
    }

    ncfft = st->substate->nfft;

    /*perform the parallel fft of two real signals packed in real,imag*/
    kiss_fft( st->substate , (const kiss_fft_cpx*)timedata, st->tmpbuf );
    /* The real part of the DC element of the frequency spectrum in st->tmpbuf
     * contains the sum of the even-numbered elements of the input time sequence
     * The imag part is the sum of the odd-numbered elements
     *
     * The sum of tdc.r and tdc.i is the sum of the input time sequence.
     *      yielding DC of input time sequence
     * The difference of tdc.r - tdc.i is the sum of the input (dot product) [1,-1,1,-1...
     *      yielding Nyquist bin of input time sequence
     */

    tdc.r = st->tmpbuf[0].r;
    tdc.i = st->tmpbuf[0].i;
    C_FIXDIV(tdc,2);
    CHECK_OVERFLOW_OP(tdc.r ,+, tdc.i);
    CHECK_OVERFLOW_OP(tdc.r ,-, tdc.i);
    freqdata[0].r = tdc.r + tdc.i;
    freqdata[ncfft].r = tdc.r - tdc.i;
#ifdef USE_SIMD
    freqdata[ncfft].i = freqdata[0].i = _mm_set1_ps(0);
#else
    freqdata[ncfft].i = freqdata[0].i = 0;
#endif

    for ( k=1;k <= ncfft/2 ; ++k ) {
        fpk    = st->tmpbuf[k];
        fpnk.r =   st->tmpbuf[ncfft-k].r;
        fpnk.i = - st->tmpbuf[ncfft-k].i;
        C_FIXDIV(fpk,2);
        C_FIXDIV(fpnk,2);

        C_ADD( f1k, fpk , fpnk );
        C_SUB( f2k, fpk , fpnk );
        C_MUL( tw , f2k , st->super_twiddles[k-1]);

        freqdata[k].r = HALF_OF(f1k.r + tw.r);
        freqdata[k].i = HALF_OF(f1k.i + tw.i);
        freqdata[ncfft-k].r = HALF_OF(f1k.r - tw.r);
        freqdata[ncfft-k].i = HALF_OF(tw.i - f1k.i);
    }
}
```

Here is the call graph for this function:

13.56.3.2 kiss_fftr_cfg kiss_fftr_alloc (int *nfft*, int *inverse_fft*, void * *mem*, size_t * *lenmem*)

Definition at line 27 of file kiss_fftr.c.

References kf_cexp, kiss_fft_alloc(), KISS_FFT_MALLOC, phase, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
28 {
29     int i;
30     kiss_fftr_cfg st = NULL;
31     size_t subsize, memneeded;
32
33     if (nfft & 1) {
34         fprintf(stderr,"Real FFT optimization must be even.\n");
35         return NULL;
36     }
37     nfft >>= 1;
38
39     kiss_fft_alloc (nfft, inverse_fft, NULL, &subsize);
40     memneeded = sizeof(struct kiss_fftr_state) + subsize + sizeof(
      kiss_fft_cpx) * ( nfft * 3 / 2);
41
42     if (lenmem == NULL) {
43         st = (kiss_fftr_cfg) KISS_FFT_MALLOC (memneeded);
44     } else {
45         if (*lenmem >= memneeded)
46             st = (kiss_fftr_cfg) mem;
47         *lenmem = memneeded;
48     }
49     if (!st)
50         return NULL;
51
52     st->substate = (kiss_fft_cfg) (st + 1); /*just beyond kiss_fftr_state struct */
53     st->tmpbuf = (kiss_fft_cpx *) (((char *) st->substate) + subsize);
54     st->super_twiddles = st->tmpbuf + nfft;
55     kiss_fft_alloc(nfft, inverse_fft, st->substate, &subsize);
56
57     for (i = 0; i < nfft/2; ++i) {
58         double phase =
59             -3.14159265358979323846264338327 * ((double) (i+1) / nfft + .5);
60         if (inverse_fft)
61             phase *= -1;
62         kf_cexp (st->super_twiddles+i,phase);
63     }
64     return st;
65 }
```

Here is the call graph for this function:

13.56.3.3 void kiss_fftri (kiss_fftr_cfg *cfg*, const kiss_fft_cpx * *freqdata*, float * *timedata*)

Definition at line 123 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
124 {
125     /* input buffer timedata is stored row-wise */
126     int k, ncfft;
127
128     if (st->substate->inverse == 0) {
129         fprintf (stderr, "kiss fft usage error: improper alloc\n");
```

```
        exit (1);
    }

    ncfft = st->substate->nfft;

    st->tmpbuf[0].r = freqdata[0].r + freqdata[ncfft].r;
    st->tmpbuf[0].i = freqdata[0].r - freqdata[ncfft].r;
    C_FIXDIV(st->tmpbuf[0],2);

    for (k = 1; k <= ncfft / 2; ++k) {
        kiss_fft_cpx fk, fnkc, fek, fok, tmp;
        fk = freqdata[k];
        fnkc.r = freqdata[ncfft - k].r;
        fnkc.i = -freqdata[ncfft - k].i;
        C_FIXDIV( fk , 2 );
        C_FIXDIV( fnkc , 2 );

        C_ADD (fek, fk, fnkc);
        C_SUB (tmp, fk, fnkc);
        C_MUL (fok, tmp, st->super_twiddles[k-1]);
        C_ADD (st->tmpbuf[k],     fek, fok);
        C_SUB (st->tmpbuf[ncfft - k], fek, fok);
#ifdef USE_SIMD
        st->tmpbuf[ncfft - k].i *= _mm_set1_ps(-1.0);
#else
        st->tmpbuf[ncfft - k].i *= -1;
#endif
    }
    kiss_fft (st->substate, st->tmpbuf, (kiss_fft_cpx *) timedata);
}
```

Here is the call graph for this function:

13.57 src/ckb/animadddialog.cpp File Reference

```
#include "animadddialog.h"
#include "ui_animadddialog.h"
```

Include dependency graph for animadddialog.cpp:

13.58 src/ckb/animadddialog.h File Reference

```
#include <QDialog>
#include "animscript.h"
#include "kblight.h"
```

Include dependency graph for animadddialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class AnimAddDialog

Namespaces

- Ui

13.59 src/ckb/animscript.cpp File Reference

```
#include <cmath>
```

```
#include <QApplication>
#include <QDateTime>
#include <QDebug>
#include <QDir>
#include <QUrl>
#include "animscript.h"
```

Include dependency graph for animscript.cpp:

Functions

- QString urlParam (const QString &param)

Variables

- static const double ONE_DAY = 24. ∗ 60. ∗ 60.

13.59.1 Function Documentation

13.59.1.1 QString urlParam (const QString & *param*) [inline]

Definition at line 71 of file animscript.cpp.

Referenced by AnimScript::load().

```
71                                          {
72     return QUrl::fromPercentEncoding(param.trimmed().toLatin1()).trimmed();
73 }
```

Here is the caller graph for this function:

13.59.2 Variable Documentation

13.59.2.1 const double ONE_DAY = 24. ∗ 60. ∗ 60. [static]

Definition at line 75 of file animscript.cpp.

Referenced by AnimScript::load().

13.60 src/ckb/animscript.h File Reference

```
#include <QHash>
#include <QObject>
#include <QMap>
#include <QProcess>
#include <QUuid>
#include <QVariant>
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for animscript.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class AnimScript
- struct AnimScript::Param

13.60.1 Data Structure Documentation

13.60.1.1 struct AnimScript::Param

Definition at line 21 of file animscript.h.

Collaboration diagram for AnimScript::Param:

Data Fields

	Type	

Data Fields

QVariant	defaultValue	
QVariant	maximum	
QVariant	minimum	
QString	name	
QString	postfix	
QString	prefix	
Type	type	

13.61 src/ckb/animsettingdialog.cpp File Reference

```
#include <cstdio>
#include <QDial>
#include <QDoubleSpinBox>
#include <QLineEdit>
#include <QComboBox>
#include "animsettingdialog.h"
#include "ui_animsettingdialog.h"
#include "colorbutton.h"
#include "gradientbutton.h"
```

Include dependency graph for animsettingdialog.cpp:

Functions

- static int angleFlip (int angle)

13.61.1 Function Documentation

13.61.1.1 static int angleFlip (int *angle*) [inline], [static]

Definition at line 12 of file animsettingdialog.cpp.

References angle.

Referenced by AnimSettingDialog::angleDialChanged(), AnimSettingDialog::angleSpinnerChanged(), AnimSettingDialog::AnimSettingDialog(), and AnimSettingDialog::updateParam().

```
12                                          {
13     if(angle <= 180)
14         return 180 - angle;
15     else
16        return 360 - (angle - 180);
17 }
```

Here is the caller graph for this function:

13.62 src/ckb/animsettingdialog.h File Reference

```
#include <QCheckBox>
#include <QDialog>
#include <QFrame>
#include <QSignalMapper>
#include <QSpinBox>
#include "kbanim.h"
```

Include dependency graph for animsettingdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class AnimSettingDialog

Namespaces

- Ui

13.63 src/ckb/autorun.cpp File Reference

```
#include <QApplication>
#include <QDir>
#include <QSettings>
#include <QStandardPaths>
#include "autorun.h"
#include "ckbsettings.h"
```

Include dependency graph for autorun.cpp:

Variables

- static const QString settingPath = "Program/DidLoginItem"

13.63.1 Variable Documentation

13.63.1.1 const QString settingPath = "Program/DidLoginItem" [static]

Definition at line 18 of file autorun.cpp.

13.64 src/ckb/autorun.h File Reference

```
#include <QObject>
```

Include dependency graph for autorun.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class AutoRun

13.65 src/ckb/ckb-anim.h File Reference

```
#include <ctype.h>
#include <math.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
```

Include dependency graph for ckb-anim.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct ckb_key
- struct ckb_runctx
- struct ckb_gradient

Macros

- #define M_PI 3.14159265358979323846
- #define TRUE 1
- #define FALSE 0
- #define CKB_DOWN 1
- #define CKB_UP 0
- #define CKB_CONTAINER(macro) do { macro } while(0)
- #define CKB_GUID(guid) CKB_CONTAINER(printf("guid "); printurl(guid); printf("\n");)
- #define CKB_NAME(name) CKB_CONTAINER(printf("name "); printurl(name); printf("\n");)
- #define CKB_VERSION(version) CKB_CONTAINER(printf("version "); printurl(version); printf("\n");)
- #define CKB_COPYRIGHT(year, author) CKB_CONTAINER(printf("author "); printurl(author); printf("\nyear %s\n", year);)
- #define CKB_LICENSE(license) CKB_CONTAINER(printf("license "); printurl(license); printf("\n");)
- #define CKB_DESCRIPTION(description) CKB_CONTAINER(printf("description "); printurl(description); printf("\n");)
- #define CKB_PARAM(type, name, prefix, postfix, extra) CKB_CONTAINER(printf("param %s %s ", type, name); printurl(prefix); printf(" "); printurl(postfix); printf(" "); extra; printf("\n");)
- #define CKB_PARAM_LONG(name, prefix, postfix, default, min, max) CKB_PARAM("long", name, prefix, postfix, printf("%ld %ld %ld", (long)(default), (long)(min), (long)(max)))
- #define CKB_PARAM_DOUBLE(name, prefix, postfix, default, min, max) CKB_PARAM("double", name, prefix, postfix, printf("%lf %lf %lf", (double)(default), (double)(min), (double)(max)))
- #define CKB_PARAM_BOOL(name, text, default) CKB_PARAM("bool", name, text, "", printf((default) ? "1" : "0"))

- #define CKB_PARAM_RGB(name, prefix, postfix, r, g, b) CKB_PARAM("rgb", name, prefix, postfix, printf("%02x%02x%02x", (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))
- #define CKB_PARAM_ARGB(name, prefix, postfix, a, r, g, b) CKB_PARAM("argb", name, prefix, postfix, printf("%02x%02x%02x%02x", (unsigned char)(a), (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))
- #define CKB_PARAM_GRADIENT(name, prefix, postfix, default) CKB_PARAM("gradient", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_AGRADIENT(name, prefix, postfix, default) CKB_PARAM("agradient", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_ANGLE(name, prefix, postfix, default) CKB_PARAM("angle", name, prefix, postfix, printf("%ld", (long)(default)))
- #define CKB_PARAM_STRING(name, prefix, postfix, default) CKB_PARAM("string", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_LABEL(name, text) CKB_PARAM("label", name, text, "",)
- #define CKB_PRESET_START(name) CKB_CONTAINER(printf("preset "); printurl(name);)
- #define CKB_PRESET_PARAM(name, value) CKB_CONTAINER(printf(" %s=", name); printurl(value);)
- #define CKB_PRESET_END CKB_CONTAINER(printf("\n");)
- #define CKB_KP_NONE "none"
- #define CKB_KP_NAME "name"
- #define CKB_KP_POSITION "position"
- #define CKB_KPMODE(mode) CKB_CONTAINER(printf("kpmode %s\n", mode);)
- #define CKB_TIME_DURATION "duration"
- #define CKB_TIME_ABSOLUTE "absolute"
- #define CKB_TIMEMODE(mode) CKB_CONTAINER(printf("time %s\n", mode);)
- #define CKB_REPEAT(enable) CKB_CONTAINER(printf("repeat %s\n", (enable) ? "on" : "off");)
- #define CKB_PREEMPT(enable) CKB_CONTAINER(printf("preempt %s\n", (enable) ? "on" : "off");)
- #define CKB_LIVEPARAMS(enable) CKB_CONTAINER(printf("parammode %s\n", (enable) ? "live" : "static");)
- #define CKB_PARSE_LONG(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)
- #define CKB_PARSE_DOUBLE(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%lf", value_ptr) == 1)
- #define CKB_PARSE_BOOL(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%u", value_ptr) == 1)
- #define CKB_PARSE_RGB(param_name, r_ptr, g_ptr, b_ptr) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx", r_ptr, g_ptr, b_ptr) == 3)
- #define CKB_PARSE_ARGB(param_name, a_ptr, r_ptr, g_ptr, b_ptr) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx%2hhx", a_ptr, r_ptr, g_ptr, b_ptr) == 4)
- #define CKB_PARSE_GRADIENT(param_name, gradient_ptr) if(!strcmp(name, param_name) && ckb_scan_grad(value, gradient_ptr, 0))
- #define CKB_PARSE_AGRADIENT(param_name, gradient_ptr) if(!strcmp(name, param_name) && ckb_scan_grad(value, gradient_ptr, 1))
- #define CKB_PARSE_ANGLE(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)
- #define CKB_PARSE_STRING(param_name) if(!strcmp(name, param_name))
- #define CKB_REAL_ANGLE(angle) fmod((-(angle) + 90.) ∗ M_PI / 180. + M_PI ∗ 2., M_PI ∗ 2.)
- #define CKB_KEYNAME_MAX 12
- #define CKB_KEYCLEAR(context) CKB_CONTAINER(ckb_key∗ key = context->keys; unsigned count = context->keycount; unsigned i = 0; for(; i < count; i++) key[i].a = key[i].r = key[i].g = key[i].b = 0;)
- #define CKB_GRAD_MAX 100
- #define CKB_MAX_WORD (4 ∗ 1024)

Functions

- int ckb_scan_grad (const char ∗string, ckb_gradient ∗gradient, int alpha)
- void ckb_grad_color (float ∗a, float ∗r, float ∗g, float ∗b, const ckb_gradient ∗grad, float pos)
- void ckb_alpha_blend (ckb_key ∗key, float a, float r, float g, float b)
- void printurl (const char ∗src)
- void urldecode (char ∗dst, const char ∗src)
- void ckb_getline (char word1[(4 ∗1024)], char word2[(4 ∗1024)], char word3[(4 ∗1024)])
- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗, const char ∗, const char ∗)
- void ckb_keypress (ckb_runctx ∗, ckb_key ∗, int, int, int)
- void ckb_start (ckb_runctx ∗, int)
- void ckb_time (ckb_runctx ∗, double)
- int ckb_frame (ckb_runctx ∗)
- void ckb_read_params (ckb_runctx ∗ctx)
- int main (int argc, char ∗argv[])

13.65.1 Data Structure Documentation

13.65.1.1 struct ckb_key

Definition at line 131 of file ckb-anim.h.

Collaboration diagram for ckb_key:

Data Fields

unsigned char	a	
unsigned char	b	
unsigned char	g	
char	name[12]	
unsigned char	r	
int	x	
int	y	

13.65.1.2 struct ckb_runctx

Definition at line 138 of file ckb-anim.h.

Collaboration diagram for ckb_runctx:

Data Fields

unsigned	height	
unsigned	keycount	
ckb_key *	keys	

unsigned	width	

13.65.1.3 struct ckb_gradient

Definition at line 152 of file ckb-anim.h.

Collaboration diagram for ckb_gradient:

Data Fields

unsigned char	a[100]	
unsigned char	b[100]	
unsigned char	g[100]	
int	ptcount	
char	pts[100]	
unsigned char	r[100]	

13.65.2 Macro Definition Documentation

13.65.2.1 #define CKB_CONTAINER(*macro*) do { macro } while(0)

Definition at line 57 of file ckb-anim.h.

13.65.2.2 #define CKB_COPYRIGHT(*year, author*) CKB_CONTAINER(printf("author "); printurl(author); printf("\nyear %s\n", year);)

Definition at line 66 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.3 #define CKB_DESCRIPTION(*description*) CKB_CONTAINER(printf("description "); printurl(description); printf("\n");)

Definition at line 70 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.4 #define CKB_DOWN 1

Definition at line 52 of file ckb-anim.h.

13.65.2.5 #define CKB_GRAD_MAX 100

Definition at line 151 of file ckb-anim.h.

13.65.2.6 #define CKB_GUID(*guid*) CKB_CONTAINER(printf("guid "); printurl(guid); printf("\n");)

Definition at line 60 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.7 #define CKB_KEYCLEAR(*context*) CKB_CONTAINER(ckb_key* key = context->keys; unsigned count = context->keycount; unsigned i = 0; for(; i < count; i++) key[i].a = key[i].r = key[i].g = key[i].b = 0;)

Definition at line 148 of file ckb-anim.h.

Referenced by ckb_frame().

13.65.2.8 #define CKB_KEYNAME_MAX 12

Definition at line 130 of file ckb-anim.h.

Referenced by main().

13.65.2.9 #define CKB_KP_NAME "name"

Definition at line 91 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.10 #define CKB_KP_NONE "none"

Definition at line 90 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.11 #define CKB_KP_POSITION "position"

Definition at line 92 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.12 #define CKB_KPMODE(*mode*) CKB_CONTAINER(printf("kpmode %s\n", mode);)

Definition at line 93 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.13 #define CKB_LICENSE(*license*) CKB_CONTAINER(printf("license "); printurl(license); printf("\n");)

Definition at line 68 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.14 #define CKB_LIVEPARAMS(*enable*) CKB_CONTAINER(printf("parammode %s\n", (enable) ? "live" : "static");)

Definition at line 104 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.15 #define CKB_MAX_WORD (4 ∗ 1024)

Definition at line 238 of file ckb-anim.h.

Referenced by ckb_read_params(), and main().

13.65.2.16 #define CKB_NAME(*name*) CKB_CONTAINER(printf("name "); printurl(name); printf("\n");)

Definition at line 62 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.17 #define CKB_PARAM(*type, name, prefix, postfix, extra*) CKB_CONTAINER(printf("param %s %s ", type, name); printurl(prefix); printf(" "); printurl(postfix); printf(" "); extra; printf("\n");)

Definition at line 73 of file ckb-anim.h.

13.65.2.18 #define CKB_PARAM_AGRADIENT(*name, prefix, postfix, default*) CKB_PARAM("agradient", name, prefix, postfix, printurl(default))

Definition at line 80 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.19 #define CKB_PARAM_ANGLE(*name, prefix, postfix, default*) CKB_PARAM("angle", name, prefix, postfix, printf("%ld", (long)(default)))

Definition at line 81 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.20 #define CKB_PARAM_ARGB(*name, prefix, postfix, a, r, g, b*) CKB_PARAM("argb", name, prefix, postfix, printf("%02x%02x%02x%02x", (unsigned char)(a), (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))

Definition at line 78 of file ckb-anim.h.

13.65.2.21 #define CKB_PARAM_BOOL(*name, text, default*) CKB_PARAM("bool", name, text, "", printf((default) ? "1" : "0"))

Definition at line 76 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.22 #define CKB_PARAM_DOUBLE(*name, prefix, postfix, default,* min, max) CKB_PARAM("double", name, prefix, postfix, printf("%lf %lf %lf", (double)(default), (double)(min), (double)(max)))

Definition at line 75 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.23 #define CKB_PARAM_GRADIENT(*name, prefix, postfix, default*) CKB_PARAM("gradient", name, prefix, postfix, printurl(default))

Definition at line 79 of file ckb-anim.h.

13.65.2.24 #define CKB_PARAM_LABEL(*name, text*) CKB_PARAM("label", name, text, "",)

Definition at line 83 of file ckb-anim.h.

13.65.2.25 #define CKB_PARAM_LONG(*name, prefix, postfix, default,* min, max) CKB_PARAM("long", name, prefix, postfix, printf("%ld %ld %ld", (long)(default), (long)(min), (long)(max)))

Definition at line 74 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.26 #define CKB_PARAM_RGB(*name, prefix, postfix, r, g, b*) CKB_PARAM("rgb", name, prefix, postfix, printf("%02x%02x%02x", (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))

Definition at line 77 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.27 #define CKB_PARAM_STRING(*name, prefix, postfix, default*) CKB_PARAM("string", name, prefix, postfix, printurl(default))

Definition at line 82 of file ckb-anim.h.

13.65.2.28 #define CKB_PARSE_AGRADIENT(*param_name, gradient_ptr*) if(!strcmp(name, param_name) && ckb_scan_grad(value, gradient_ptr, 1))

Definition at line 121 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.29 #define CKB_PARSE_ANGLE(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)

Definition at line 122 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.30 #define CKB_PARSE_ARGB(*param_name, a_ptr, r_ptr, g_ptr, b_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx%2hhx", a_ptr, r_ptr, g_ptr, b_ptr) == 4)

Definition at line 119 of file ckb-anim.h.

13.65.2.31 #define CKB_PARSE_BOOL(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%u", value_ptr) == 1)

Definition at line 117 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.32 #define CKB_PARSE_DOUBLE(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%lf", value_ptr) == 1)

Definition at line 116 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.33 #define CKB_PARSE_GRADIENT(*param_name, gradient_ptr*) if(!strcmp(name, param_name) && **ckb_scan_grad**(value, gradient_ptr, 0))

Definition at line 120 of file ckb-anim.h.

13.65.2.34 #define CKB_PARSE_LONG(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)

Definition at line 115 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.35 #define CKB_PARSE_RGB(*param_name, r_ptr, g_ptr, b_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx", r_ptr, g_ptr, b_ptr) == 3)

Definition at line 118 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.36 #define CKB_PARSE_STRING(*param_name*) if(!strcmp(name, param_name))

Definition at line 123 of file ckb-anim.h.

13.65.2.37 #define CKB_PREEMPT(*enable*) **CKB_CONTAINER**(printf("preempt %s\n", (enable) ? "on" : "off");)

Definition at line 102 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.38 #define CKB_PRESET_END **CKB_CONTAINER**(printf("\n");)

Definition at line 87 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.39 #define CKB_PRESET_PARAM(*name, value*) CKB_CONTAINER(printf(" %s=", name); printurl(value);)

Definition at line 86 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.40 #define CKB_PRESET_START(*name*) CKB_CONTAINER(printf("preset "); printurl(name);)

Definition at line 85 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.41 #define CKB_REAL_ANGLE(angle) fmod((-(angle) + 90.) ∗ M_PI / 180. + M_PI ∗ 2., M_PI ∗ 2.)

Definition at line 127 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.42 #define CKB_REPEAT(*enable*) CKB_CONTAINER(printf("repeat %s\n", (enable) ? "on" : "off");)

Definition at line 99 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.43 #define CKB_TIME_ABSOLUTE "absolute"

Definition at line 96 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.44 #define CKB_TIME_DURATION "duration"

Definition at line 95 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.45 #define CKB_TIMEMODE(*mode*) CKB_CONTAINER(printf("time %s\n", mode);)

Definition at line 97 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.46 #define CKB_UP 0

Definition at line 53 of file ckb-anim.h.

13.65.2.47 #define CKB_VERSION(*version*) CKB_CONTAINER(printf("version "); printurl(version); printf("\n");)

Definition at line 64 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.48 #define FALSE 0

Definition at line 49 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.49 #define M_PI 3.14159265358979323846

Definition at line 42 of file ckb-anim.h.

Referenced by ckb_frame(), and ckb_parameter().

13.65.2.50 #define TRUE 1

Definition at line 46 of file ckb-anim.h.

Referenced by ckb_info().

13.65.3 Function Documentation

13.65.3.1 void ckb_alpha_blend (ckb_key * *key*, float *a*, float *r*, float *g*, float *b*)

Definition at line 283 of file ckb-anim.h.

References ckb_key::a, ckb_key::b, ckb_key::g, and ckb_key::r.

Referenced by ckb_frame().

```
283                                                                    {
284     a /= 255.f;
285     float ka = key->a / 255.f;
286     float a2 = a + (1.f - a) * ka;
287     if(a2 == 0.f){
288         key->a = key->r = key->g = key->b = 0;
289         return;
290     }
291     key->a = round(a2 * 255.f);
292     key->r = round((r * a + key->r * ka * (1.f - a)) / a2);
293     key->g = round((g * a + key->g * ka * (1.f - a)) / a2);
294     key->b = round((b * a + key->b * ka * (1.f - a)) / a2);
295 }
```

Here is the caller graph for this function:

13.65.3.2 int ckb_frame (ckb_runctx *)

Definition at line 137 of file main.c.

References ckb_key::a, aa, ab, ag, angle, ANGLE, anim, ANIM_MAX, animcolor, animlength, ar, ckb_key::b, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, counter_clock, drop, DROP_MAX, ffade, frame, ckb_key::g, getFreqDec(), keyAnim::gradient, ckb_runctx::height, HOLD, ckb_runctx::keycount, ckb_runctx::keys, M_PI, max(),

min(), phase, power, powers, pressestofull, ckb_key::r, randomBright, randomize, symmetric, keyAnim::target, width, ckb_runctx::width, x, and y.

Referenced by main().

```
                                {
    // Draw key colors
    unsigned count = context->keycount;
    for(unsigned i = 0; i < count; i++){
        float phase = anim[i].target;

        if(phase == HOLD)
            phase = 0.f;
        else if(phase < 0.f)
            phase = 1.f;
        ckb_key* key = context->keys + i;
        float a, r, g, b;
        ckb_gradient thisGradient;
        if (randomize) {
            thisGradient = anim[i].gradient;
        } else {
            thisGradient = animcolor;
        }
        ckb_grad_color(&a, &r, &g, &b, &thisGradient, phase * 100.);
        key->a = a;
        key->r = r;
        key->g = g;
        key->b = b;
    }
    return 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.3 void ckb_getline (char *word1[(4 ∗ 1024)]*, char *word2[(4 ∗ 1024)]*, char *word3[(4 ∗ 1024)]*)

Definition at line 239 of file ckb-anim.h.

References urldecode().

Referenced by ckb_read_params(), and main().

```
{
    char line[CKB_MAX_WORD * 3 + 3];
    fgets(line, sizeof(line), stdin);
    word1[0] = word1[1] = word1[2] = 0;
    int res = sscanf(line, "%s %s %s", word1, word2, word3);
    if(res >= 1)
        urldecode(word1, word1);
    if(res >= 2)
        urldecode(word2, word2);
    if(res >= 3)
        urldecode(word3, word3);
    line[strlen(line) - 1] = 0;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.4 void ckb_grad_color (float * *a*, float * *r*, float * *g*, float * *b*, const ckb_gradient * *grad*, float *pos*)

Definition at line 254 of file ckb-anim.h.

References ckb_gradient::a, ckb_gradient::b, ckb_gradient::g, ckb_gradient::ptcount, ckb_gradient::pts, and ckb_gradient::r.

Referenced by ckb_frame(), and ckb_keypress().

```
{
    // Find the points surrounding this position
    int count = grad->ptcount;
    if(count == 0){
        *a = *r = *g = *b = 0.f;
        return;
    }
    int i = 1;
    for(; i < count; i++){
        if(grad->pts[i] >= pos)
            break;
    }
    // Get color by linear interpolation. Premultiply the alpha value so that it returns the expected color
    // (i.e. stops with zero opacity won't contribute to color)
```

```
    float distance = grad->pts[i] - grad->pts[i - 1];
    float dx = (pos - grad->pts[i - 1]) / distance;
    float a1 = grad->a[i] / 255., a2 = grad->a[i - 1] / 255.;
    float a3 = *a = a1 * dx + a2 * (1.f - dx);
    if(a3 == 0.){
        *a = *r = *g = *b = 0.f;
        return;
    }
    *a *= 255.f;
    *r = (grad->r[i] * a1 * dx + grad->r[i - 1] * a2 * (1.f - dx)) / a3;
    *g = (grad->g[i] * a1 * dx + grad->g[i - 1] * a2 * (1.f - dx)) / a3;
    *b = (grad->b[i] * a1 * dx + grad->b[i - 1] * a2 * (1.f - dx)) / a3;
}
```

Here is the caller graph for this function:

13.65.3.5 void ckb_info ( )

Definition at line 5 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NAME, CKB_KP_NONE, CKB_KP_POSITION, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_ANGLE, CKB_PARAM_BOOL, CKB_PARAM_DOUBLE, CKB_PARAM_LONG, CKB_PARAM_RGB, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_ABSOLUTE, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

Referenced by main(), and quitWithLock().

```
5               {
6     // Plugin info
7     CKB_NAME("Gradient");
8     CKB_VERSION("0.9");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{54DD2975-E192-457D-BCFC-D912A24E33B4}");
12     CKB_DESCRIPTION("A transition from one color to another.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Color:", "", "ffffffff");
16     CKB_PARAM_BOOL("kphold", "Freeze until key is released", TRUE);
17     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_NAME);
21     CKB_TIMEMODE(CKB_TIME_DURATION);
22     CKB_LIVEPARAMS(TRUE);
23
24     // Presets
25     CKB_PRESET_START("Fade in");
26     CKB_PRESET_PARAM("color", "ff000000");
27     CKB_PRESET_PARAM("duration", "1.0");
28     CKB_PRESET_PARAM("stop", "0");
29     CKB_PRESET_PARAM("kpstop", "0");
30     CKB_PRESET_END;
31
32     CKB_PRESET_START("Rainbow");
33     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
```

```
    CKB_PRESET_PARAM("duration", "2.0");
    CKB_PRESET_END;

    CKB_PRESET_START("Type lighting");
    CKB_PRESET_PARAM("duration", "1.0");
    CKB_PRESET_PARAM("trigger", "0");
    CKB_PRESET_PARAM("kptrigger", "1");
    CKB_PRESET_END;
}
```

Here is the caller graph for this function:

13.65.3.6 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

References ckb_runctx::height, kbsize, ckb_runctx::keycount, ckb_runctx::keys, NONE, pas, ckb_runctx::width, keyanim::x, ckb_key::x, keyanim::y, and ckb_key::y.

Referenced by main().

```
                                {
    // Initialize all keys to 100% (animation over)

    srand((unsigned)time(NULL));
    unsigned count = context->keycount;
    anim =  malloc(count * sizeof *anim);
    for(unsigned i = 0; i < count; i++) {
        anim[i].target = NONE;
    }
}
```

Here is the caller graph for this function:

13.65.3.7 void ckb_keypress (ckb_runctx *, ckb_key *, int, int, int)

Definition at line 75 of file main.c.

References ckb_gradient::a, anim_add(), anim_remove(), ckb_gradient::b, ckb_grad_color(), drop_add(), ckb_gradient::g, keyAnim::gradient, ckb_runctx::height, HOLD, ckb_runctx::keys, kphold, kprelease, NONE, ckb_gradient::ptcount, ckb_gradient::pts, ckb_gradient::r, randomize, keyAnim::target, and ckb_runctx::width.

Referenced by main().

```
                                                                    {
    // Start or stop animation on key
    int i = key - context->keys;
    if(state){
        if (randomize) {
            float a, r, g, b;
            float colorChoice = (float)rand()/(float)(RAND_MAX);
            ckb_grad_color(&a, &r, &g, &b, &animcolor, colorChoice * 100.);
            ckb_gradient newGradient = { 0 };
            newGradient.ptcount = 2;
            newGradient.pts[0] = 0;
            newGradient.pts[1] = 100;
            newGradient.a[0] = 255;
            newGradient.b[0] = b;
            newGradient.g[0] = g;
            newGradient.r[0] = r;
            newGradient.a[1] = 0;
            newGradient.b[1] = b;
            newGradient.g[1] = g;
            newGradient.r[1] = r;

            anim[i].gradient = newGradient;
        }

        if(kphold) {
            anim[i].target = HOLD;
        } else {
            anim[i].target = 0.f;
        }
    } else {
        if(kprelease) {
            anim[i].target = NONE;
        }
        else if(kphold) {
            anim[i].target = 0.f;
        }
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.8 void ckb_parameter (ckb_runctx * , const char * , const char *)

Definition at line 68 of file main.c.

References aa, ab, ag, angle, animlength, ar, CKB_PARSE_AGRADIENT, CKB_PARSE_ANGLE, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, CKB_PARSE_RGB, CKB_REAL_ANGLE, counter_clock, fadein, ffade, ckb_runctx::height, kphold, kprelease, left, M_PI, maxsize, period, power, pressestofull, randomBright, randomize, spawn, speed, symmetric, top, useopacity, width, ckb_runctx::width, x, x_offset, y, and y_offset.

Referenced by ckb_read_params().

```
68                                                                          {
69     CKB_PARSE_AGRADIENT("color", &animcolor){}
70     CKB_PARSE_BOOL("kphold", &kphold){}
71     CKB_PARSE_BOOL("kprelease", &kprelease){}
72     CKB_PARSE_BOOL("randomize", &randomize){}
73 }
```

Here is the caller graph for this function:

13.65.3.9 void ckb_read_params (ckb_runctx * *ctx*)

Definition at line 349 of file ckb-anim.h.

References ckb_getline(), CKB_MAX_WORD, and ckb_parameter().

Referenced by main().

```
349                                     {
350     char cmd[CKB_MAX_WORD], param[CKB_MAX_WORD], value[
      CKB_MAX_WORD];
351     do {
352         ckb_getline(cmd, param, value);
353         if(!*cmd){
354             printf("Error [ckb-main]: Reached EOF reading parameters");
355             return;
356         }
357         if(!strcmp(cmd, "end") && !strcmp(param, "params"))
358             break;
359         if(strcmp(cmd, "param"))
```

```
            continue;
        ckb_parameter(ctx, param, value);
    } while(1);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.10 int ckb_scan_grad (const char * *string*, ckb_gradient * *gradient*, int *alpha*)

Definition at line 298 of file ckb-anim.h.

References ckb_gradient::a, ckb_gradient::b, ckb_gradient::g, ckb_gradient::ptcount, ckb_gradient::pts, and ckb_-gradient::r.

```
                                                                    {
    char pos = -1;
    unsigned char a = 255, r, g, b;
    int count = 0;
    while(1){
        int scanned = 0;
        char newpos;
        if(sscanf(string, "%hhd:%2hhx%2hhx%2hhx%2hhx%n", &newpos, &a, &r, &g, &b, &scanned) != 5)
            break;
        string += scanned;
        // Don't allow stops out-of-order or past 100
        if(newpos <= pos || newpos > 100)
            return 0;
        pos = newpos;
        if(!alpha)
            a = 255;
        gradient->pts[count] = pos;
        gradient->a[count] = a;
        gradient->r[count] = r;
        gradient->g[count] = g;
        gradient->b[count] = b;
        count++;
    }
    if(count == 0){
        // If nothing was read, try a single ARGB constant.
        if(sscanf(string, "%2hhx%2hhx%2hhx%2hhx", &a, &r, &g, &b) != 4)
            return 0;
        count = 2;
```

```
        gradient->pts[0] = 0;
        gradient->pts[1] = 100;
        gradient->a[0] = a;
        gradient->a[1] = 0;
        gradient->r[0] = gradient->r[1] = r;
        gradient->g[0] = gradient->g[1] = g;
        gradient->b[0] = gradient->b[1] = b;
    }
    if(count < 2)
        return 0;
    gradient->ptcount = count;
    return 1;
}
```

13.65.3.11 void ckb_start (ckb_runctx *, int)

Definition at line 114 of file main.c.

References rgb::a, ckb_key::a, anim_add(), anim_remove(), rgb::b, ckb_key::b, fadein, frame, rgb::g, ckb_key::g, ckb_runctx::height, ckb_runctx::keycount, ckb_runctx::keys, kprelease, left, newtarget(), NONE, phase, rgb::r, ckb_key::r, keyAnim::target, tick, top, ckb_runctx::width, x, x_offset, y, and y_offset.

Referenced by main().

```
114                                                 {
115     // Start/stop all keys
116     unsigned count = context->keycount;
117     if(state) {
118         memset(anim, 0, count * sizeof *anim);
119     } else {
120         for(unsigned i = 0; i < count; i++) {
121             anim[i].target = NONE;
122         }
123     }
124 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.12 void ckb_time (ckb_runctx *, double)

Definition at line 126 of file main.c.

References anim, ANIM_MAX, animlength, current, drop, drop_add(), DROP_MAX, frame, ckb_runctx::height, kbsize, ckb_runctx::keycount, maxsize, newtarget(), period, phase, spawn, speed, target, keyAnim::target, tick, keyanim::timing, keyanim::usages, width, and ckb_runctx::width.

Referenced by main().

```
126                                                 {
127     // Advance animation on each key
128     unsigned count = context->keycount;
129     for(unsigned i = 0; i < count; i++){
130         float phase = anim[i].target;
131         if(phase > 1.f || phase < 0.f)
132             continue;
133         anim[i].target = phase + delta;
134     }
135 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.65.3.13 int main (int *argc*, char * *argv[]*)

Definition at line 365 of file ckb-anim.h.

References ckb_key::a, ckb_key::b, ckb_frame(), ckb_getline(), ckb_info(), ckb_init(), CKB_KEYNAME_MAX, ckb_-keypress(), CKB_MAX_WORD, ckb_read_params(), ckb_start(), ckb_time(), ckb_key::g, ckb_runctx::height, ckb_-runctx::keycount, ckb_runctx::keys, ckb_key::name, ckb_key::r, ckb_runctx::width, x, ckb_key::x, y, and ckb_key::y.

```
365                                 {
366     if(argc == 2){
367         if(!strcmp(argv[1], "--ckb-info")){
368             ckb_info();
369             fflush(stdout);
```

```
            return 0;
        } else if(!strcmp(argv[1], "--ckb-run")){
            ckb_runctx ctx;
            // Read the keymap lines
            char cmd[CKB_MAX_WORD], param[CKB_MAX_WORD], value[CKB_MAX_WORD];
            // Skip anything up until "begin keymap"
            do {
                ckb_getline(cmd, param, value);
                if(!*cmd){
                    // If end-of-file is reached, abort
                    printf("Error [ckb-main]: Reached EOF looking for \"begin keymap\"");
                    return -2;
                }
            } while(strcmp(cmd, "begin") || strcmp(param, "keymap"));
            ckb_getline(cmd, param, value);
            unsigned keycount;
            if(strcmp(cmd, "keycount") || sscanf(param, "%u", &keycount) != 1 || keycount == 0){
                // If keycount isn't the next line, something is wrong
                printf("Error [ckb-main]: \"begin keymap\" not followed with \"keycount\"");
                return -3;
            }
            ctx.keys = (ckb_key*)calloc(keycount, sizeof(ckb_key));
            ctx.keycount = keycount;
            unsigned max_x = 0, max_y = 0;
            unsigned i = 0;
            for(; i < ctx.keycount; i++){
                ckb_getline(cmd, param, value);
                unsigned x, y;
                if(strcmp(cmd, "key") || !*param || !sscanf(value, "%u,%u", &x, &y)){
                    i--;
                    continue;
                }
                ckb_key* key = ctx.keys + i;
                strncpy(key->name, param, CKB_KEYNAME_MAX);
                key->x = x;
                key->y = y;
                if(x > max_x)
                    max_x = x;
                if(y > max_y)
                    max_y = y;
            }
            ctx.width = max_x + 1;
            ctx.height = max_y + 1;
            // Skip anything else until "end keymap"
            do {
                ckb_getline(cmd, param, value);
                if(!*cmd){
                    printf("Error [ckb-main]: Reached EOF looking for \"end keymap\"");
                    return -2;
                }
            } while(strcmp(cmd, "end") || strcmp(param, "keymap"));
            // Run init function
            ckb_init(&ctx);
            // Skip anything else until "begin params"
            do {
                ckb_getline(cmd, param, value);
                if(!*cmd){
                    printf("Error [ckb-main]: Reached EOF looking for \"begin params\"");
                    return -2;
                }
            } while(strcmp(cmd, "begin") || strcmp(param, "params"));
            // Parse parameters
            ckb_read_params(&ctx);
            // Skip anything else until "begin run"
            do {
                ckb_getline(cmd, param, value);
                if(!*cmd){
                    printf("Error [ckb-main]: Reached EOF looking for \"begin run\"");
                    return -2;
                }
            } while(strcmp(cmd, "begin") || strcmp(param, "run"));
            // Run the main loop
            printf("begin run\n");
            fflush(stdout);
            while(1){
                ckb_getline(cmd, param, value);
                if(!*cmd || (!strcmp(cmd, "end") && !strcmp(param, "run")))
                    break;
                // Parse input
                if(!strcmp(cmd, "start"))
                    ckb_start(&ctx, 1);
                else if(!strcmp(cmd, "stop"))
                    ckb_start(&ctx, 0);
                else if(!strcmp(cmd, "begin") && !strcmp(param, "params"))
                    ckb_read_params(&ctx);
                else if(!strcmp(cmd, "key")){
```

```
                    int x, y;
                    if(sscanf(param, "%d,%d", &x, &y) == 2){
                        // Find a key with this position
                        ckb_key* key = 0;
                        for(i = 0; i < keycount; i++){
                            if(ctx.keys[i].x == x && ctx.keys[i].y == y){
                                key = ctx.keys + i;
                                break;
                            }
                        }
                        if(key)
                            ckb_keypress(&ctx, key, key->x, key->y, !strcmp(value, "down"));
                        else
                            ckb_keypress(&ctx, 0, x, y, !strcmp(value, "down"));
                    } else {
                        // Find a key with this name
                        ckb_key* key = 0;
                        for(i = 0; i < keycount; i++){
                            if(!strcmp(ctx.keys[i].name, param)){
                                key = ctx.keys + i;
                                break;
                            }
                        }
                        if(key)
                            ckb_keypress(&ctx, key, key->x, key->y, !strcmp(value, "down"));
                    }
                } else if(!strcmp(cmd, "frame")){
                    int end = ckb_frame(&ctx);
                    // Output the frame
                    printf("begin frame\n");
                    for(i = 0; i < ctx.keycount; i++){
                        ckb_key* key = ctx.keys + i;
                        printf("argb %s %02hhx%02hhx%02hhx%02hhx\n", key->name, key->
    a, key->r, key->g, key->b);
                    }
                    printf("end frame\n");
                    if(end)
                        break;
                    fflush(stdout);
                } else {
                    double delta = 0.;
                    if(!strcmp(cmd, "time") && sscanf(param, "%lf", &delta) == 1)
                        ckb_time(&ctx, delta);
                }
            }
            printf("end run\n");
            fflush(stdout);
            free(ctx.keys);
            return 0;
        }
    }
    printf("This program must be run from within ckb\n");
    return -1;
}
```

Here is the call graph for this function:

13.65.3.14 void printurl (const char * *src*)

Definition at line 178 of file ckb-anim.h.

```
178                                 {
179     char out[strlen(src) * 3 + 1];
180     char* dst = out;
181     char s;
182     while((s = *src++)){
183         if(s <= ',' || s == '/' ||
184                 (s >= ':' && s <= '@') ||
185                 s == '[' || s == ']' ||
186                 s >= 0x7F){
187             char a = s >> 4, b = s & 0xF;
188             if(a >= 10)
189                 a += 'A' - 10;
190             else
191                 a += '0';
192             if(b >= 10)
193                 b += 'A' - 10;
194             else
195                 b += '0';
196             dst[0] = '%';
197             dst[1] = a;
198             dst[2] = b;
199             dst += 3;
200         } else
201             *dst++ = s;
202     }
203     *dst = '\0';
204     printf("%s", out);
205 }
```

13.65.3.15 void urldecode (char * *dst*, const char * *src*)

Definition at line 208 of file ckb-anim.h.

Referenced by ckb_getline().

```
208                                         {
209     char a, b;
210     char s;
211     while((s = *src)){
212         if((s == '%') &&
213                 ((a = src[1]) && (b = src[2])) &&
214                 (isxdigit(a) && isxdigit(b))){
215             if(a >= 'a')
216                 a -= 'a'-'A';
217             if(a >= 'A')
218                 a -= 'A' - 10;
219             else
220                 a -= '0';
221             if(b >= 'a')
222                 b -= 'a'-'A';
223             if(b >= 'A')
224                 b -= 'A' - 10;
225             else
226                 b -= '0';
227             *dst++ = 16*a + b;
228             src += 3;
229         } else {
230             *dst++ = s;
231             src++;
232         }
233     }
234     *dst = '\0';
235 }
```

Here is the caller graph for this function:

13.66 src/ckb/ckbsettings.cpp File Reference

```
#include "ckbsettings.h"
#include "ckbsettingswriter.h"
#include <QThread>
#include <QMutex>
#include <QDebug>
```

Include dependency graph for ckbsettings.cpp:

Macros

- #define lockMutex QMutexLocker locker(backing == _globalSettings ? &settingsMutex : 0)
- #define lockMutexStatic QMutexLocker locker(&settingsMutex)
- #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)
- #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Functions

- QAtomicInt cacheWritesInProgress (0)
- QMutex settingsMutex (QMutex::Recursive)
- QMutex settingsCacheMutex (QMutex::Recursive)
- static QSettings * globalSettings ()

Variables

- static QSettings * _globalSettings = 0
- static QThread * globalThread = 0
- static QMap< QString, QVariant > globalCache

13.66.1 Macro Definition Documentation

13.66.1.1 #define lockMutex QMutexLocker locker(backing == _globalSettings ? &settingsMutex : 0)

Definition at line 15 of file ckbsettings.cpp.

Referenced by CkbSettings::childGroups(), CkbSettings::childKeys(), CkbSettings::contains(), and CkbSettings::value().

13.66.1.2 #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Definition at line 18 of file ckbsettings.cpp.

Referenced by CkbSettings::get(), CkbSettings::set(), and CkbSettings::setValue().

13.66.1.3 #define lockMutexStatic QMutexLocker locker(&settingsMutex)

Definition at line 16 of file ckbsettings.cpp.

Referenced by globalSettings(), and CkbSettings::set().

13.66.1.4 #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)

Definition at line 17 of file ckbsettings.cpp.

Referenced by CkbSettings::get().

13.66.2 Function Documentation

13.66.2.1 QAtomicInt cacheWritesInProgress (0)

Referenced by CkbSettings::cleanUp(), and CkbSettings::isBusy().

Here is the caller graph for this function:

13.66.2.2 static QSettings* globalSettings ( ) [static]

Definition at line 27 of file ckbsettings.cpp.

References _globalSettings, and lockMutexStatic.

Referenced by CkbSettings::get(), and CkbSettings::set().

```
27                                  {
28     if(!_globalSettings){
29         lockMutexStatic;
30         if(!(volatile QSettings*)_globalSettings){   // Check again after locking mutex in
       case another thread created the object
31             // Put the settings object in a separate thread so that it won't lock up the GUI when it syncs
32             globalThread = new QThread;
33             globalThread->start();
```

```
            _globalSettings = new QSettings;
            qInfo() << "Path  to settings is" << _globalSettings->fileName();
            _globalSettings->moveToThread(globalThread);
        }
    }
    return _globalSettings;
}
```

Here is the caller graph for this function:

13.66.2.3 QMutex settingsCacheMutex (QMutex::Recursive)

13.66.2.4 QMutex settingsMutex (QMutex::Recursive)

13.66.3 Variable Documentation

13.66.3.1 QSettings* _globalSettings = 0 [static]

Definition at line 8 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp(), and globalSettings().

13.66.3.2 QMap<QString, QVariant> globalCache [static]

Definition at line 12 of file ckbsettings.cpp.

Referenced by CkbSettings::get(), CkbSettings::set(), and CkbSettings::setValue().

13.66.3.3 QThread* globalThread = 0 [static]

Definition at line 9 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp().

13.67 src/ckb/ckbsettings.h File Reference

```
#include <QSettings>
#include <QStringList>
#include <QMap>
#include <QVariant>
```

Include dependency graph for ckbsettings.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class CkbSettings
- class SGroup

13.68 src/ckb/ckbsettingswriter.cpp File Reference

```
#include "ckbsettingswriter.h"
#include <QMutex>
```

Include dependency graph for ckbsettingswriter.cpp:

Macros

- #define lockMutex QMutexLocker locker(backing == _globalSettings ? &mutex : 0)
- #define lockMutexStatic QMutexLocker locker(&settingsMutex)
- #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)
- #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Variables

- QAtomicInt cacheWritesInProgress
- QMutex settingsMutex
- QMutex settingsCacheMutex

13.68.1 Macro Definition Documentation

13.68.1.1 #define lockMutex QMutexLocker locker(backing == _globalSettings ? &mutex : 0)

Definition at line 7 of file ckbsettingswriter.cpp.

13.68.1.2 #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Definition at line 10 of file ckbsettingswriter.cpp.

13.68.1.3 #define lockMutexStatic QMutexLocker locker(&settingsMutex)

Definition at line 8 of file ckbsettingswriter.cpp.

Referenced by CkbSettingsWriter::run().

13.68.1.4 #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)

Definition at line 9 of file ckbsettingswriter.cpp.

13.68.2 Variable Documentation

13.68.2.1 QAtomicInt cacheWritesInProgress

Referenced by CkbSettingsWriter::CkbSettingsWriter(), and CkbSettingsWriter::~CkbSettingsWriter().

13.68.2.2 QMutex settingsCacheMutex

13.68.2.3 QMutex settingsMutex

13.69 src/ckb/ckbsettingswriter.h File Reference

```
#include <QObject>
#include <QMap>
#include <QSettings>
#include <QStringList>
```

Include dependency graph for ckbsettingswriter.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class CkbSettingsWriter

13.70 src/ckb/colorbutton.cpp File Reference

```
#include "colorbutton.h"
```

```
#include <QColorDialog>
#include <QPainter>
```

Include dependency graph for colorbutton.cpp:

13.71 src/ckb/colorbutton.h File Reference

```
#include <QPushButton>
```

Include dependency graph for colorbutton.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class ColorButton

13.72 src/ckb/colormap.cpp File Reference

`#include "colormap.h"`
Include dependency graph for colormap.cpp:

Functions

- static int qs_strcmp (const void ∗lhs, const void ∗rhs)

13.72.1 Function Documentation

13.72.1.1 static int qs_strcmp (const void ∗ *lhs*, const void ∗ *rhs*) [static]

Definition at line 65 of file colormap.cpp.

Referenced by ColorMap::colorForName(), and ColorMap::init().

```
65                                                  {
66     return strcmp(*(const char**)lhs, *(const char**)rhs);
67 }
```

Here is the caller graph for this function:

13.73 src/ckb/colormap.h File Reference

```
#include <QHash>
#include <QRgb>
#include "keymap.h"
```

Include dependency graph for colormap.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class ColorMap

Typedefs

- typedef QHash< QString, QRgb > QColorMap
- typedef QHashIterator< QString, QRgb > QColorMapIterator
- typedef QMutableHashIterator < QString, QRgb > QMutableColorMapIterator

13.73.1 Typedef Documentation

13.73.1.1 typedef QHash<QString, QRgb> QColorMap

Definition at line 9 of file colormap.h.

13.73.1.2 typedef QHashIterator<QString, QRgb> QColorMapIterator

Definition at line 10 of file colormap.h.

13.73.1.3 typedef QMutableHashIterator<QString, QRgb> QMutableColorMapIterator

Definition at line 11 of file colormap.h.

13.74 src/ckb/extrasettingswidget.cpp File Reference

```
#include "extrasettingswidget.h"
#include "ui_extrasettingswidget.h"
#include "kb.h"
#include "mainwindow.h"
#include "ckbsettings.h"
```

Include dependency graph for extrasettingswidget.cpp:

Variables

- static int lastSharedDimming = -2

13.74.1 Variable Documentation

13.74.1.1 int lastSharedDimming = -2 [static]

Definition at line 8 of file extrasettingswidget.cpp.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::pollUpdates().

13.75 src/ckb/extrasettingswidget.h File Reference

```
#include <QDialog>
```

Include dependency graph for extrasettingswidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class ExtraSettingsWidget

Namespaces

- Ui

13.76 src/ckb/fwupgradedialog.cpp File Reference

```
#include <QDir>
```

```
#include <QMessageBox>
#include "fwupgradedialog.h"
#include "kbfirmware.h"
#include "ui_fwupgradedialog.h"
```

Include dependency graph for fwupgradedialog.cpp:

Data Structures

- struct Kbld

Functions

- static const int DIALOG_HEIGHT_MAX (240)
- static float verifyFw (const QByteArray &blob, const QString &features)

Variables

- static Kbld ids []
- static const int DIALOG_WIDTH = 420
- static const int DIALOG_HEIGHT_MIN = 200

13.76.1 Data Structure Documentation

13.76.1.1 struct Kbld

Definition at line 8 of file fwupgradedialog.cpp.

Collaboration diagram for KbId:

Data Fields

const char *	feature	
short	product	
short	vendor	

13.76.2 Function Documentation

13.76.2.1 static const int DIALOG_HEIGHT_MAX (240) [static]

Referenced by FwUpgradeDialog::exec().

Here is the caller graph for this function:

13.76.2.2 static float verifyFw (const QByteArray & *blob*, const QString & *features*) [static]

Definition at line 85 of file fwupgradedialog.cpp.

References ids.

Referenced by FwUpgradeDialog::exec().

```
85                                                                  {
86     if(blob.length() < 0x0108)
87         return 0.f;
88     const char* bData = blob.data();
89     // Make sure it matches this device based on the vendor and product IDs embedded in the blob
90     bool match = false;
```

```
    for(uint i = 0; i < sizeof(ids)/sizeof(KbId); i++){
        if(!memcmp(&ids[i].vendor, bData + 0x102, 2) && !memcmp(&ids[i].product, bData + 0x104, 2)
                && features.startsWith(ids[i].feature, Qt::CaseInsensitive)){
            match = true;
            break;
        }
    }
    if(!match)
        return 0.f;
    // Copy the version from the blob
    short version;
    memcpy(&version, bData + 0x106, 2);
    // Un-hexify it
    return QString::number(version, 16).toFloat() / 100.f;
}
```

Here is the caller graph for this function:

13.76.3 Variable Documentation

13.76.3.1 const int DIALOG_HEIGHT_MIN = 200 [static]

Definition at line 29 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.76.3.2 const int DIALOG_WIDTH = 420 [static]

Definition at line 28 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.76.3.3 KbId ids[] [static]

Initial value:

```
= {

    { 0x1b1c, 0x1b17, "corsair k65 rgb" },
    { 0x1b1c, 0x1b13, "corsair k70 rgb" },
    { 0x1b1c, 0x1b11, "corsair k95 rgb" },
    { 0x1b1c, 0x1b15, "corsair strafe monochrome" },
    { 0x1b1c, 0x1b20, "corsair strafe rgb" },

    { 0x1b1c, 0x1b12, "corsair m65 rgb" },
    { 0x1b1c, 0x1b1e, "corsair scimitar rgb" },

    { 0x1b1c, 0x1b32, "corsair sabre optical rgb" }
}
```

Definition at line 14 of file fwupgradedialog.cpp.

Referenced by verifyFw().

13.77 src/ckb/fwupgradedialog.h File Reference

```
#include <QCloseEvent>
```

```
#include <QDialog>
#include <QEventLoop>
#include "kb.h"
```

Include dependency graph for fwupgradedialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class FwUpgradeDialog

Namespaces

- Ui

13.78 src/ckb/gradientbutton.cpp File Reference

```
#include <cmath>
#include <cstdio>
#include <QPainter>
#include "gradientbutton.h"
#include "gradientdialog.h"
```

Include dependency graph for gradientbutton.cpp:

13.79 src/ckb/gradientbutton.h File Reference

```
#include <QPushButton>
```

Include dependency graph for gradientbutton.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class GradientButton

13.80 src/ckb/gradientdialog.cpp File Reference

```
#include <cmath>
#include <QMessageBox>
#include <QPainter>
#include <QSettings>
#include "ckbsettings.h"
#include "gradientdialog.h"
#include "ui_gradientdialog.h"
```

Include dependency graph for gradientdialog.cpp:

Variables

- static const QString prefsPath = "Stored Gradients"

13.80.1 Variable Documentation

13.80.1.1 const QString prefsPath = "Stored Gradients" [static]

Definition at line 9 of file gradientdialog.cpp.

Referenced by GradientDialog::GradientDialog(), and GradientDialog::~GradientDialog().

13.81 src/ckb/gradientdialog.h File Reference

```
#include <QDialog>
#include <QListWidgetItem>
#include <QMap>
```

Include dependency graph for gradientdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class GradientDialog
- struct GradientDialog::Preset

Namespaces

- Ui

13.82 src/ckb/gradientdialogwidget.cpp File Reference

```
#include <cmath>
#include <QPainter>
#include <QPropertyAnimation>
#include "gradientdialogwidget.h"
```

Include dependency graph for gradientdialogwidget.cpp:

13.83 src/ckb/gradientdialogwidget.h File Reference

```
#include <QWidget>
#include <QMouseEvent>
#include <QPaintEvent>
```

Include dependency graph for gradientdialogwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class GradientDialogWidget

13.84 src/ckb/kb.cpp File Reference

```
#include <fcntl.h>
#include <QSet>
#include <QUrl>
#include <QMutex>
#include <QDateTime>
#include "kb.h"
#include "kbmanager.h"
```

Include dependency graph for kb.cpp:

Variables

- static QSet< Kb * > activeDevices
- static QSet< QString > notifyPaths
- static QMutex notifyPathMutex

13.84.1 Variable Documentation

13.84.1.1 QSet<Kb*> activeDevices [static]

Definition at line 10 of file kb.cpp.

Referenced by Kb::dither(), Kb::frameRate(), Kb::Kb(), Kb::layout(), Kb::macroDelay(), Kb::mouseAccel(), Kb::scrollSpeed(), and Kb::~Kb().

13.84.1.2 QMutex notifyPathMutex [static]

Definition at line 13 of file kb.cpp.

Referenced by Kb::Kb(), and Kb::run().

13.84.1.3 QSet<QString> notifyPaths [static]

Definition at line 12 of file kb.cpp.

Referenced by Kb::Kb(), Kb::run(), and Kb::~Kb().

13.85 src/ckb/kb.h File Reference

```
#include <QObject>
#include <QFile>
#include <QThread>
#include "kbprofile.h"
```

Include dependency graph for kb.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Kb

13.86 src/ckb/kbanim.cpp File Reference

```
#include <cmath>
#include <QDateTime>
#include <QMetaEnum>
#include <QDebug>
#include "ckbsettings.h"
#include "kbanim.h"
```

Include dependency graph for kbanim.cpp:

Typedefs

- typedef float(∗ blendFunc)(float, float)

Functions

- static float blendNormal (float bg, float fg)
- static float blendAdd (float bg, float fg)
- static float blendSubtract (float bg, float fg)
- static float blendMultiply (float bg, float fg)
- static float blendDivide (float bg, float fg)

Variables

- static blendFunc functions [5] = { blendNormal, blendAdd, blendSubtract, blendMultiply, blendDivide }

13.86.1 Typedef Documentation

13.86.1.1 typedef float(∗ blendFunc)(float, float)

Definition at line 362 of file kbanim.cpp.

13.86.2 Function Documentation

13.86.2.1 static float blendAdd (float *bg*, float *fg*) [static]

Definition at line 337 of file kbanim.cpp.

```
337                                         {
338     float res = bg + fg;
339     if(res > 1.f)
340         res = 1.f;
341     return res;
342 }
```

13.86.2.2 static float blendDivide (float *bg*, float *fg*) [static]

Definition at line 355 of file kbanim.cpp.

```
355                                         {
356     float res = bg / fg;
357     if(res > 1.f)
358         res = 1.f;
359     return res;
360 }
```

13.86.2.3 static float blendMultiply (float *bg*, float *fg*) [static]

Definition at line 351 of file kbanim.cpp.

```
351                                         {
352     return bg * fg;
353 }
```

13.86.2.4 static float blendNormal (float *bg*, float *fg*) [static]

Definition at line 333 of file kbanim.cpp.

```
333                                                 {
334     return fg;
335 }
```

13.86.2.5 static float blendSubtract (float *bg*, float *fg*) [static]

Definition at line 344 of file kbanim.cpp.

```
344                                                 {
345     float res = bg - fg;
346     if(res < 0.f)
347         res = 0.f;
348     return res;
349 }
```

13.86.3 Variable Documentation

13.86.3.1 blendFunc functions[5] = { blendNormal, blendAdd, blendSubtract, blendMultiply, blendDivide } [static]

Definition at line 363 of file kbanim.cpp.

Referenced by KbAnim::blend().

13.87 src/ckb/kbanim.h File Reference

```
#include <QObject>
#include "ckbsettings.h"
#include "animscript.h"
#include "keymap.h"
```

Include dependency graph for kbanim.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbAnim

13.88 src/ckb/kbanimwidget.cpp File Reference

```
#include <QDateTime>
#include <QMenu>
#include "animsettingdialog.h"
#include "kbanimwidget.h"
#include "ui_kbanimwidget.h"
```

Include dependency graph for kbanimwidget.cpp:

13.89 src/ckb/kbanimwidget.h File Reference

```
#include <QListWidgetItem>
#include <QTimer>
#include <QWidget>
#include "animscript.h"
#include "kbanim.h"
#include "kblight.h"
```

Include dependency graph for kbanimwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbAnimWidget

Namespaces

- Ui

13.90 src/ckb/kbbind.cpp File Reference

```
#include <QDateTime>
#include <QUrl>
#include "ckbsettings.h"
#include "kbbind.h"
#include "kbmode.h"
#include "kb.h"
#include "qdebug.h"
```

Include dependency graph for kbbind.cpp:

13.91 src/ckb/kbbind.h File Reference

```
#include <QFile>
#include <QHash>
#include <QObject>
#include <QProcess>
#include "ckbsettings.h"
#include "keymap.h"
#include "keyaction.h"
```

Include dependency graph for kbbind.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbBind

13.92 src/ckb/kbbindwidget.cpp File Reference

```
#include <QMessageBox>
#include "kbbindwidget.h"
#include "modeselectdialog.h"
#include "rebindwidget.h"
#include "ui_kbbindwidget.h"
```

Include dependency graph for kbbindwidget.cpp:

13.93 src/ckb/kbbindwidget.h File Reference

```
#include <QWidget>
#include "kbbind.h"
#include "kbprofile.h"
```

Include dependency graph for kbbindwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbBindWidget

Namespaces

- Ui

13.94 src/ckb/kbfirmware.cpp File Reference

```
#include "kbfirmware.h"
#include "kbmanager.h"
#include "quazip/quazip.h"
#include "quazip/quazipfile.h"
#include <QDateTime>
#include <QDebug>
```

Include dependency graph for kbfirmware.cpp:

Functions

- static QString tableName (const QString &features)

Variables

- static const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000

13.94.1 Function Documentation

13.94.1.1 static QString tableName (const QString & *features*) [static]

Definition at line 150 of file kbfirmware.cpp.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::_latestForBoard().

```
150                                                 {
151     QStringList components = features.split(" ");
152     if(components.length() < 2)
153         return "";
154     // First two components are vendor and model
155     QString vendorModel = components[0].toUpper() + "-" + components[1].toUpper();
156     // Add "RGB" on RGB boards
157     if(features.contains("rgb") && !features.contains("monochrome"))
158         vendorModel += "RGB";
159     return vendorModel;
160 }
```

Here is the caller graph for this function:

13.94.2 Variable Documentation

13.94.2.1 const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000 [static]

Definition at line 9 of file kbfirmware.cpp.

Referenced by KbFirmware::_checkUpdates().

13.95 src/ckb/kbfirmware.h File Reference

```
#include "kb.h"
#include <QObject>
#include <QtNetwork/QtNetwork>
```

Include dependency graph for kbfirmware.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbFirmware
- struct KbFirmware::FW

13.96 src/ckb/kblight.cpp File Reference

```
#include <cmath>
#include <QDateTime>
#include <QSet>
#include "kblight.h"
#include "kbmode.h"
```

Include dependency graph for kblight.cpp:

Functions

- static float sToL (float srgb)
- static float lToS (float linear)
- QRgb monoRgb (float r, float g, float b)

Variables

- static int _shareDimming = -1
- static QSet< KbLight * > activeLights

13.96.1 Function Documentation

13.96.1.1 static float lToS (float *linear*) [static]

Definition at line 277 of file kblight.cpp.

Referenced by KbLight::frameUpdate(), and monoRgb().

```
277                                 {
278     if(linear <= 0.0031308f)
279         return 12.92f * linear * 255.f;
280     return (1.055f * pow(linear, 1.f / 2.4f) - 0.055f) * 255.f;
281 }
```

Here is the caller graph for this function:

13.96.1.2 QRgb monoRgb (float *r*, float *g*, float *b*)

Definition at line 284 of file kblight.cpp.

References lToS(), and sToL().

Referenced by KbLight::base(), KbLight::frameUpdate(), and KeyWidget::paintEvent().

```
284                                         {
285     // It's important to use a linear colorspace for this, otherwise the colors will appear inconsistent
286     // Note that although we could use linear space for alpha blending or the animation blending functions,
        we don't.
287     // The reason for this is that photo manipulation programs don't do it either, so even though the
        result would technically be more correct,
288     // it would look wrong to most people.
289     r = sToL(r);
290     g = sToL(g);
291     b = sToL(b);
292     int value = round(lToS((r + g + b) / 3.f));
293     return qRgb(value, value, value);
294 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.96.1.3 static float sToL (float *srgb*) [static]

Definition at line 270 of file kblight.cpp.

Referenced by KbLight::frameUpdate(), and monoRgb().

```
270                                 {
271     srgb /= 255.f;
272     if(srgb <= 0.04045f)
273         return srgb / 12.92f;
274     return pow((srgb + 0.055f) / 1.055f, 2.4f);
275 }
```

Here is the caller graph for this function:

13.96.2 Variable Documentation

13.96.2.1 int _shareDimming = -1 [static]

Definition at line 7 of file kblight.cpp.

Referenced by KbLight::dimming(), KbLight::open(), and KbLight::shareDimming().

13.96.2.2 QSet<KbLight*> activeLights [static]

Definition at line 8 of file kblight.cpp.

Referenced by KbLight::close(), KbLight::open(), KbLight::shareDimming(), and KbLight::~KbLight().

13.97 src/ckb/kblight.h File Reference

```
#include <QFile>
#include <QObject>
#include <QSet>
#include <QSettings>
#include "animscript.h"
#include "kbanim.h"
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for kblight.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbLight

13.98 src/ckb/kblightwidget.cpp File Reference

```
#include "animadddialog.h"
#include "ckbsettings.h"
#include "kblightwidget.h"
#include "ui_kblightwidget.h"
```

Include dependency graph for kblightwidget.cpp:

13.99 src/ckb/kblightwidget.h File Reference

```
#include <QWidget>
#include <QColor>
#include <QFile>
#include <QResizeEvent>
#include "kblight.h"
#include "keywidget.h"
```

Include dependency graph for kblightwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbLightWidget

Namespaces

- Ui

13.100 src/ckb/kbmanager.cpp File Reference

`#include "kbmanager.h"`
Include dependency graph for kbmanager.cpp:

Variables

- QString devpath = "/dev/input/ckb%1"

13.100.1 Variable Documentation

13.100.1.1 QString devpath = "/dev/input/ckb%1"

Definition at line 4 of file kbmanager.cpp.

Referenced by _setupusb(), closeusb(), main(), os_inputmain(), os_setupusb(), and KbManager::scanKeyboards().

13.101 src/ckb/kbmanager.h File Reference

```
#include <QObject>
#include <QTimer>
#include <cmath>
#include <QSet>
#include "kb.h"
```

Include dependency graph for kbmanager.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbManager

Macros

- #define DAEMON_UNAVAILABLE_STR "<unavailable>"

13.101.1 Macro Definition Documentation

13.101.1.1 #define DAEMON_UNAVAILABLE_STR "<unavailable>"

Definition at line 12 of file kbmanager.h.

Referenced by KbManager::ckbDaemonVersionF(), KbManager::scanKeyboards(), and MainWindow::updateVersion().

13.102 src/ckb/kbmode.cpp File Reference

```
#include "kbmode.h"
#include "kb.h"
```

Include dependency graph for kbmode.cpp:

13.103 src/ckb/kbmode.h File Reference

```
#include <QObject>
#include "kblight.h"
#include "kbbind.h"
#include "kbperf.h"
```

Include dependency graph for kbmode.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct UsbId
- class KbMode

13.104 src/ckb/kbperf.cpp File Reference

```
#include "kbperf.h"
#include "kbmode.h"
#include "kb.h"
#include "media.h"
#include <cmath>
```

Include dependency graph for kbperf.cpp:

Macros

- #define map_last(map) ((map).last())

13.104.1 Macro Definition Documentation

13.104.1.1 #define map_last(*map*) ((map).last())

Definition at line 8 of file kbperf.cpp.

Referenced by KbPerf::popDpi().

13.105 src/ckb/kbperf.h File Reference

```
#include <QFile>
```

```
#include <QMap>
#include <QPoint>
#include "ckbsettings.h"
#include "keymap.h"
```

Include dependency graph for kbperf.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbPerf

13.106 src/ckb/kbprofile.cpp File Reference

```
#include "kbprofile.h"
#include "kb.h"
```

Include dependency graph for kbprofile.cpp:

13.107 src/ckb/kbprofile.h File Reference

```
#include <QList>
#include <QObject>
#include <QSettings>
#include <QString>
#include <QUuid>
#include "kbmode.h"
```

Include dependency graph for kbprofile.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbProfile

13.108 src/ckb/kbprofiledialog.cpp File Reference

```
#include <QMenu>
#include "kbprofiledialog.h"
#include "ui_kbprofiledialog.h"
```

Include dependency graph for kbprofiledialog.cpp:

13.109 src/ckb/kbprofiledialog.h File Reference

```
#include <QDialog>
#include "kbwidget.h"
```

Include dependency graph for kbprofiledialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbProfileDialog

Namespaces

- Ui

13.110 src/ckb/kbwidget.cpp File Reference

```
#include <cmath>
#include <QFileDialog>
#include <QMenu>
#include <QMessageBox>
#include <QUrl>
#include "ckbsettings.h"
#include "fwupgradedialog.h"
#include "kbfirmware.h"
#include "kbwidget.h"
#include "kblightwidget.h"
#include "kbprofiledialog.h"
#include "ui_kbwidget.h"
#include "ui_kblightwidget.h"
```

Include dependency graph for kbwidget.cpp:

13.111 src/ckb/kbwidget.h File Reference

```
#include <QFile>
#include <QListWidgetItem>
#include <QWidget>
#include "kb.h"
```

Include dependency graph for kbwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KbWidget

Namespaces

- Ui

13.112 src/ckb/keyaction.cpp File Reference

```
#include <qdebug.h>
#include "keyaction.h"
#include "kb.h"
#include "kbanim.h"
#include "kbprofile.h"
#include <QDateTime>
#include <QUrl>
#include <cstring>
#include <cstdio>
```

Include dependency graph for keyaction.cpp:

Variables

- static const int ANIM_ONCE = 0x1
- static const int ANIM_KRSTOP = 0x2

13.112.1 Variable Documentation

13.112.1.1 const int ANIM_KRSTOP = 0x2 [static]

Definition at line 182 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

13.112.1.2 const int ANIM_ONCE = 0x1 [static]

Definition at line 182 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

13.113 src/ckb/keyaction.h File Reference

```
#include <QObject>
#include <QProcess>
#include "keymap.h"
```

Include dependency graph for keyaction.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KeyAction

13.114 src/ckb/keymap.cpp File Reference

```
#include <clocale>
#include <QMap>
#include "keymap.h"
```

Include dependency graph for keymap.cpp:

Data Structures

- struct KeyPatch

Macros

- #define NS 12, 12
- #define KEYCOUNT_K95 (sizeof(K95Keys) / sizeof(Key))
- #define ANSI_ENTER_X 199
- #define ANSI_ENTER_Y 51
- #define ANSI_ENTER_W 26
- #define ANSI_ENTER_H 12
- #define ANSI_LSHIFT_X 45
- #define ANSI_LSHIFT_W 26
- #define PATCH_COUNT(patch) (sizeof(patch) / sizeof(KeyPatch))
- #define patch(map, patches) _patch(map, patches, PATCH_COUNT(patches))
- #define K95_WIDTH 298
- #define K95_HEIGHT 76
- #define K70_X_START 38
- #define K70_WIDTH (K95_WIDTH - K70_X_START)
- #define K70_HEIGHT K95_HEIGHT
- #define K65_WIDTH 209
- #define K65_HEIGHT K70_HEIGHT
- #define K63_WIDTH K65_WIDTH
- #define K63_HEIGHT K65_HEIGHT
- #define K65_TOP_COUNT (sizeof(K65TopRow) / sizeof(Key))
- #define K63_TOP_COUNT (sizeof(K63TopRow) / sizeof(Key))
- #define KSTRAFE_X_START 12

- #define KSTRAFE_WIDTH (K70_WIDTH + (KSTRAFE_X_START ∗ 2))
- #define KSTRAFE_HEIGHT K95_HEIGHT
- #define KEYCOUNT_M65 (sizeof(M65Keys) / sizeof(Key))
- #define M65_WIDTH 52
- #define M65_HEIGHT 67
- #define KEYCOUNT_SABRE (sizeof(SabreKeys) / sizeof(Key))
- #define SABRE_WIDTH M65_WIDTH
- #define SABRE_HEIGHT M65_HEIGHT
- #define KEYCOUNT_HARPOON (sizeof(HarpoonKeys) / sizeof(Key))
- #define HARPOON_WIDTH M65_WIDTH
- #define HARPOON_HEIGHT M65_HEIGHT
- #define KEYCOUNT_GLAIVE (sizeof(GlaiveKeys) / sizeof(Key))
- #define GLAIVE_WIDTH M65_WIDTH
- #define GLAIVE_HEIGHT M65_HEIGHT
- #define KEYCOUNT_SCIM (sizeof(ScimKeys) / sizeof(Key))
- #define SCIM_WIDTH M65_WIDTH
- #define SCIM_HEIGHT M65_HEIGHT
- #define N_MODELS KeyMap::_MODEL_MAX
- #define N_LAYOUTS KeyMap::_LAYOUT_MAX

Functions

- static void _patch (QHash< QString, Key > &map, const KeyPatch ∗patches, int patchCount)
- static void patchnonJP106 (QHash< QString, Key > &map)
- static void patchISO (QHash< QString, Key > &map)
- static void patchANSI (QHash< QString, Key > &map)
- static void patchJP106 (QHash< QString, Key > &map)
- static void patchJP106fn (QHash< QString, Key > &map)
- static QHash< QString, Key > getMap (KeyMap::Model model, KeyMap::Layout layout)

Variables

- static const Key K95Keys []
- static const KeyPatch patchDK []
- static const KeyPatch patchEU []
- static const KeyPatch patchFR []
- static const KeyPatch patchDE []
- static const KeyPatch patchIT []
- static const KeyPatch patchNO []
- static const KeyPatch patchMX []
- static const KeyPatch patchES []
- static const KeyPatch patchSE []
- static const KeyPatch patchJP []
- static const KeyPatch patchDvorak []
- static const Key K65TopRow []
- static const Key K63TopRow []
- static const Key KStrafeKeys []
- static const Key M65Keys []
- static const Key SabreKeys []
- static const Key HarpoonKeys []
- static const Key GlaiveKeys []
- static const Key ScimKeys []
- static QHash< QString, Key > K95BaseMap
- static QHash< QString, Key > standardMaps [KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX]

13.114.1 Data Structure Documentation

13.114.1.1 struct KeyPatch

Definition at line 30 of file keymap.cpp.

Collaboration diagram for KeyPatch:

Data Fields

const char *	_friendlyName	
const char *	_storageName	
const char *	name	

13.114.2 Macro Definition Documentation

13.114.2.1 #define ANSI_ENTER_H 12

Definition at line 25 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.2 #define ANSI_ENTER_W 26

Definition at line 24 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.3 #define ANSI_ENTER_X 199

Definition at line 22 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.4 #define ANSI_ENTER_Y 51

Definition at line 23 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.5 #define ANSI_LSHIFT_W 26

Definition at line 27 of file keymap.cpp.

Referenced by patchANSI(), and patchJP106().

13.114.2.6 #define ANSI_LSHIFT_X 45

Definition at line 26 of file keymap.cpp.

Referenced by patchANSI(), and patchJP106().

13.114.2.7 #define GLAIVE_HEIGHT M65_HEIGHT

Definition at line 276 of file keymap.cpp.

13.114.2.8 #define GLAIVE_WIDTH M65_WIDTH

Definition at line 275 of file keymap.cpp.

13.114.2.9 #define HARPOON_HEIGHT M65_HEIGHT

Definition at line 264 of file keymap.cpp.

13.114.2.10 #define HARPOON_WIDTH M65_WIDTH

Definition at line 263 of file keymap.cpp.

13.114.2.11 #define K63_HEIGHT K65_HEIGHT

Definition at line 204 of file keymap.cpp.

13.114.2.12 #define K63_TOP_COUNT (sizeof(K63TopRow) / sizeof(Key))

Definition at line 214 of file keymap.cpp.

Referenced by getMap().

13.114.2.13 #define K63_WIDTH K65_WIDTH

Definition at line 203 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.14 #define K65_HEIGHT K70_HEIGHT

Definition at line 200 of file keymap.cpp.

13.114.2.15 #define K65_TOP_COUNT (sizeof(K65TopRow) / sizeof(Key))

Definition at line 209 of file keymap.cpp.

Referenced by getMap().

13.114.2.16 #define K65_WIDTH 209

Definition at line 199 of file keymap.cpp.

Referenced by getMap(), and KeyMap::modelWidth().

13.114.2.17 #define K70_HEIGHT K95_HEIGHT

Definition at line 196 of file keymap.cpp.

13.114.2.18 #define K70_WIDTH (K95_WIDTH - K70_X_START)

Definition at line 195 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.19 #define K70_X_START 38

Definition at line 194 of file keymap.cpp.

Referenced by getMap().

13.114.2.20 #define K95_HEIGHT 76

Definition at line 191 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.114.2.21 #define K95_WIDTH 298

Definition at line 190 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.22 #define KEYCOUNT_GLAIVE (sizeof(GlaiveKeys) / sizeof(Key))

Definition at line 273 of file keymap.cpp.

Referenced by getMap().

13.114.2.23 #define KEYCOUNT_HARPOON (sizeof(HarpoonKeys) / sizeof(Key))

Definition at line 261 of file keymap.cpp.

Referenced by getMap().

13.114.2.24 #define KEYCOUNT_K95 (sizeof(K95Keys) / sizeof(Key))

Definition at line 19 of file keymap.cpp.

Referenced by getMap().

13.114.2.25 #define KEYCOUNT_M65 (sizeof(M65Keys) / sizeof(Key))

Definition at line 236 of file keymap.cpp.

Referenced by getMap().

13.114.2.26 #define KEYCOUNT_SABRE (sizeof(SabreKeys) / sizeof(Key))

Definition at line 249 of file keymap.cpp.

Referenced by getMap().

13.114.2.27 #define KEYCOUNT_SCIM (sizeof(ScimKeys) / sizeof(Key))

Definition at line 290 of file keymap.cpp.

Referenced by getMap().

13.114.2.28 #define KSTRAFE_HEIGHT K95_HEIGHT

Definition at line 219 of file keymap.cpp.

13.114.2.29 #define KSTRAFE_WIDTH (K70_WIDTH + (KSTRAFE_X_START * 2))

Definition at line 218 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.30 #define KSTRAFE_X_START 12

Definition at line 217 of file keymap.cpp.

Referenced by getMap().

13.114.2.31 #define M65_HEIGHT 67

Definition at line 239 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.114.2.32 #define M65_WIDTH 52

Definition at line 238 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.33 #define N_LAYOUTS KeyMap::_LAYOUT_MAX

Definition at line 297 of file keymap.cpp.

Referenced by getMap().

13.114.2.34 #define N_MODELS KeyMap::_MODEL_MAX

Definition at line 296 of file keymap.cpp.

Referenced by getMap().

13.114.2.35 #define NS 12, 12

Definition at line 6 of file keymap.cpp.

13.114.2.36 #define patch(*map, patches*) _patch(map, patches, PATCH_COUNT(patches))

Definition at line 111 of file keymap.cpp.

Referenced by getMap().

13.114.2.37 #define PATCH_COUNT(patch) (sizeof(patch) / sizeof(KeyPatch))

Definition at line 110 of file keymap.cpp.

13.114.2.38 #define SABRE_HEIGHT M65_HEIGHT

Definition at line 252 of file keymap.cpp.

13.114.2.39 #define SABRE_WIDTH M65_WIDTH

Definition at line 251 of file keymap.cpp.

13.114.2.40 #define SCIM_HEIGHT M65_HEIGHT

Definition at line 293 of file keymap.cpp.

13.114.2.41 #define SCIM_WIDTH M65_WIDTH

Definition at line 292 of file keymap.cpp.

13.114.3 Function Documentation

13.114.3.1 static void _patch (QHash< QString, Key > & *map,* const KeyPatch * *patches,* int *patchCount*) [static]

Definition at line 112 of file keymap.cpp.

References Key::_friendlyName, and Key::_storageName.

```
{
    for(const KeyPatch* p = patches; p < patches + patchCount; p++){
        Key& key = map[p->name];
        key._storageName = p->_storageName;
```

```
        key._friendlyName = p->_friendlyName;
    }
}
```

13.114.3.2 static QHash<QString, Key> getMap (KeyMap::Model *model*, KeyMap::Layout *layout*) [static]

Definition at line 300 of file keymap.cpp.

References KeyMap::DE, KeyMap::DK, KeyMap::ES, KeyMap::EU, KeyMap::EU_DVORAK, KeyMap::FR, KeyMap::GB_DVORAK, KeyMap::GLAIVE, KeyMap::HARPOON, Key::height, KeyMap::isISO(), KeyMap::isJP(), KeyMap::IT, KeyMap::JP, KeyMap::K63, K63_TOP_COUNT, KeyMap::K65, K65_TOP_COUNT, K65_WIDTH, KeyMap::K70, K70_X_START, KeyMap::K95, K95BaseMap, KEYCOUNT_GLAIVE, KEYCOUNT_HARPOON, KEYCOUNT_K95, KEYCOUNT_M65, KEYCOUNT_SABRE, KEYCOUNT_SCIM, KSTRAFE_X_START, KeyMap::M65, KeyMap::MX, N_LAYOUTS, N_MODELS, key::name, KeyMap::NO, patch, patchANSI(), patchISO(), patchJP106(), patchJP106fn(), KeyMap::SABRE, KeyMap::SCIMITAR, KeyMap::SE, standardMaps, KeyMap::STRAFE, KeyMap::US_DVORAK, Key::width, Key::x, and Key::y.

```
300                                                                                 {
301     if(model < 0 || layout < 0 || model >= N_MODELS || layout >=
    N_LAYOUTS)
302         return QHash<QString, Key>();
303     // Return the map if it's already filled out
304     QHash<QString, Key>& map = standardMaps[model][layout];
305     if(!map.empty())
306         return map;
307     // Otherwise, create it
308     switch(model){
309     case KeyMap::K95:{
310         // The K95 maps serve as bases for all the other keyboards
311         // Fetch the master map, or create it if not yet done
312         if(K95BaseMap.empty()){
313             for(const Key* key = K95Keys; key < K95Keys +
    KEYCOUNT_K95; key++)
314                 K95BaseMap[key->name] = *key;
315         }
316         map = K95BaseMap;
317         // Patch the map for the layout
318         switch(layout){
319         case KeyMap::DK:
320             patch(map, patchDK);
321             break;
322         case KeyMap::EU_DVORAK:
323             patch(map, patchDvorak);    // fall through
324         case KeyMap::EU:
325             patch(map, patchEU);
326             break;
327         case KeyMap::GB_DVORAK:
328         case KeyMap::US_DVORAK:
329             patch(map, patchDvorak);
330             break;
331         case KeyMap::FR:
332             patch(map, patchFR);
333             break;
334         case KeyMap::DE:
335             patch(map, patchDE);
336             break;
337         case KeyMap::IT:
338             patch(map, patchIT);
339             break;
340         case KeyMap::NO:
341             patch(map, patchNO);
342             break;
343         case KeyMap::MX:
344             patch(map, patchMX);
345             break;
346         case KeyMap::ES:
347             patch(map, patchES);
348             break;
349         case KeyMap::SE:
350             patch(map, patchSE);
351             break;
352         case KeyMap::JP:
353             patch(map, patchJP);
354             break;
355         default:;
356             // English QWERTY - no patch needed
357         }
358         if(KeyMap::isJP(layout))
```

```
            patchJP106(map);
        else if(KeyMap::isISO(layout))
            patchISO(map);
        else
            patchANSI(map);
        // Done! return the map
        break;
    }
    case KeyMap::K70:{
        // The K70 maps are based on the K95 maps. However all the keys are shifted left and the G keys are removed
        map = getMap(KeyMap::K95, layout);
        QMutableHashIterator<QString, Key> i(map);
        while(i.hasNext()){
            i.next();
            // Move key to left. Remove it if it fell off the edge
            if((i.value().x -= K70_X_START) < 0)
                i.remove();
        }
        // Remove the M buttons as well
        map.remove("mr");
        map.remove("m1");
        map.remove("m2");
        map.remove("m3");
        // Done!
        break;
    }
    case KeyMap::K65:{
        // The K65 maps additionally remove the numpad and have a modified top row
        map = getMap(KeyMap::K70, layout);
        QMutableHashIterator<QString, Key> i(map);
        while(i.hasNext()){
            i.next();
            if(i.value().x >= K65_WIDTH)
                i.remove();
        }
        for(const Key* key = K65TopRow; key < K65TopRow + K65_TOP_COUNT; key++)
            map[key->name] = *key;

        map.remove("rwin");
        map["fn"] = KStrafeKeys[3];
        map["fn"].x -= 12;

        if(KeyMap::isJP(layout))
            patchJP106fn(map);

        // Done!
        break;
    }
    case KeyMap::K63:{
        // Same as the K65 but without the Fn key
        map = getMap(KeyMap::K70, layout);
        QMutableHashIterator<QString, Key> i(map);
        while(i.hasNext()){
            i.next();
            if(i.value().x >= K65_WIDTH)
                i.remove();
        }
        for(const Key* key = K63TopRow; key < K63TopRow + K63_TOP_COUNT; key++)
            map[key->name] = *key;

        break;
    }
    case KeyMap::STRAFE:{
        // The Strafe RGB maps are based on the K70 map minus the media keys
        map = getMap(KeyMap::K70, layout);
        //move light and lock right
        map["light"].x=285 - K70_X_START;
        //map["light"].hasLed=false;
        map["lock"].x=297 - K70_X_START;
        //map["lock"].hasLed=false;
        // move everything right to make the space for the left sidelight
        QMutableHashIterator<QString, Key> i(map);
        while(i.hasNext()){
            i.next();
            i.value().x += KSTRAFE_X_START;
        }
        // Add Strafe lights and keys
        map["lsidel"] = KStrafeKeys[0];
        map["rsidel"] = KStrafeKeys[1];
        map["logo"] = KStrafeKeys[2];
        map["fn"] = KStrafeKeys[3];
        map.remove("rwin");
        // remove media controls
        map.remove("mute");
```

```
        map.remove("volup");
        map.remove("voldn");
        map.remove("stop");
        map.remove("prev");
        map.remove("play");
        map.remove("next");

        if(KeyMap::isJP(layout))
            patchJP106fn(map);

        // Done!
        break;
    }
    case KeyMap::M65:{
        // M65 isn't a keyboard; all mouse maps are unique.
        for(const Key* key = M65Keys; key < M65Keys + KEYCOUNT_M65; key++){
            // Keyboard keys are written from the center because that's where the LEDs are, but the mouse buttons are odd shapes so they're
            // written from the upper left
            Key translatedKey = *key;
            translatedKey.x += translatedKey.width / 2;
            translatedKey.y += translatedKey.height / 2;
            map[key->name] = translatedKey;
        }
        // Mice also have no layout patches - no other changes necessary
        break;
    }
    case KeyMap::SABRE:{
        // Sabre mouse
        for(const Key* key = SabreKeys; key < SabreKeys + KEYCOUNT_SABRE; key++){
            // Like the M65, the keys are upper-left justified
            Key translatedKey = *key;
            translatedKey.x += translatedKey.width / 2;
            translatedKey.y += translatedKey.height / 2;
            map[key->name] = translatedKey;
        }
        break;
    }
    case KeyMap::SCIMITAR:{
        // Scimitar mouse
        for(const Key* key = ScimKeys; key < ScimKeys + KEYCOUNT_SCIM; key++){
            Key translatedKey = *key;
            translatedKey.x += translatedKey.width / 2;
            translatedKey.y += translatedKey.height / 2;
            map[key->name] = translatedKey;
        }
        break;
    }
    case KeyMap::HARPOON:{
        // Harpoon mouse
        for(const Key* key = HarpoonKeys; key < HarpoonKeys + KEYCOUNT_HARPOON; key++){
            Key translatedKey = *key;
            translatedKey.x += translatedKey.width / 2;
            translatedKey.y += translatedKey.height / 2;
            map[key->name] = translatedKey;
        }
        break;
    }
    case KeyMap::GLAIVE:{
        // Glaive mouse
        for(const Key* key = GlaiveKeys; key < GlaiveKeys + KEYCOUNT_GLAIVE; key++){
            Key translatedKey = *key;
            translatedKey.x += translatedKey.width / 2;
            translatedKey.y += translatedKey.height / 2;
            map[key->name] = translatedKey;
        }
        break;
    }
    default:;    // <- stop GCC from complaining
    }
    // Map is finished, return result
    return map;
}
```

Here is the call graph for this function:

13.114.3.3 static void patchANSI (QHash< QString, Key > & *map*) [static]

Definition at line 132 of file keymap.cpp.

References ANSI_ENTER_H, ANSI_ENTER_W, ANSI_ENTER_X, ANSI_ENTER_Y, ANSI_LSHIFT_W, ANSI_LSHIFT_X, Key::height, patchnonJP106(), Key::width, Key::x, and Key::y.

Referenced by getMap().

```
132                                                 {
133     patchnonJP106(map);
134     map.remove("bslash_iso");
135     map.remove("hash");
136     Key& enter = map["enter"];
137     enter.x = ANSI_ENTER_X;
138     enter.y = ANSI_ENTER_Y;
139     enter.width = ANSI_ENTER_W;
140     enter.height = ANSI_ENTER_H;
141     Key& lshift = map["lshift"];
142     lshift.x = ANSI_LSHIFT_X;
143     lshift.width = ANSI_LSHIFT_W;
144 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.114.3.4 static void patchISO (QHash< QString, Key > & *map*) [static]

Definition at line 128 of file keymap.cpp.

References patchnonJP106().

Referenced by getMap().

```
128                                                 {
129     patchnonJP106(map);
130     map.remove("bslash");
131 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.114.3.5 static void patchJP106 (QHash< QString, Key > & *map*) [static]

Definition at line 145 of file keymap.cpp.

References ANSI_LSHIFT_W, ANSI_LSHIFT_X, Key::width, and Key::x.

Referenced by getMap().

```
145                                                 {
146     // First apply the ISO patch
147     map.remove("bslash");
148
149     // Resize Backspace
150     Key& bspace = map["bspace"];
151     bspace.width -= 12;
152     bspace.x = 206;
153
154     // Resize RShift
155     Key& rshift = map["rshift"];
156     rshift.width -= 12;
157     rshift.x += 6;
158
159     // Resize Spacebar
160     Key& space = map["space"];
161     space.width -= 26;
162     space.x -= 1;
163
164     // Left shift
165     Key& lshift = map["lshift"];
166     lshift.x = ANSI_LSHIFT_X;
167     lshift.width = ANSI_LSHIFT_W;
168
169     map.remove("bslash_iso");
170
171     // Resize and move ralt to make space for the extra keys
172     Key& ralt = map["ralt"];
173     ralt.x += 11;
174     ralt.width += 2;
175
176     // None of these layouts have rwin
177     map.remove("rwin");
178 }
```

Here is the caller graph for this function:

13.114.3.6 static void patchJP106fn (QHash< QString, Key > & *map*) [static]

Definition at line 180 of file keymap.cpp.

References Key::width, and Key::x.

Referenced by getMap().

```
180                                                 {
181     if(map.contains("fn")){
182         map.remove("ralt");
183         Key& fn = map["fn"];
184         fn.width += 4;
185         fn.x -= 2;
186     }
187 }
```

Here is the caller graph for this function:

13.114.3.7 static void patchnonJP106 (QHash< QString, Key > & *map*) [static]

Definition at line 121 of file keymap.cpp.

Referenced by patchANSI(), and patchISO().

```
121                                                 {
122     map.remove("yen");
123     map.remove("henkan");
124     map.remove("muhenkan");
125     map.remove("katahira");
126     map.remove("ro");
127 }
```

Here is the caller graph for this function:

13.114.4 Variable Documentation

13.114.4.1 const Key GlaiveKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 17, 3, 14, 18, false, true}, {0, "Right Mouse", "mouse2", 37, 3, 14, 18,
      false, true}, {0, "Middle Mouse", "mouse3", 31, 9, 7, 7, false, true}, {0, "Front light", "front", 16, -5, 36,
       8, true, false },
    {0, "Wheel Up", "wheelup", 31, 5, 7, 5, false, true}, {0, "Wheel Down", "wheeldn", 31, 15, 7, 5, false,
      true}, {0, "Side Lights", "side", 22, 24, 7, 20, true, false},
    {0, "DPI Cycle", "dpiup", 31, 19, 6, 12, false, true}, {0, "Logo Light", "back", 24, 43, 20, 20, true,
      false},
    {0, "Forward", "mouse5", 15, 22, 5, 11, false, true}, {0, "Back", "mouse4", 15, 32, 5, 11, false, true}
    }
```

Definition at line 267 of file keymap.cpp.

13.114.4.2 const Key HarpoonKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 10, 5, 14, 26, false, true}, {0, "Right Mouse", "mouse2", 30, 5, 14, 26,
      false, true}, {0, "Middle Mouse", "mouse3", 25, 11, 6, 7, false, true},
    {0, "Wheel Up", "wheelup", 25, 7, 6, 5, false, true}, {0, "Wheel Down", "wheeldn", 25, 17, 6, 5, false,
      true},
    {0, "DPI Cycle", "dpiup", 25, 23, 6, 10, false, true}, {0, "Logo Light", "dpi", 17, 40, 20, 20, true,
      false},
    {0, "Forward", "mouse5", 3, 24, 5, 10, false, true}, {0, "Back", "mouse4", 3, 33, 5, 10, false, true}
    }
```

Definition at line 255 of file keymap.cpp.

13.114.4.3 const Key K63TopRow[] [static]

Initial value:

```
= {
    {0, "Stop", "stop",  38  - 37, 0, 12, 8, true, true}, {0, "Previous", "prev",  38  - 26, 0, 12, 8, true
      , true}, {0, "Play/Pause", "play",  38  - 15, 0, 12, 8, true, true}, {0, "Next", "next",  38  - 4, 0, 12, 8,
       true, true}, {0, "Brightness", "light", 170 -  38 , 0, 12, 12, true, true}, {0, "Windows Lock", "lock", 180
       -  38 , 0, 12, 12, true, true}, {0, "Mute", "mute", 222 -  38 , 0, 13, 8, true, true}, {0, "Volume Down", "
      voldn", 234 -  38 , 0, 13, 8, true, true}, {0, "Volume Up", "volup", 246 -  38 , 0, 13, 8, true, true}
}
```

Definition at line 211 of file keymap.cpp.

13.114.4.4 const Key K65TopRow[] [static]

Initial value:

```
= {
    {0, "Brightness", "light", 164 -  38 , 0, 12, 12, true, true}, {0, "Mute", "mute", 176 -  38 , 0, 12,
      12, true, true}, {0, "Volume Down", "voldn", 192 -  38 , 0, 14, 8, true, true}, {0, "Volume Up", "volup", 205
       -  38 , 0, 14, 8, true, true}, {0, "Windows Lock", "lock", 222 -  38 , 0, 12, 12, true, true}
}
```

Definition at line 206 of file keymap.cpp.

13.114.4.5 QHash<QString, Key> K95BaseMap [static]

Definition at line 298 of file keymap.cpp.

Referenced by getMap().

13.114.4.6 const Key K95Keys[] [static]

Initial value:

```
= {
    {0, 0, "mr", 38, 0,  12, 12 , true, true}, {0, 0, "m1", 50, 0,  12, 12 , true, true}, {0, 0, "m2", 62,
      0,  12, 12 , true, true}, {0, 0, "m3", 74, 0,  12, 12 , true, true}, {0, "Brightness", "light", 222, 0,  12,
       12 , true, true}, {0, "Windows Lock", "lock", 234, 0,  12, 12 , true, true}, {0, "Mute", "mute", 273, 0, 13
      , 8, true, true}, {0, "Volume Up", "volup", 290, -2, 18, 6, false, true}, {0, "Volume down", "voldn", 290, 2
      , 18, 6, false, true},
    {0, 0, "g1", 0, 14,  12, 12 , true, true}, {0, 0, "g2", 11, 14,  12, 12 , true, true}, {0, 0, "g3", 22,
       14,  12, 12 , true, true}, {0, "Esc", "esc", 38, 14,  12, 12 , true, true}, {0, 0, "f1", 58, 14,  12, 12 ,
      true, true}, {0, 0, "f2", 70, 14,  12, 12 , true, true}, {0, 0, "f3", 82, 14,  12, 12 , true, true}, {0, 0,
      "f4", 94, 14,  12, 12 , true, true}, {0, 0, "f5", 114, 14,  12, 12 , true, true}, {0, 0, "f6", 126, 14,  12,
       12 , true, true}, {0, 0, "f7", 138, 14,  12, 12 , true, true}, {0, 0, "f8", 150, 14,  12, 12 , true, true},
       {0, 0, "f9", 170, 14,  12, 12 , true, true}, {0, 0, "f10", 182, 14,  12, 12 , true, true}, {0, 0, "f11",
      194, 14,  12, 12 , true, true}, {0, 0, "f12", 206, 14,  12, 12 , true, true}, {0, "Print Screen\nSysRq", "
      prtscn", 222, 14,  12, 12 , true, true}, {0, "Scroll Lock", "scroll", 234, 14,  12, 12 , true, true}, {0, "Pause
      \nBreak", "pause", 246, 14,  12, 12 , true, true}, {0, "Stop", "stop", 262, 14, 12, 8, true, true}, {0, "
      Previous", "prev", 273, 14, 13, 8, true, true}, {0, "Play/Pause", "play", 285, 14, 13, 8, true, true}, {0, "
      Next", "next", 296, 14, 12, 8, true, true},
    {0, 0, "g4", 0, 25,  12, 12 , true, true}, {0, 0, "g5", 11, 25,  12, 12 , true, true}, {0, 0, "g6", 22,
       25,  12, 12 , true, true}, {0, "`", "grave", 38, 27,  12, 12 , true, true}, {0, 0, "1", 50, 27,  12, 12 ,
      true, true}, {0, 0, "2", 62, 27,  12, 12 , true, true}, {0, 0, "3", 74, 27,  12, 12 , true, true}, {0, 0, "4"
      , 86, 27,  12, 12 , true, true}, {0, 0, "5", 98, 27,  12, 12 , true, true}, {0, 0, "6", 110, 27,  12, 12 ,
      true, true}, {0, 0, "7", 122, 27,  12, 12 , true, true}, {0, 0, "8", 134, 27,  12, 12 , true, true}, {0, 0, "
      9", 146, 27,  12, 12 , true, true}, {0, 0, "0", 158, 27,  12, 12 , true, true}, {0, "-", "minus", 170, 27,
      12, 12 , true, true}, {0, "=", "equal", 182, 27,  12, 12 , true, true}, {0, "¥", "yen", 194, 27,  12, 12 ,
      true, true}, {0, "Backspace", "bspace", 200, 27, 24, 12, true, true}, {0, "Insert", "ins", 222, 27,  12, 12 ,
       true, true}, {0, "Home", "home", 234, 27,  12, 12 , true, true}, {0, "Page Up", "pgup", 246, 27,  12, 12 ,
      true, true}, {0, "Num Lock", "numlock", 261, 27,  12, 12 , true, true}, {0, "NumPad /", "numslash", 273, 27,
        12, 12 , true, true}, {0, "NumPad *", "numstar", 285, 27,  12, 12 , true, true}, {0, "NumPad -", "numminus
      ", 297, 27,  12, 12 , true, true},
    {0, 0, "g7", 0, 39,  12, 12 , true, true}, {0, 0, "g8", 11, 39,  12, 12 , true, true}, {0, 0, "g9", 22,
       39,  12, 12 , true, true}, {0, "Tab", "tab", 41, 39, 18, 12, true, true}, {0, 0, "q", 56, 39,  12, 12 ,
      true, true}, {0, 0, "w", 68, 39,  12, 12 , true, true}, {0, 0, "e", 80, 39,  12, 12 , true, true}, {0, 0, "r",
      92, 39,  12, 12 , true, true}, {0, 0, "t", 104, 39,  12, 12 , true, true}, {0, 0, "y", 116, 39,  12, 12 ,
      true, true}, {0, 0, "u", 128, 39,  12, 12 , true, true}, {0, 0, "i", 140, 39,  12, 12 , true, true}, {0, 0, "o
      ", 152, 39,  12, 12 , true, true}, {0, 0, "p", 164, 39,  12, 12 , true, true}, {0, "[", "lbrace", 176, 39,
      12, 12 , true, true}, {0, "]", "rbrace", 188, 39,  12, 12 , true, true}, {0, "\\", "bslash", 203, 39, 18, 12
      , true, true}, {0, "Enter", "enter", 203, 39, 18, 24, true, true}, {0, "Delete", "del", 222, 39,  12, 12 ,
      true, true}, {0, "End", "end", 234, 39,  12, 12 , true, true}, {0, "Page Down", "pgdn", 246, 39,  12, 12 ,
      true, true}, {0, "NumPad 7", "num7", 261, 39,  12, 12 , true, true}, {0, "NumPad 8", "num8", 273, 39,  12, 12
      , true, true}, {0, "NumPad 9", "num9", 285, 39,  12, 12 , true, true}, {0, "NumPad +", "numplus", 297, 45,
      12, 24, true, true},
    {0, 0, "g10", 0, 50,  12, 12 , true, true}, {0, 0, "g11", 11, 50,  12, 12 , true, true}, {0, 0, "g12",
      22, 50,  12, 12 , true, true}, {0, "Caps Lock", "caps", 42, 51, 20, 12, true, true}, {0, 0, "a", 59, 51,  12
      , 12 , true, true}, {0, 0, "s", 71, 51,  12, 12 , true, true}, {0, 0, "d", 83, 51,  12, 12 , true, true}, {0
      , 0, "f", 95, 51,  12, 12 , true, true}, {0, 0, "g", 107, 51,  12, 12 , true, true}, {0, 0, "h", 119, 51,
      12, 12 , true, true}, {0, 0, "j", 131, 51,  12, 12 , true, true}, {0, 0, "k", 143, 51,  12, 12 , true, true},
       {0, 0, "l", 155, 51,  12, 12 , true, true}, {0, ";", "colon", 167, 51,  12, 12 , true, true}, {0, "'", "
      quote", 179, 51,  12, 12 , true, true}, {0, "#", "hash", 191, 51,  12, 12 , true, true}, {0, "NumPad 4", "num4"
      , 261, 51,  12, 12 , true, true}, {0, "NumPad 5", "num5", 273, 51,  12, 12 , true, true}, {0, "NumPad 6", "
      num6", 285, 51,  12, 12 , true, true},
    {0, 0, "g13", 0, 64,  12, 12 , true, true}, {0, 0, "g14", 11, 64,  12, 12 , true, true}, {0, 0, "g15",
      22, 64,  12, 12 , true, true}, {0, "Left Shift", "lshift", 39, 63, 14, 12, true, true}, {"bslash", "\\", "
      bslash_iso", 53, 63,  12, 12 , true, true}, {0, 0, "z", 65, 63,  12, 12 , true, true}, {0, 0, "x", 77, 63,  12
      , 12 , true, true}, {0, 0, "c", 89, 63,  12, 12 , true, true}, {0, 0, "v", 101, 63,  12, 12 , true, true}, {
      0, 0, "b", 113, 63,  12, 12 , true, true}, {0, 0, "n", 125, 63,  12, 12 , true, true}, {0, 0, "m", 137, 63,
       12, 12 , true, true}, {0, ",", "comma", 149, 63,  12, 12 , true, true}, {0, ".", "dot", 161, 63,  12, 12 ,
      true, true}, {0, "/", "slash", 173, 63,  12, 12 , true, true}, {0, "_", "ro", 185, 63,  12, 12 , true, true}
      , {0, "Right Shift", "rshift", 196, 63, 32, 12, true, true}, {0, "Up", "up", 234, 63,  12, 12 , true, true},
       {0, "NumPad 1", "num1", 261, 63,  12, 12 , true, true}, {0, "NumPad 2", "num2", 273, 63,  12, 12 , true,
      true}, {0, "NumPad 3", "num3", 285, 63,  12, 12 , true, true}, {0, "NumPad Enter", "numenter", 297, 69, 12, 24
      , true, true},
    {0, 0, "g16", 0, 75,  12, 12 , true, true}, {0, 0, "g17", 11, 75,  12, 12 , true, true}, {0, 0, "g18",
      22, 75,  12, 12 , true, true}, {0, "Left Ctrl", "lctrl", 40, 75, 16, 12, true, true}, {0, "Left Windows", "
      lwin", 54, 75,  12, 12 , true, true}, {0, "Left Alt", "lalt", 67, 75, 14, 12, true, true}, {0, "", "
      muhenkan", 80, 75,  12, 12 , true, true}, {0, "Space", "space", 116, 75, 84, 12, true, true}, {0, "", "henkan",
      150, 75,  12, 12 , true, true}, {0, "  ", "katahira", 162, 75,  12, 12 , true, true}, {0, "Right
       Alt", "ralt", 165, 75, 14, 12, true, true}, {0, "Right Windows", "rwin", 178, 75,  12, 12 , true, true}, {0
      , "Menu", "rmenu", 190, 75,  12, 12 , true, true}, {0, "Right Ctrl", "rctrl", 204, 75, 16, 12, true, true},
      {0, "Left", "left", 222, 75,  12, 12 , true, true}, {0, "Down", "down", 234, 75,  12, 12 , true, true}, {0,
      "Right", "right", 246, 75,  12, 12 , true, true}, {0, "NumPad 0", "num0", 267, 75, 24, 12, true, true}, {0,
      "NumPad .", "numdot", 285, 75,  12, 12 , true, true}
}
```

Definition at line 10 of file keymap.cpp.

13.114.4.7 const Key KStrafeKeys[] [static]

Initial value:

```
= {
    {0, "Sidelight", "lsidel", 0,   76  /2,  12 ,   76  , true, false},
    {0, "Sidelight", "rsidel",  ( ( 298  -  38 )  + ( 12  * 2)) ,   76  /2,  12 ,   76  , true, false},
    {0, "Logo", "logo",  12 , 0,  12, 12 , true, false},
    {0, "Function", "fn", 152, 75,  12, 12 , true, true}
}
```

Definition at line 221 of file keymap.cpp.

13.114.4.8 const Key M65Keys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 14, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 8, 8, 7, false, true},
    {0, "Wheel Up", "wheelup", 22, 4, 8, 5, false, true}, {0, "Wheel Down", "wheeldn", 22, 14, 8, 5, false,
       true}, {0, "Wheel Light", "front", 22, 15, 8, 8, true, false},
    {0, "DPI Up", "dpiup", 22, 19, 8, 6, false, true}, {0, "DPI Light", "dpi", 22, 24, 8, 8, true, false},
      {0, "DPI Down", "dpidn", 22, 31, 8, 6, false, true},
    {0, "Forward", "mouse5", 5, 24, 5, 9, false, true}, {0, "Back", "mouse4", 5, 33, 5, 10, false, true}, {
      0, "Sniper", "sniper", 0, 25, 5, 15, false, true},
    {0, "Logo", "back", 14, 55, 24, 12, true, false}
}
```

Definition at line 229 of file keymap.cpp.

13.114.4.9 const KeyPatch patchDE[] [static]

Initial value:

```
= {
    {"caret", "^", "grave"}, {"ss", "ß", "minus"}, {"grave", "´", "equal"},
    {"z", "Z", "y"}, {"ue", "Ü", "lbrace"}, {"plus", "+", "rbrace"},
    {"oe", "Ö", "colon"}, {"ae", "Ä", "quote"},
    {"angle", "<", "bslash_iso"}, {"y", "Y", "z"}, {"minus", "-", "slash"}
}
```

Definition at line 55 of file keymap.cpp.

13.114.4.10 const KeyPatch patchDK[] [static]

Initial value:

```
= {
    {0, "§", "grave"}, {0, "+", "minus"}, {0, "´", "equal"},
    {0, "Å", "lbrace"}, {0, "¨", "rbrace"},
    {0, "Æ", "colon"}, {0, "Ø", "quote"}, {0, "’", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 36 of file keymap.cpp.

13.114.4.11 const KeyPatch patchDvorak[] [static]

Initial value:

```
= {
    {0, "[", "minus"}, {0, "]", "equal"},
    {0, "′", "q"}, {0, ",", "w"}, {0, ".", "e"}, {0, "P", "r"}, {0, "Y", "t"}, {0, "F", "y"}, {0, "G", "u"}
      , {0, "C", "i"}, {0, "R", "o"}, {0, "L", "p"}, {0, "/", "lbrace"}, {0, "=", "rbrace"},
    {0, "O", "s"}, {0, "E", "d"}, {0, "U", "f"}, {0, "I", "g"}, {0, "D", "h"}, {0, "H", "j"}, {0, "T", "k"}
      , {0, "N", "l"}, {0, "S", "colon"}, {0, "-", "quote"},
    {0, ";", "z"}, {0, "Q", "x"}, {0, "J", "c"}, {0, "K", "v"}, {0, "X", "b"}, {0, "B", "n"}, {0, "W", "
      comma"}, {0, "V", "dot"}, {0, "Z", "slash"},
}
```

Definition at line 102 of file keymap.cpp.

13.114.4.12 const KeyPatch patchES[] [static]

Initial value:

```
= {
    {"oa", "°", "grave"}, {"quote", "´", "minus"}, {"lexclam", "¡", "equal"},
    {"grave", "`", "lbrace"}, {"plus", "+", "rbrace"},
    {"nn", "Ñ", "colon"}, {"accent", "´", "quote"}, {"cc", "Ç", "hash"},
    {"angle", "<", "bslash_iso"}, {"minus", "-", "slash"},
}
```

Definition at line 83 of file keymap.cpp.

13.114.4.13 const KeyPatch patchEU[] [static]

Initial value:

```
= {
    {0, "\\ (R)", "hash"},
    {0, "\\ (L)", "bslash_iso"},
}
```

Definition at line 43 of file keymap.cpp.

13.114.4.14 const KeyPatch patchFR[] [static]

Initial value:

```
= {
    {"sup2", "²", "grave"}, {0, "&", "1"}, {0, "É", "2"}, {0, "\"", "3"}, {0, "´", "4"}, {0, "(", "5"}, {0,
       "-", "6"}, {0, "È", "7"}, {0, "_", "8"}, {0, "Ç", "9"}, {0, "À", "0"}, {"rparen", ")", "minus"},
    {"a", "A", "q"}, {"z", "Z", "w"}, {"caret", "^", "lbrace"}, {"dollar", "$", "rbrace"},
    {"q", "Q", "a"}, {"m", "M", "colon"}, {"percent", "Ù", "quote"}, {"star", "*", "hash"},
    {"angle", "<", "bslash_iso"}, {"w", "W", "z"}, {"comma", ",", "m"}, {"semicolon", ";", "comma"}, {"
      colon", ":", "dot"}, {"exclam", "!", "slash"},
}
```

Definition at line 48 of file keymap.cpp.

13.114.4.15 const KeyPatch patchIT[] [static]

Initial value:

```
= {
    {0, "\\", "grave"}, {0, "´", "minus"}, {0, "Ì", "equal"},
    {0, "È", "lbrace"}, {0, "+", "rbrace"},
    {0, "Ò", "colon"}, {0, "À", "quote"}, {0, "Ù", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 62 of file keymap.cpp.

13.114.4.16 const KeyPatch patchJP[] [static]

Initial value:

```
= {

}
```

Definition at line 97 of file keymap.cpp.

13.114.4.17 const KeyPatch patchMX[] [static]

Initial value:

```
= {
    {0, "|", "grave"}, {0, "´", "minus"}, {0, "¿", "equal"},
    {0, "´", "lbrace"}, {0, "+", "rbrace"},
    {0, "Ñ", "colon"}, {0, "{", "quote"}, {0, "}", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 76 of file keymap.cpp.

13.114.4.18 const KeyPatch patchNO[] [static]

Initial value:

```
= {
    {0, "§", "grave"}, {0, "+", "minus"}, {0, "´", "equal"},
    {0, "Å", "lbrace"}, {0, "¨", "rbrace"},
    {0, "Ø", "colon"}, {0, "Æ", "quote"}, {0, "´", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 69 of file keymap.cpp.

13.114.4.19 const KeyPatch patchSE[] [static]

Initial value:

```
= {
    {"section", "§", "grave"}, {"plus", "+", "minus"}, {"grave", "´", "equal"},
    {"aa", "Å", "lbrace"}, {"umlaut", "¨", "rbrace"},
    {"oe", "Ö", "colon"}, {"ae", "Ä", "quote"}, {"quote", "´", "hash"},
    {"angle", "<", "bslash_iso"}, {"minus", "-", "slash"},
}
```

Definition at line 90 of file keymap.cpp.

13.114.4.20 const Key SabreKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 14, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 9, 8, 7, false, true}, {0, "Front light", "front", 8, -2, 14, 8
      , true, false },
    {0, "Wheel Up", "wheelup", 22, 5, 8, 5, false, true}, {0, "Wheel Down", "wheeldn", 22, 15, 8, 5, false,
       true}, {0, "Wheel Light", "wheel", 22, 5, 8, 15, true, false}, {0, "Extra button", "thumb1", 22, 20, 8, 18,
       false, true},
    {0, "DPI Up", "dpiup", 5, 3, 5, 7, false, true}, {0, "DPI Down", "dpidn", 5, 10, 5, 7, false, true}, {0
      , "DPI Light", "dpi", 5, 4, 5, 12, true, false},
    {0, "Forward", "mouse5", 5, 24, 5, 9, false, true}, {0, "Back", "mouse4", 5, 33, 5, 10, false, true},
    {0, "Logo", "back", 14, 50, 24, 12, true, false}
}
```

Definition at line 242 of file keymap.cpp.

13.114.4.21 const Key ScimKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 12, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 9, 8, 6, false, true}, {0, "Front light", "front", 30, 0, 12, 8
      , true, false },
    {0, "Wheel Up", "wheelup", 22, 3, 8, 6, false, true}, {0, "Wheel Down", "wheeldn", 22, 14, 8, 6, false,
       true}, {0, "Wheel Light", "wheel", 22, 3, 8, 17, true, false},
    {0, "DPI Up", "dpiup", 22, 19, 8, 9, false, true}, {0, "DPI Light", "dpi", 1, 12, 8, 4, true, false}, {
      0, "DPI Down", "dpidn", 22, 28, 8, 9, false, true},
    {0, "Thumb light", "thumb", 0, 21, 10, 24, true, false},
    {0, "1", "thumb1", -13, 18, 7, 7, false, true}, {0, "2", "thumb2", -6, 18, 7, 7, false, true}, {0, "3",
       "thumb3", 1, 18, 7, 7, false, true},
    {0, "4", "thumb4", -13, 25, 7, 7, false, true}, {0, "5", "thumb5", -6, 25, 7, 7, false, true}, {0, "6",
       "thumb6", 1, 25, 7, 7, false, true},
    {0, "7", "thumb7", -13, 32, 7, 7, false, true}, {0, "8", "thumb8", -6, 32, 7, 7, false, true}, {0, "9",
       "thumb9", 1, 32, 7, 7, false, true},
    {0, "10", "thumb10", -13, 39, 7, 7, false, true}, {0, "11", "thumb11", -6, 39, 7, 7, false, true}, {0,
      "12", "thumb12", 1, 39, 7, 7, false, true},
    {0, "Logo", "back", 14, 50, 24, 16, true, false}
}
```

Definition at line 279 of file keymap.cpp.

13.114.4.22 QHash<QString, Key> standardMaps[KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX] [static]

Definition at line 299 of file keymap.cpp.

Referenced by getMap().

13.115 src/ckb/keymap.h File Reference

```
#include <QColor>
#include <QHash>
```

Include dependency graph for keymap.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct Key
- class KeyMap

13.116 src/ckb-daemon/keymap.h File Reference

```
#include "keymap_mac.h"
```

Include dependency graph for keymap.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct key

Macros

- #define KEY_NONE -1
- #define KEY_CORSAIR -2
- #define KEY_UNBOUND -3
- #define BTN_WHEELUP 0x1f01
- #define BTN_WHEELDOWN 0x1f02
- #define KEY_BACKSLASH_ISO KEY_BACKSLASH
- #define N_KEYS_HW 152
- #define N_KEYBYTES_HW ((N_KEYS_HW + 7) / 8)
- #define N_KEY_ZONES 3
- #define N_KEYS_EXTRA 12

- #define N_BUTTONS_HW 20
- #define N_BUTTONS_EXTENDED 25
- #define MOUSE_BUTTON_FIRST (N_KEYS_HW + N_KEY_ZONES + N_KEYS_EXTRA)
- #define MOUSE_EXTRA_FIRST (MOUSE_BUTTON_FIRST + N_BUTTONS_HW)
- #define N_KEYS_INPUT (MOUSE_BUTTON_FIRST + N_BUTTONS_EXTENDED)
- #define N_KEYBYTES_INPUT ((N_KEYS_INPUT + 7) / 8)
- #define LED_MOUSE N_KEYS_HW
- #define N_MOUSE_ZONES 6
- #define N_MOUSE_ZONES_EXTENDED 12
- #define LED_DPI (LED_MOUSE + 2)
- #define N_KEYS_EXTENDED (N_KEYS_INPUT + N_MOUSE_ZONES_EXTENDED)
- #define N_KEYBYTES_EXTENDED ((N_KEYS_EXTENDED + 7) / 8)
- #define SCAN_SILENT 0x8000
- #define SCAN_KBD 0
- #define SCAN_MOUSE 0x1000

Functions

- void hid_kb_translate (unsigned char *kbinput, int endpoint, int length, const unsigned char *urbinput)
- void hid_mouse_translate (unsigned char *kbinput, short *xaxis, short *yaxis, int endpoint, int length, const unsigned char *urbinput)
- void corsair_kbcopy (unsigned char *kbinput, int endpoint, const unsigned char *urbinput)
- void corsair_mousecopy (unsigned char *kbinput, int endpoint, const unsigned char *urbinput)

Variables

- const key keymap [(((152+3+12)+25)+12)]

13.116.1 Data Structure Documentation

13.116.1.1 struct key

Definition at line 49 of file keymap.h.

Collaboration diagram for key:

Data Fields

short	led	
const char *	name	
short	scan	

13.116.2 Macro Definition Documentation

13.116.2.1 #define BTN_WHEELDOWN 0x1f02

Definition at line 13 of file keymap.h.

Referenced by os_keypress().

13.116.2.2 #define BTN_WHEELUP 0x1f01

Definition at line 12 of file keymap.h.

Referenced by os_keypress().

13.116.2.3 #define KEY_BACKSLASH_ISO KEY_BACKSLASH

Definition at line 20 of file keymap.h.

13.116.2.4 #define KEY_CORSAIR -2

Definition at line 8 of file keymap.h.

13.116.2.5 #define KEY_NONE -1

Definition at line 7 of file keymap.h.

13.116.2.6 #define KEY_UNBOUND -3

Definition at line 9 of file keymap.h.

Referenced by cmd_unbind().

13.116.2.7 #define LED_DPI (LED_MOUSE + 2)

Definition at line 43 of file keymap.h.

Referenced by loadrgb_mouse(), and savergb_mouse().

13.116.2.8 #define LED_MOUSE N_KEYS_HW

Definition at line 39 of file keymap.h.

Referenced by isblack(), loaddpi(), loadrgb_mouse(), rgbcmp(), savedpi(), savergb_mouse(), and updatergb_mouse().

13.116.2.9 #define MOUSE_BUTTON_FIRST (N_KEYS_HW + N_KEY_ZONES + N_KEYS_EXTRA)

Definition at line 33 of file keymap.h.

Referenced by corsair_mousecopy(), and hid_mouse_translate().

13.116.2.10 #define MOUSE_EXTRA_FIRST (MOUSE_BUTTON_FIRST + N_BUTTONS_HW)

Definition at line 34 of file keymap.h.

Referenced by hid_mouse_translate().

13.116.2.11 #define N_BUTTONS_EXTENDED 25

Definition at line 32 of file keymap.h.

13.116.2.12 #define N_BUTTONS_HW 20

Definition at line 31 of file keymap.h.

Referenced by corsair_mousecopy().

13.116.2.13 #define N_KEY_ZONES 3

Definition at line 27 of file keymap.h.

13.116.2.14 #define N_KEYBYTES_EXTENDED ((N_KEYS_EXTENDED + 7) / 8)

Definition at line 46 of file keymap.h.

13.116.2.15 #define N_KEYBYTES_HW ((N_KEYS_HW + 7) / 8)

Definition at line 25 of file keymap.h.

Referenced by corsair_kbcopy().

13.116.2.16 #define N_KEYBYTES_INPUT ((N_KEYS_INPUT + 7) / 8)

Definition at line 37 of file keymap.h.

Referenced by _cmd_macro(), inputupdate_keys(), and macromask().

13.116.2.17 #define N_KEYS_EXTENDED (N_KEYS_INPUT + N_MOUSE_ZONES_EXTENDED)

Definition at line 45 of file keymap.h.

Referenced by printrgb(), and readcmd().

13.116.2.18 #define N_KEYS_EXTRA 12

Definition at line 29 of file keymap.h.

13.116.2.19 #define N_KEYS_HW 152

Definition at line 24 of file keymap.h.

Referenced by loadrgb_kb(), makergb_512(), rgbcmp(), and setactive_kb().

13.116.2.20 #define N_KEYS_INPUT (MOUSE_BUTTON_FIRST + N_BUTTONS_EXTENDED)

Definition at line 36 of file keymap.h.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_notify(), cmd_rebind(), cmd_unbind(), initbind(), and inputupdate_keys().

13.116.2.21 #define N_MOUSE_ZONES 6

Definition at line 40 of file keymap.h.

Referenced by isblack(), loaddpi(), rgbcmp(), savedpi(), and updatergb_mouse().

13.116.2.22 #define N_MOUSE_ZONES_EXTENDED 12

Definition at line 41 of file keymap.h.

13.116.2.23 #define SCAN_KBD 0

Definition at line 57 of file keymap.h.

13.116.2.24 #define SCAN_MOUSE 0x1000

Definition at line 58 of file keymap.h.

Referenced by os_keypress().

13.116.2.25 #define SCAN_SILENT 0x8000

Definition at line 56 of file keymap.h.

Referenced by inputupdate_keys().

13.116.3 Function Documentation

13.116.3.1 void corsair_kbcopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 397 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
397                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
398     if(endpoint == 2 || endpoint == -2){
399         if(urbinput[0] != 3)
400             return;
401         urbinput++;
402     }
403     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
404 }
```

Here is the caller graph for this function:

13.116.3.2 void corsair_mousecopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 406 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
406                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
407     if(endpoint == 2 || endpoint == -2){
408         if(urbinput[0] != 3)
409             return;
410         urbinput++;
411     }
412     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
413         int byte = bit / 8;
414         uchar test = 1 << (bit % 8);
415         if(urbinput[byte] & test)
416             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
417         else
418             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
419     }
420 }
```

Here is the caller graph for this function:

13.116.3.3 void hid_kb_translate (unsigned char * *kbinput*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 224 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
224                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
225     if(length < 1)
226         return;
227     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
228     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with keymap array indices and K95 keys added
229     // Make sure the indices match the keyindex as passed to nprintkey() in notify.c
230     static const short hid_codes[256] = {
231         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
232         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
233         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
234         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
235          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
236         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
237        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
238         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
239        130, 131,  -1,  -1,  -1,  -2,  -1,  83,  66,  85, 145, 144,  -2,  -1,  -1,  -1,
240         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
242         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
243         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -3,  -1,  -1,  -1,  // <- -3 = non-RGB program key
244        120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 136, 137, 138, 139, 140, 141,
245         60,  48,  62,  61,  91,  90,  67,  68, 142, 143,  99, 101,  -2, 130, 131,  97,
246         -2, 133, 134, 135,  -2,  96,  -2, 132,  -2,  -2,  71,  71,  71,  71,  -1,  -1,
247     };
248     switch(endpoint){
249     case 1:
250     case -1:
251         // EP 1: 6KRO input (RGB and non-RGB)
252         // Clear previous input
253         for(int i = 0; i < 256; i++){
254             if(hid_codes[i] >= 0)
255                 CLEAR_KEYBIT(kbinput, hid_codes[i]);
256         }
257         // Set new input
258         for(int i = 0; i < 8; i++){
259             if((urbinput[0] >> i) & 1)
260                 SET_KEYBIT(kbinput, hid_codes[i + 224]);
261         }
262         for(int i = 2; i < length; i++){
263             if(urbinput[i] > 3){
264                 int scan = hid_codes[urbinput[i]];
265                 if(scan >= 0)
266                     SET_KEYBIT(kbinput, scan);
267                 else
268                     ckb_warn("Got unknown key press %d on EP 1\n", urbinput[i]);
269             }
270         }
271         break;
272     case -2:
273         // EP 2 RGB: NKRO input
274         if(urbinput[0] == 1){
275             // Type 1: standard key
276             if(length != 21)
277                 return;
278             for(int bit = 0; bit < 8; bit++){
279                 if((urbinput[1] >> bit) & 1)
280                     SET_KEYBIT(kbinput, hid_codes[bit + 224]);
281                 else
282                     CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
283             }
284             for(int byte = 0; byte < 19; byte++){
285                 char input = urbinput[byte + 2];
286                 for(int bit = 0; bit < 8; bit++){
287                     int keybit = byte * 8 + bit;
288                     int scan = hid_codes[keybit];
289                     if((input >> bit) & 1){
290                         if(scan >= 0)
291                             SET_KEYBIT(kbinput, hid_codes[keybit]);
292                         else
293                             ckb_warn("Got unknown key press %d on EP 2\n", keybit);
294                     } else if(scan >= 0)
295                         CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
296                 }
297             }
298             break;
```

```
        } else if (urbinput[0] == 2)
            ; // Type 2: media key (implicitly falls through)
        else
            break;  // No other known types
        /* FALLTHRU */
    case 2:
        // EP 2 Non-RGB: media keys
        CLEAR_KEYBIT(kbinput, 97);          // mute
        CLEAR_KEYBIT(kbinput, 98);          // stop
        CLEAR_KEYBIT(kbinput, 99);          // prev
        CLEAR_KEYBIT(kbinput, 100);         // play
        CLEAR_KEYBIT(kbinput, 101);         // next
        CLEAR_KEYBIT(kbinput, 130);         // volup
        CLEAR_KEYBIT(kbinput, 131);         // voldn
        for(int i = 0; i < length; i++){
            switch(urbinput[i]){
            case 181:
                SET_KEYBIT(kbinput, 101);   // next
                break;
            case 182:
                SET_KEYBIT(kbinput, 99);    // prev
                break;
            case 183:
                SET_KEYBIT(kbinput, 98);    // stop
                break;
            case 205:
                SET_KEYBIT(kbinput, 100);   // play
                break;
            case 226:
                SET_KEYBIT(kbinput, 97);    // mute
                break;
            case 233:
                SET_KEYBIT(kbinput, 130);   // volup
                break;
            case 234:
                SET_KEYBIT(kbinput, 131);   // voldn
                break;
            }
        }
        break;
    case 3:
        // EP 3 non-RGB: NKRO input
        if(length != 15)
            return;
        for(int bit = 0; bit < 8; bit++){
            if((urbinput[0] >> bit) & 1)
                SET_KEYBIT(kbinput, hid_codes[bit + 224]);
            else
                CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
        }
        for(int byte = 0; byte < 14; byte++){
            char input = urbinput[byte + 1];
            for(int bit = 0; bit < 8; bit++){
                int keybit = byte * 8 + bit;
                int scan = hid_codes[keybit];
                if((input >> bit) & 1){
                    if(scan >= 0)
                        SET_KEYBIT(kbinput, hid_codes[keybit]);
                    else
                        ckb_warn("Got unknown key press %d on EP 3\n", keybit);
                } else if(scan >= 0)
                    CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
            }
        }
        break;
    }
}
```

Here is the caller graph for this function:

13.116.3.4 void hid_mouse_translate (unsigned char * *kbinput*, short * *xaxis*, short * *yaxis*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 369 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
369
                                {
370     if((endpoint != 2 && endpoint != -2) || length < 10)
371         return;
372     // EP 2: mouse input
373     if(urbinput[0] != 1)
374         return;
375     // Byte 1 = mouse buttons (bitfield)
376     for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
377         if(urbinput[1] & (1 << bit))
378             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
379         else
380             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
381     }
382     // Bytes 5 - 8: movement
383     *xaxis += *(short*)(urbinput + 5);
384     *yaxis += *(short*)(urbinput + 7);
385     // Byte 9: wheel
386     char wheel = urbinput[9];
387     if(wheel > 0)
388         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
389     else
390         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);
391     if(wheel < 0)
392         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);     // wheeldn
393     else
394         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);
395 }
```

Here is the caller graph for this function:

13.116.4 Variable Documentation

13.116.4.1 const key keymap[(((152+3+12)+25)+12)]

Definition at line 5 of file keymap.c.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_rebind(), cmd_rgb(), initbind(), inputupdate_keys(), nprintkey(), printrgb(), readcmd(), and setactive_kb().

13.117 src/ckb/keywidget.cpp File Reference

```
#include <cmath>
#include <QGraphicsDropShadowEffect>
#include <QGraphicsPixmapItem>
#include <QGraphicsScene>
#include <QPainter>
#include "keywidget.h"
#include "keyaction.h"
#include "kbbind.h"
```

Include dependency graph for keywidget.cpp:

Functions

- QRgb monoRgb (float r, float g, float b)

Variables

- static const int KEY_SIZE = 12
- static QImage ∗ m65Overlay = 0
- static QImage ∗ sabOverlay = 0
- static QImage ∗ scimOverlay = 0
- static QImage ∗ harpOverlay = 0
- static QImage ∗ glaiveOverlay = 0

13.117.1 Function Documentation

13.117.1.1 QRgb monoRgb (float *r*, float *g*, float *b*)

Definition at line 284 of file kblight.cpp.

References lToS(), and sToL().

Referenced by KbLight::base(), KbLight::frameUpdate(), and KeyWidget::paintEvent().

```
284                                         {
285     // It's important to use a linear colorspace for this, otherwise the colors will appear inconsistent
286     // Note that although we could use linear space for alpha blending or the animation blending functions,
        we don't.
287     // The reason for this is that photo manipulation programs don't do it either, so even though the
        result would technically be more correct,
288     // it would look wrong to most people.
289     r = sToL(r);
290     g = sToL(g);
291     b = sToL(b);
292     int value = round(lToS((r + g + b) / 3.f));
293     return qRgb(value, value, value);
294 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.117.2 Variable Documentation

13.117.2.1 QImage * glaiveOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.2 QImage * harpOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.3 const int KEY_SIZE = 12 [static]

Definition at line 10 of file keywidget.cpp.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

13.117.2.4 QImage* m65Overlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.5 QImage * sabOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.6 QImage * scimOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.118 src/ckb/keywidget.h File Reference

```
#include <QBitArray>
#include <QMouseEvent>
#include <QPaintEvent>
#include <QWidget>
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for keywidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KeyWidget

13.119 src/ckb/kperfwidget.cpp File Reference

```
#include "kperfwidget.h"
#include "ui_kperfwidget.h"
#include "modeselectdialog.h"
#include <cmath>
```

Include dependency graph for kperfwidget.cpp:

13.120 src/ckb/kperfwidget.h File Reference

```
#include <QWidget>
#include <QCheckBox>
#include <QComboBox>
#include <QSignalMapper>
#include "kbperf.h"
#include "kbprofile.h"
#include "colorbutton.h"
```

Include dependency graph for kperfwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class KPerfWidget
- struct KPerfWidget::IndicatorUi

Namespaces

- Ui

13.120.1 Data Structure Documentation

13.120.1.1 struct KPerfWidget::IndicatorUi

Definition at line 54 of file kperfwidget.h.

Collaboration diagram for KPerfWidget::IndicatorUi:

Data Fields

ColorButton *	color1	
ColorButton *	color2	
ColorButton *	color3	
QCheckBox *	enable	
QComboBox *	hwEnable	

13.121 src/ckb/layoutdialog.cpp File Reference

```
#include "layoutdialog.h"
```

```
#include "kb.h"
#include "ui_layoutdialog.h"
```

Include dependency graph for layoutdialog.cpp:

13.122 src/ckb/layoutdialog.h File Reference

```
#include <QDialog>
#include "keymap.h"
```

Include dependency graph for layoutdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class LayoutDialog

Namespaces

- Ui

13.123 src/ckb/macroreader.cpp File Reference

```
#include <qdebug.h>
#include "macroreader.h"
#include <sys/time.h>
```

Include dependency graph for macroreader.cpp:

13.124 src/ckb/macroreader.h File Reference

```
#include <QObject>
#include <QFile>
#include <QThread>
#include <QPlainTextEdit>
```

Include dependency graph for macroreader.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class MacroReaderThread

  The MacroReaderThread class is responsible for reading Macro Key Values. It is created as a separate thread (worker thread) for reading macro commands from an fresh opened notify channel. Standard notify channel for macro definitions is number 2.

- class MacroReader

  The MacroReader class creates a worker thread object. It does a connect do delayed deletion of thread local variables in the case the worker thread terminates.

13.125 src/ckb/main.cpp File Reference

```
#include "mainwindow.h"
#include <QApplication>
#include <QDateTime>
#include <QSharedMemory>
#include <QCommandLineParser>
#include <cstring>
#include <unistd.h>
#include <signal.h>
#include <errno.h>
```

Include dependency graph for main.cpp:

Macros

- #define SHMEM_SIZE 128 ∗ 1024
- #define SHMEM_SIZE_V015 16

Enumerations

- enum CommandLineParseResults { CommandLineOK, CommandLineError, CommandLineVersionRequested, CommandLineHelpRequested, CommandLineClose, CommandLineBackground }

Functions

- QSharedMemory appShare ("ckb")
- CommandLineParseResults parseCommandLine (QCommandLineParser &parser, QString ∗errorMessage)

  parseCommandLine - Setup options and parse command line arguments.
- static bool pidActive (const QStringList &lines)
- static bool isRunning (const char ∗command)
- int main (int argc, char ∗argv[])

13.125.1 Macro Definition Documentation

13.125.1.1 #define SHMEM_SIZE 128 ∗ 1024

Definition at line 20 of file main.cpp.

Referenced by isRunning().

13.125.1.2 #define SHMEM_SIZE_V015 16

Definition at line 21 of file main.cpp.

Referenced by isRunning().

13.125.2 Enumeration Type Documentation

13.125.2.1 enum CommandLineParseResults

Enumerator

CommandLineOK

CommandLineError

CommandLineVersionRequested

CommandLineHelpRequested

CommandLineClose

CommandLineBackground

Definition at line 24 of file main.cpp.

```
24                                {
25     CommandLineOK,
26     CommandLineError,
27     CommandLineVersionRequested,
28     CommandLineHelpRequested,
29     CommandLineClose,
30     CommandLineBackground
31 };
```

13.125.3 Function Documentation

13.125.3.1 QSharedMemory appShare ("ckb")

Referenced by isRunning().

Here is the caller graph for this function:

13.125.3.2 static bool isRunning (const char * *command*) [static]

Definition at line 109 of file main.cpp.

References appShare(), pidActive(), SHMEM_SIZE, and SHMEM_SIZE_V015.

Referenced by main().

```
109                                                 {
110     // Try to create shared memory (if successful, application was not already running)
111     if(!appShare.create(SHMEM_SIZE) || !appShare.lock()){
112         // Lock existing shared memory
113         if(!appShare.attach() || !appShare.lock())
114             return true;
115         bool running = false;
116         if(appShare.size() == SHMEM_SIZE_V015){
117             // Old shmem - no PID listed so assume the process is running, and print the command directly
        to the buffer
118             if(command){
119                 void* data = appShare.data();
120                 snprintf((char*)data, SHMEM_SIZE_V015, "%s", command);
121             }
122             running = true;
123         } else {
124             // New shmem. Scan the contents of the shared memory for a PID
125             QStringList lines = QString((const char*)appShare.constData()).split("\n");
126             if(pidActive(lines)){
127                 running = true;
128                 // Append the command
129                 if(command){
130                     lines.append(QString("Option ") + command);
131                     QByteArray newMem = lines.join("\n").left(SHMEM_SIZE).toLatin1();
132                     // Copy the NUL byte as well as the string
133                     memcpy(appShare.data(), newMem.constData(), newMem.length() + 1);
134                 }
135             }
136         }
137         if(running){
138             appShare.unlock();
139             return true;
140         }
141     }
142     // Not already running. Initialize the shared memory with our PID
143     snprintf((char*)appShare.data(), appShare.size(), "PID %ld", (long)getpid());
144     appShare.unlock();
145     return false;
146 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.125.3.3 int main (int *argc*, char * *argv[]*)

Definition at line 148 of file main.cpp.

References CommandLineBackground, CommandLineClose, CommandLineError, CommandLineHelpRequested, CommandLineOK, CommandLineVersionRequested, disableAppNap(), isRunning(), and parseCommandLine().

```
148                                 {
149     // Setup main application
150     QApplication a(argc, argv);
151
152     // Setup names and versions
153     QCoreApplication::setOrganizationName("ckb");
154     QCoreApplication::setApplicationVersion(CKB_VERSION_STR);
155     QCoreApplication::setApplicationName("ckb");
156
157     // Setup argument parser
158     QCommandLineParser parser;
159     QString errorMessage;
160     parser.setApplicationDescription("Open Source Corsair Input Device Driver for Linux and OSX.");
161     bool background = 0;
162
163     // Although the daemon runs as root, the GUI needn't and shouldn't be, as it has the potential to
        corrupt settings data.
164     if(getuid() == 0){
165         printf("The ckb GUI should not be run as root.\n");
166         return 0;
167     }
168
169     // Seed the RNG for UsbIds
170     qsrand(QDateTime::currentMSecsSinceEpoch());
171 #ifdef Q_OS_MACX
172     disableAppNap();
173
174     FILE *fp = fopen("/tmp/ckb", "w");
175     fprintf(fp, "%d", getpid());
176     fclose(fp);
177 #endif
178 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
```

```
    // Enable HiDPI support
    qApp->setAttribute(Qt::AA_UseHighDpiPixmaps);
#endif

    // Parse arguments
    switch (parseCommandLine(parser, &errorMessage)) {
    case CommandLineOK:
        // If launched with no argument
        break;
    case CommandLineError:
        fputs(qPrintable(errorMessage), stderr);
        fputs("\n\n", stderr);
        fputs(qPrintable(parser.helpText()), stderr);
        return 1;
    case CommandLineVersionRequested:
        // If launched with --version, print version info and then quit
        printf("%s %s\n", qPrintable(QCoreApplication::applicationName()),
               qPrintable(QCoreApplication::applicationVersion()));
        return 0;
    case CommandLineHelpRequested:
        // If launched with --help, print help and then quit
        parser.showHelp();
        return 0;
    case CommandLineClose:
        // If launched with --close, kill existing app
        if (isRunning("Close"))
            printf("Asking existing instance to close.\n");
        else
            printf("ckb is not running.\n");
        return 0;
    case CommandLineBackground:
        // If launched with --background, launch in background
        background = 1;
        break;
    }

    // Launch in background if requested, or if re-launching a previous session
    if(qApp->isSessionRestored())
            background = 1;
    if(isRunning(background ? 0 : "Open")){
        printf("ckb is already running. Exiting.\n");
        return 0;
    }
    MainWindow w;
    if(!background)
        w.show();

    return a.exec();
}
```

Here is the call graph for this function:

13.125.3.4 CommandLineParseResults parseCommandLine (QCommandLineParser & *parser*, QString * *errorMessage*)

Parameters

parser	parser instance to use for parse the arguments
errorMessage	argument parse error message

Returns

integer, representing the requested argument

Definition at line 41 of file main.cpp.

References CommandLineBackground, CommandLineClose, CommandLineError, CommandLineHelpRequested, CommandLineOK, and CommandLineVersionRequested.

Referenced by main().

```
41                                                                                                                  {
42     // setup parser to interpret -abc as -a -b -c
43     parser.setSingleDashWordOptionMode(QCommandLineParser::ParseAsCompactedShortOptions);
44
45     /* add command line options */
46     // add -v, --version
47     const QCommandLineOption versionOption = parser.addVersionOption();
48     // add -h, --help (/? on windows)
49     const QCommandLineOption helpOption = parser.addHelpOption();
50     // add -b, --background
51     const QCommandLineOption backgroundOption(QStringList() << "b" << "background",
52                                               "Starts in background, without displaying the main window.");
53     parser.addOption(backgroundOption);
54     // add -c, --close
55     const QCommandLineOption closeOption(QStringList() << "c" << "close",
56                                          "Causes already running instance (if any) to exit.");
57     parser.addOption(closeOption);
58
59     /* parse arguments */
60     if (!parser.parse(QCoreApplication::arguments())) {
61         // set error, if there already are some
62         *errorMessage = parser.errorText();
63         return CommandLineError;
64     }
65
66     /* return requested operation/setup */
67     if (parser.isSet(versionOption)) {
68         // print version and exit
69         return CommandLineVersionRequested;
70     }
71
72     if (parser.isSet(helpOption)) {
73         // print help and exit
74         return CommandLineHelpRequested;
75     }
76
77     if (parser.isSet(backgroundOption)) {
78         // open application in background
79         return CommandLineBackground;
80     }
81
82     if (parser.isSet(closeOption)) {
83         // close already running application instances, if any
84         return CommandLineClose;
85     }
86
87     /* no explicit argument was passed */
88     return CommandLineOK;
89 };
```

Here is the caller graph for this function:

13.125.3.5 static bool pidActive (const QStringList & *lines*) [static]

Definition at line 92 of file main.cpp.

Referenced by isRunning().

```
92                                                  {
93     foreach(const QString& line, lines){
94         if(line.startsWith("PID ")){
95             bool ok;
96             pid_t pid;
97             // Valid PID found?
98             if((pid = line.split(" ")[1].toLong(&ok)) > 0 && ok){
99                 // kill -0 does nothing to the application, but checks if it's running
100                 return (kill(pid, 0) == 0 || errno != ESRCH);
101             }
102         }
103     }
104     // If the PID wasn't listed in the shmem, assume it is running
105     return true;
106 }
```

Here is the caller graph for this function:

13.126 src/ckb/mainwindow.cpp File Reference

```
#include "ckbsettings.h"
#include "kbmanager.h"
#include "kbfirmware.h"
#include "mainwindow.h"
#include "ui_mainwindow.h"
#include <cstdlib>
#include <QSharedMemory>
#include <QShortcut>
#include <QMessageBox>
#include <QMenuBar>
#include <unistd.h>
```

Include dependency graph for mainwindow.cpp:

Variables

- QSharedMemory appShare
- static const QString configLabel = "Settings"

13.126.1 Variable Documentation

13.126.1.1 QSharedMemory appShare

Referenced by MainWindow::timerTick().

13.126.1.2 const QString configLabel = "Settings" [static]

Definition at line 15 of file mainwindow.cpp.

Referenced by MainWindow::MainWindow().

13.127 src/ckb/mainwindow.h File Reference

```
#include <QCloseEvent>
#include <QMainWindow>
#include <QMenu>
#include <QSystemTrayIcon>
#include <QTimer>
#include "kbwidget.h"
#include "settingswidget.h"
```

Include dependency graph for mainwindow.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class MainWindow

Namespaces

- Ui

13.128 src/ckb/media.h File Reference

This graph shows which files directly or indirectly include this file:

Macros

- #define EXTERN_C extern
- #define ENUM_C(name) typedef enum
- #define ENUM_END_C(name) name

Enumerations

- enum muteState { UNKNOWN = -1, UNMUTED, MUTED }

Functions

- muteState getMuteState ()

13.128.1 Macro Definition Documentation

13.128.1.1 #define ENUM_C(*name*) typedef enum

Definition at line 13 of file media.h.

13.128.1.2 #define ENUM_END_C(*name*) name

Definition at line 14 of file media.h.

13.128.1.3 #define EXTERN_C extern

Definition at line 12 of file media.h.

13.128.2 Enumeration Type Documentation

13.128.2.1 enum muteState

Enumerator

UNKNOWN

UNMUTED

MUTED

Definition at line 19 of file media.h.

```
19                  {
20     UNKNOWN = -1,
21     UNMUTED,
22     MUTED
23 } ENUM_END_C(muteState);
```

13.128.3 Function Documentation

13.128.3.1 muteState getMuteState ( )

Definition at line 102 of file media_linux.cpp.

References lastKnown, MUTED, UNKNOWN, and UNMUTED.

Referenced by KbPerf::applyIndicators().

```
102                         {
103 #ifdef USE_LIBPULSE
104     static pa_threaded_mainloop* mainLoop = nullptr;
105
106     QMutexLocker locker(&mutex);
107
108     //Setup main loop thread used for communicating with Pulse Audio. All
109     //communication is done asynchronously.
110     if(mainLoop == nullptr){
111         mainLoop = pa_threaded_mainloop_new();
112         if(mainLoop == nullptr)
113             return lastKnown;
114
115         if(pa_threaded_mainloop_start(mainLoop) != 0){
116             pa_threaded_mainloop_free(mainLoop);
117             mainLoop = nullptr;
118             return lastKnown;
119         }
120     }
121
122     //Connect to the local Pulse Audio server. It's usually running but a
123     //reconnect is attempted periodically whenever the connection fails or is
```

```
    //terminated.
    if(paContext == nullptr && QDateTime::currentMSecsSinceEpoch() >= reconnectTime){
        pa_threaded_mainloop_lock(mainLoop);
        {
            pa_mainloop_api* api = pa_threaded_mainloop_get_api(mainLoop);
            Q_ASSERT(api != nullptr);

            paContext = pa_context_new(api, "QPulse");
            Q_ASSERT(paContext != nullptr);
            pa_context_set_state_callback(paContext, &ContextStateCallback, nullptr);
            pa_context_connect(paContext, nullptr, PA_CONTEXT_NOFAIL, nullptr);
        }
        pa_threaded_mainloop_unlock(mainLoop);
    }
#endif

    return lastKnown;
}
```

Here is the caller graph for this function:

13.129 src/ckb/media_linux.cpp File Reference

```
#include <QDateTime>
#include <QMutex>
#include "media.h"
```

Include dependency graph for media_linux.cpp:

Functions

- muteState getMuteState ()

Variables

- static muteState lastKnown = UNKNOWN

13.129.1 Function Documentation

13.129.1.1 muteState getMuteState ( )

Definition at line 102 of file media_linux.cpp.

References lastKnown.

```
102                         {
103 #ifdef USE_LIBPULSE
104     static pa_threaded_mainloop* mainLoop = nullptr;
105
106     QMutexLocker locker(&mutex);
107
108     //Setup main loop thread used for communicating with Pulse Audio. All
109     //communication is done asynchronously.
110     if(mainLoop == nullptr){
111         mainLoop = pa_threaded_mainloop_new();
112         if(mainLoop == nullptr)
113             return lastKnown;
114
115         if(pa_threaded_mainloop_start(mainLoop) != 0){
116             pa_threaded_mainloop_free(mainLoop);
117             mainLoop = nullptr;
118             return lastKnown;
119         }
120     }
121
122     //Connect to the local Pulse Audio server. It's usually running but a
123     //reconnect is attempted periodically whenever the connection fails or is
124     //terminated.
125     if(paContext == nullptr && QDateTime::currentMSecsSinceEpoch() >= reconnectTime){
126         pa_threaded_mainloop_lock(mainLoop);
127         {
128             pa_mainloop_api* api = pa_threaded_mainloop_get_api(mainLoop);
129             Q_ASSERT(api != nullptr);
130
131             paContext = pa_context_new(api, "QPulse");
132             Q_ASSERT(paContext != nullptr);
133             pa_context_set_state_callback(paContext, &ContextStateCallback, nullptr);
134             pa_context_connect(paContext, nullptr, PA_CONTEXT_NOFAIL, nullptr);
135         }
136         pa_threaded_mainloop_unlock(mainLoop);
137     }
138 #endif
139
140     return lastKnown;
141 }
```

13.129.2 Variable Documentation

13.129.2.1 muteState lastKnown = UNKNOWN [static]

Definition at line 13 of file media_linux.cpp.

Referenced by getMuteState().

13.130 src/ckb/media_mac.m File Reference

```
#import <AudioToolbox/AudioServices.h>
#import <Foundation/Foundation.h>
#include "media.h"
```

Include dependency graph for media_mac.m:

Functions

- muteState getMuteState ()
- void disableAppNap ()

13.130.1 Function Documentation

13.130.1.1 void disableAppNap ( )

Definition at line 34 of file media_mac.m.

Referenced by main().

```
34                      {
35      [[NSProcessInfo processInfo] beginActivityWithOptions:NSActivityUserInitiatedAllowingIdleSystemSleep
        reason:@"Keyboard animation"];
36 }
```

Here is the caller graph for this function:

13.130.1.2 muteState getMuteState ( )

Definition at line 5 of file media_mac.m.

References MUTED, UNKNOWN, and UNMUTED.

Referenced by KbPerf::applyIndicators().

```
5                       {
6       // Get the system's default audio device
7       AudioObjectPropertyAddress propertyAddress = {
8           kAudioHardwarePropertyDefaultOutputDevice,
9           kAudioObjectPropertyScopeGlobal,
10           kAudioObjectPropertyElementMaster
```

```
    };
    AudioDeviceID deviceID = 0;
    UInt32 dataSize = sizeof(deviceID);
    if(AudioHardwareServiceGetPropertyData(kAudioObjectSystemObject, &propertyAddress, 0, NULL, &dataSize,
    &deviceID)
            != kAudioHardwareNoError){
        return UNKNOWN;
    }
    // Grab the mute property
    AudioObjectPropertyAddress propertyAddress2 = {
        kAudioDevicePropertyMute,
        kAudioDevicePropertyScopeOutput,
        kAudioObjectPropertyElementMaster
    };
    if(!AudioHardwareServiceHasProperty(deviceID, &propertyAddress2))
        return UNKNOWN;
    bool state = 0;
    dataSize = sizeof(state);
    if(AudioHardwareServiceGetPropertyData(deviceID, &propertyAddress2, 0, NULL, &dataSize, &state)
            != kAudioHardwareNoError)
        return UNKNOWN;
    return state ? MUTED : UNMUTED;
}
```

Here is the caller graph for this function:

13.131 src/ckb/modeselectdialog.cpp File Reference

```
#include "modeselectdialog.h"
#include "ui_modeselectdialog.h"
```

Include dependency graph for modeselectdialog.cpp:

13.132 src/ckb/modeselectdialog.h File Reference

```
#include <QDialog>
#include "kbmode.h"
```

Include dependency graph for modeselectdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class ModeSelectDialog

Namespaces

- Ui

13.133 src/ckb/mperfwidget.cpp File Reference

```
#include "mperfwidget.h"
#include "ui_mperfwidget.h"
#include "modeselectdialog.h"
#include <cmath>
```

Include dependency graph for mperfwidget.cpp:

Macros

- #define SET_START if(isSetting) return; isSetting = true

- #define SET_END isSetting = false

Functions

- int dpiExp (int value, int min, int max)
- int dpiLog (int value, int min, int max)
- int dpiRound (int value)

Variables

- static const QString xyLinkPath = "UI/DPI/UnlinkXY"
- static const double DPI_BASE = (double)KbPerf::DPI_MAX / (double)KbPerf::DPI_MIN

13.133.1 Macro Definition Documentation

13.133.1.1 #define SET_END isSetting = false

Definition at line 126 of file mperfwidget.cpp.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

13.133.1.2 #define SET_START if(isSetting) return; isSetting = true

Definition at line 125 of file mperfwidget.cpp.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

13.133.2 Function Documentation

13.133.2.1 int dpiExp (int *value*, int *min*, int *max*) [inline]

Definition at line 105 of file mperfwidget.cpp.

References DPI_BASE, KbPerf::DPI_MIN, and min().

Referenced by MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

```
105                                                 {
106     double val = (value - min) / (double)(max - min);
107     val = pow(DPI_BASE, val);
108     return round(KbPerf::DPI_MIN * val);
109 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.133.2.2 int dpiLog (int *value*, int *min*, int *max*) [inline]

Definition at line 111 of file mperfwidget.cpp.

References DPI_BASE, and KbPerf::DPI_MIN.

Referenced by MPerfWidget::boxXChanged(), and MPerfWidget::boxYChanged().

```
111                                                 {
112     double val = value / (double)KbPerf::DPI_MIN;
113     val = log(val) / log(DPI_BASE);
114     return round(val * (max - min) + min);
115 }
```

Here is the caller graph for this function:

13.133.2.3 int dpiRound (int *value*) [inline]

Definition at line 117 of file mperfwidget.cpp.

Referenced by MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

```
117                                 {
118     if(value > 1000)
119         return round(value / 100.) * 100;
120     else
121         return round(value / 50.) * 50;
122 }
```

Here is the caller graph for this function:

13.133.3 Variable Documentation

13.133.3.1 const double DPI_BASE = (double)KbPerf::DPI_MAX / (double)KbPerf::DPI_MIN [static]

Definition at line 103 of file mperfwidget.cpp.

Referenced by dpiExp(), and dpiLog().

13.133.3.2 const QString xyLinkPath = "UI/DPI/UnlinkXY" [static]

Definition at line 6 of file mperfwidget.cpp.

Referenced by MPerfWidget::on_xyBox_clicked().

13.134 src/ckb/mperfwidget.h File Reference

```
#include <QWidget>
#include <QSlider>
#include <QSpinBox>
#include <QCheckBox>
#include <QRadioButton>
#include <QSignalMapper>
#include "kbperf.h"
#include "kbprofile.h"
#include "colorbutton.h"
```

Include dependency graph for mperfwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class MPerfWidget
- struct MPerfWidget::DpiUi

Namespaces

- Ui

13.134.1 Data Structure Documentation

13.134.1.1 struct MPerfWidget::DpiUi

Definition at line 37 of file mperfwidget.h.

Collaboration diagram for MPerfWidget::DpiUi:

Data Fields

QCheckBox *	enableCheck	
ColorButton *	indicator	
QSpinBox *	xBox	
QSlider *	xSlider	
QSpinBox *	yBox	
QSlider *	ySlider	

13.135 src/ckb/quazip/crypt.h File Reference

```
#include "quazip_global.h"
```

Include dependency graph for crypt.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define CRC32(c, b) ((*(pcrc_32_tab+(((int)(c) ^ (b)) & 0xff))) ^ ((c) >> 8))
- #define zdecode(pkeys, pcrc_32_tab, c) (update_keys(pkeys,pcrc_32_tab,c ^= decrypt_byte(pkeys,pcrc_32_tab)))
- #define zencode(pkeys, pcrc_32_tab, c, t) (t=decrypt_byte(pkeys,pcrc_32_tab), update_keys(pkeys,pcrc_32_tab,c), t^(c))

Functions

- static int decrypt_byte (unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab)
- static int update_keys (unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab, int c)
- static void init_keys (const char *passwd, unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab)

13.135.1 Macro Definition Documentation

13.135.1.1 #define CRC32(c, b) ((*(pcrc_32_tab+(((int)(c) ^ (b)) & 0xff))) ^ ((c) >> 8))

Definition at line 32 of file crypt.h.

Referenced by update_keys().

13.135.1.2 #define zdecode(pkeys, pcrc_32_tab, c) (update_keys(pkeys,pcrc_32_tab,c ^= decrypt_byte(pkeys,pcrc_32_tab)))

Definition at line 79 of file crypt.h.

Referenced by unzOpenCurrentFile3(), and unzReadCurrentFile().

13.135.1.3 #define zencode(pkeys, pcrc_32_tab, c, t) (t=decrypt_byte(pkeys,pcrc_32_tab), update_keys(pkeys,pcrc_32_tab,c), t^(c))

Definition at line 82 of file crypt.h.

Referenced by zip64FlushWriteBuffer().

13.135.2 Function Documentation

13.135.2.1 static int decrypt_byte (unsigned long * pkeys, const z_crc_t FAR * pcrc_32_tab) [static]

Definition at line 37 of file crypt.h.

```
{
    //(void) pcrc_32_tab; /* avoid "unused parameter" warning */
    unsigned temp;  /* POTENTIAL BUG:  temp*(temp^1) may overflow in an
                     * unpredictable manner on 16-bit systems; not a problem
                     * with any known compiler so far, though */

    temp = ((unsigned)(*(pkeys+2)) & 0xffff) | 2;
    return (int)(((temp * (temp ^ 1)) >> 8) & 0xff);
}
```

13.135.2.2 static void init_keys (const char * passwd, unsigned long * pkeys, const z_crc_t FAR * pcrc_32_tab) [static]

Definition at line 68 of file crypt.h.

References update_keys().

Referenced by unzOpenCurrentFile3().

```
{
    *(pkeys+0) = 305419896L;
    *(pkeys+1) = 591751049L;
    *(pkeys+2) = 878082192L;
    while (*passwd != '\0') {
        update_keys(pkeys,pcrc_32_tab,(int)*passwd);
        passwd++;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.135.2.3 static int update_keys (unsigned long * *pkeys*, const z_crc_t FAR * *pcrc_32_tab*, int *c*) [static]

Definition at line 51 of file crypt.h.

References CRC32.

Referenced by init_keys().

```
52 {
53     (*(pkeys+0)) = CRC32((*(pkeys+0)), c);
54     (*(pkeys+1)) += (*(pkeys+0)) & 0xff;
55     (*(pkeys+1)) = (*(pkeys+1)) * 134775813L + 1;
56     {
57       register int keyshift = (int)((*(pkeys+1)) >> 24);
58       (*(pkeys+2)) = CRC32((*(pkeys+2)), keyshift);
59     }
60     return c;
61 }
```

Here is the caller graph for this function:

13.136 src/ckb/quazip/ioapi.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "zlib.h"
```

Include dependency graph for ioapi.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct zlib_filefunc_def_s
- struct zlib_filefunc64_def_s
- struct zlib_filefunc64_32_def_s

Macros

- #define __USE_FILE_OFFSET64
- #define __USE_LARGEFILE64
- #define _LARGEFILE64_SOURCE
- #define _FILE_OFFSET_BIT 64
- #define OF _Z_OF
- #define ZLIB_FILEFUNC_SEEK_CUR (1)
- #define ZLIB_FILEFUNC_SEEK_END (2)
- #define ZLIB_FILEFUNC_SEEK_SET (0)
- #define ZLIB_FILEFUNC_MODE_READ (1)
- #define ZLIB_FILEFUNC_MODE_WRITE (2)
- #define ZLIB_FILEFUNC_MODE_READWRITEFILTER (3)
- #define ZLIB_FILEFUNC_MODE_EXISTING (4)
- #define ZLIB_FILEFUNC_MODE_CREATE (8)
- #define ZCALLBACK
- #define ZREAD64(filefunc, filestream, buf, size) ((∗((filefunc).zfile_func64.zread_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))
- #define ZWRITE64(filefunc, filestream, buf, size) ((∗((filefunc).zfile_func64.zwrite_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))
- #define ZCLOSE64(filefunc, filestream) ((∗((filefunc).zfile_func64.zclose_file)) ((filefunc).zfile_func64.opaque,filestream))
- #define ZFAKECLOSE64(filefunc, filestream) ((∗((filefunc).zfile_func64.zfakeclose_file)) ((filefunc).zfile_func64.opaque,filestream))
- #define ZERROR64(filefunc, filestream) ((∗((filefunc).zfile_func64.zerror_file)) ((filefunc).zfile_func64.opaque,filestream))
- #define ZOPEN64(filefunc, filename, mode) (call_zopen64((&(filefunc)),(filename),(mode)))
- #define ZTELL64(filefunc, filestream) (call_ztell64((&(filefunc)),(filestream)))
- #define ZSEEK64(filefunc, filestream, pos, mode) (call_zseek64((&(filefunc)),(filestream),(pos),(mode)))

Typedefs

- typedef unsigned long long int ZPOS64_T
- typedef voidpf open_file_func _Z_OF ((voidpf opaque, voidpf file, int mode))

  Addition for GDAL : START.
- typedef struct zlib_filefunc_def_s zlib_filefunc_def
- typedef struct zlib_filefunc64_def_s zlib_filefunc64_def
- typedef struct zlib_filefunc64_32_def_s zlib_filefunc64_32_def

Functions

- void fill_qiodevice64_filefunc _Z_OF ((zlib_filefunc64_def ∗pzlib_filefunc_def))
- void fill_qiodevice_filefunc _Z_OF ((zlib_filefunc_def ∗pzlib_filefunc_def))
- voidpf call_zopen64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf file, int mode))
- int call_zseek64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream, ZPOS64_T offset, int origin))

- ZPOS64_T call_ztell64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream))
- void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def ∗p_filefunc64_32, const zlib_-filefunc_def ∗p_filefunc32)

13.136.1 Data Structure Documentation

13.136.1.1 struct zlib_filefunc_def_s

Definition at line 143 of file ioapi.h.

Collaboration diagram for zlib_filefunc_def_s:

Data Fields

voidpf	opaque	
close_file_func	zclose_file	
testerror_file_-func	zerror_file	
open_file_func	zopen_file	
read_file_func	zread_file	
seek_file_func	zseek_file	
tell_file_func	ztell_file	
write_file_func	zwrite_file	

13.136.1.2 struct zlib_filefunc64_def_s

Definition at line 159 of file ioapi.h.

Collaboration diagram for zlib_filefunc64_def_s:

Data Fields

voidpf	opaque	
close_file_func	zclose_file	
testerror_file_-func	zerror_file	
close_file_func	zfakeclose_file	
open64_file_-func	zopen64_file	
read_file_func	zread_file	
seek64_file_func	zseek64_file	
tell64_file_func	ztell64_file	
write_file_func	zwrite_file	

13.136.1.3 struct zlib_filefunc64_32_def_s

Definition at line 176 of file ioapi.h.

Collaboration diagram for zlib_filefunc64_32_def_s:

Data Fields

zlib_filefunc64_-def	zfile_func64	
open_file_func	zopen32_file	
seek_file_func	zseek32_file	
tell_file_func	ztell32_file	

13.136.2 Macro Definition Documentation

13.136.2.1 #define __USE_FILE_OFFSET64

Definition at line 32 of file ioapi.h.

13.136.2.2 #define __USE_LARGEFILE64

Definition at line 35 of file ioapi.h.

13.136.2.3 #define _FILE_OFFSET_BIT 64

Definition at line 41 of file ioapi.h.

13.136.2.4 #define _LARGEFILE64_SOURCE

Definition at line 38 of file ioapi.h.

13.136.2.5 #define OF _Z_OF

Definition at line 106 of file ioapi.h.

13.136.2.6 #define ZCALLBACK

Definition at line 125 of file ioapi.h.

13.136.2.7 #define ZCLOSE64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zclose_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 189 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unzClose(), unzOpenInternal(), zipClose(), and zipOpen3().

13.136.2.8 #define ZERROR64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zerror_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 191 of file ioapi.h.

Referenced by unz64local_getByte(), and zip64local_getByte().

13.136.2.9 #define ZFAKECLOSE64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zfakeclose_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 190 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unzClose(), unzOpenInternal(), zipClose(), and zipOpen3().

13.136.2.10 #define ZLIB_FILEFUNC_MODE_CREATE (8)

Definition at line 118 of file ioapi.h.

Referenced by qiodevice_open_file_func(), and zipOpen3().

13.136.2.11 #define ZLIB_FILEFUNC_MODE_EXISTING (4)

Definition at line 117 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.136.2.12 #define ZLIB_FILEFUNC_MODE_READ (1)

Definition at line 113 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.136.2.13 #define ZLIB_FILEFUNC_MODE_READWRITEFILTER (3)

Definition at line 115 of file ioapi.h.

Referenced by qiodevice_open_file_func().

13.136.2.14 #define ZLIB_FILEFUNC_MODE_WRITE (2)

Definition at line 114 of file ioapi.h.

Referenced by zipOpen3().

13.136.2.15 #define ZLIB_FILEFUNC_SEEK_CUR (1)

Definition at line 109 of file ioapi.h.

Referenced by qiodevice64_seek_file_func(), qiodevice_seek_file_func(), and unz64local_GetCurrentFileInfoInternal().

13.136.2.16 #define ZLIB_FILEFUNC_SEEK_END (2)

Definition at line 110 of file ioapi.h.

Referenced by qiodevice64_seek_file_func(), qiodevice_seek_file_func(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.136.2.17 #define ZLIB_FILEFUNC_SEEK_SET (0)

Definition at line 111 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), qiodevice64_seek_file_func(), qiodevice_seek_file_func(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenInternal(), unzReadCurrentFile(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), and zipCloseFileInZipRaw64().

13.136.2.18 #define ZOPEN64(*filefunc, filename, mode*) (call_zopen64((&(filefunc)),(filename),(mode)))

Definition at line 199 of file ioapi.h.

Referenced by unzOpenInternal(), and zipOpen3().

13.136.2.19 #define ZREAD64(*filefunc, filestream, buf, size*) ((∗((filefunc).zfile_func64.zread_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))

Definition at line 185 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenCurrentFile3(), unzReadCurrentFile(), zip64local_getByte(), zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.136.2.20 #define ZSEEK64(*filefunc, filestream, pos, mode*) (call_zseek64((&(filefunc)),(filestream),(pos),(mode)))

Definition at line 201 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenCurrentFile3(), unzOpenInternal(), unzReadCurrentFile(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipCloseFileInZipRaw64(), and zipOpen3().

13.136.2.21 #define ZTELL64(*filefunc, filestream*) (call_ztell64((&(filefunc)),(filestream)))

Definition at line 200 of file ioapi.h.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), Write_LocalFileHeader(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipClose(), zipCloseFileInZipRaw64(), zipOpen3(), and zipOpenNewFileInZip4_64().

13.136.2.22 #define ZWRITE64(*filefunc, filestream, buf, size*) ((∗((filefunc).zfile_func64.zwrite_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))

Definition at line 186 of file ioapi.h.

Referenced by Write_GlobalComment(), Write_LocalFileHeader(), zip64FlushWriteBuffer(), zip64local_putValue(), zipClose(), and zipOpenNewFileInZip4_64().

13.136.3 Typedef Documentation

13.136.3.1 zipFile ZEXPORT zipOpen64 _Z_OF ((voidpf opaque, voidpf file, int mode))

Addition for GDAL : END.

Definition at line 132 of file ioapi.h.

13.136.3.2 typedef struct zlib_filefunc64_32_def_s zlib_filefunc64_32_def

13.136.3.3 typedef struct zlib_filefunc64_def_s zlib_filefunc64_def

13.136.3.4 typedef struct zlib_filefunc_def_s zlib_filefunc_def

13.136.3.5 typedef unsigned long long int ZPOS64_T

Definition at line 94 of file ioapi.h.

13.136.4 Function Documentation

13.136.4.1 void fill_qiodevice64_filefunc _Z_OF ((zlib_filefunc64_def ∗pzlib_filefunc_def))

13.136.4.2 void fill_qiodevice_filefunc _Z_OF ((zlib_filefunc_def ∗pzlib_filefunc_def))

13.136.4.3 voidpf call_zopen64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf file, int mode))

13.136.4.4 int call_zseek64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream, ZPOS64_T offset, int origin))

13.136.4.5 ZPOS64_T call_ztell64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream))

13.136.4.6 void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def * *p_filefunc64_32,* const zlib_filefunc_def * *p_filefunc32*)

Definition at line 346 of file qioapi.cpp.

References zlib_filefunc_def_s::opaque, zlib_filefunc64_def_s::opaque, zlib_filefunc_def_s::zclose_file, zlib_filefunc64_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_32_def_s::zseek32_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc64_32_def_s::ztell32_file, zlib_filefunc64_def_s::ztell64_file, zlib_filefunc_def_s::ztell_file, zlib_filefunc_def_s::zwrite_file, and zlib_filefunc64_def_s::zwrite_file.

Referenced by unzOpen2(), and zipOpen2().

```
{
    p_filefunc64_32->zfile_func64.zopen64_file = NULL;
    p_filefunc64_32->zopen32_file = p_filefunc32->zopen_file;
    p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->zerror_file;
    p_filefunc64_32->zfile_func64.zread_file = p_filefunc32->zread_file;
    p_filefunc64_32->zfile_func64.zwrite_file = p_filefunc32->zwrite_file;
    p_filefunc64_32->zfile_func64.ztell64_file = NULL;
    p_filefunc64_32->zfile_func64.zseek64_file = NULL;
    p_filefunc64_32->zfile_func64.zclose_file = p_filefunc32->zclose_file;
    p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->zerror_file;
    p_filefunc64_32->zfile_func64.opaque = p_filefunc32->opaque;
    p_filefunc64_32->zfile_func64.zfakeclose_file = NULL;
    p_filefunc64_32->zseek32_file = p_filefunc32->zseek_file;
    p_filefunc64_32->ztell32_file = p_filefunc32->ztell_file;
}
```

Here is the caller graph for this function:

13.137 src/ckb/quazip/JlCompress.cpp File Reference

```
#include "JlCompress.h"
#include <QDebug>
```

Include dependency graph for JlCompress.cpp:

Functions

- static bool copyData (QIODevice &inFile, QIODevice &outFile)

13.137.1 Function Documentation

13.137.1.1 static bool copyData (QIODevice & *inFile*, QIODevice & *outFile*) [static]

Definition at line 29 of file JlCompress.cpp.

Referenced by JlCompress::compressFile(), and JlCompress::extractFile().

```
{
    while (!inFile.atEnd()) {
        char buf[4096];
        qint64 readLen = inFile.read(buf, 4096);
        if (readLen <= 0)
            return false;
        if (outFile.write(buf, readLen) != readLen)
            return false;
    }
    return true;
}
```

Here is the caller graph for this function:

13.138 src/ckb/quazip/JlCompress.h File Reference

```
#include "quazip.h"
#include "quazipfile.h"
#include "quazipfileinfo.h"
#include <QString>
#include <QDir>
#include <QFileInfo>
#include <QFile>
```

Include dependency graph for JlCompress.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class JlCompress

  Utility class for typical operations.

13.139 src/ckb/quazip/qioapi.cpp File Reference

```
#include <stdio.h>
```

```
#include <stdlib.h>
#include <string.h>
#include "zlib.h"
#include "ioapi.h"
#include "quazip_global.h"
#include <QIODevice>
```

Include dependency graph for qioapi.cpp:

Data Structures

- struct QIODevice_descriptor

Macros

- #define SEEK_CUR 1
- #define SEEK_END 2
- #define SEEK_SET 0

Functions

- voidpf call_zopen64 (const zlib_filefunc64_32_def ∗pfilefunc, voidpf file, int mode)
- int call_zseek64 (const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream, ZPOS64_T offset, int origin)
- ZPOS64_T call_ztell64 (const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream)
- voidpf qiodevice_open_file_func (voidpf opaque, voidpf file, int mode)
- uLong qiodevice_read_file_func (voidpf opaque, voidpf stream, void ∗buf, uLong size)
- uLong qiodevice_write_file_func (voidpf opaque, voidpf stream, const void ∗buf, uLong size)
- uLong qiodevice_tell_file_func (voidpf opaque, voidpf stream)
- ZPOS64_T qiodevice64_tell_file_func (voidpf opaque, voidpf stream)
- int qiodevice_seek_file_func (voidpf, voidpf stream, uLong offset, int origin)
- int qiodevice64_seek_file_func (voidpf, voidpf stream, ZPOS64_T offset, int origin)
- int qiodevice_close_file_func (voidpf opaque, voidpf stream)
- int qiodevice_fakeclose_file_func (voidpf opaque, voidpf)
- int qiodevice_error_file_func (voidpf, voidpf)
- void fill_qiodevice_filefunc (zlib_filefunc_def ∗pzlib_filefunc_def)
- void fill_qiodevice64_filefunc (zlib_filefunc64_def ∗pzlib_filefunc_def)
- void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def ∗p_filefunc64_32, const zlib_-filefunc_def ∗p_filefunc32)

13.139.1 Macro Definition Documentation

13.139.1.1 #define SEEK_CUR 1

Definition at line 29 of file qioapi.cpp.

13.139.1.2 #define SEEK_END 2

Definition at line 33 of file qioapi.cpp.

13.139.1.3 #define SEEK_SET 0

Definition at line 37 of file qioapi.cpp.

Referenced by unzOpenCurrentFile3().

13.139.2 Function Documentation

13.139.2.1 voidpf call_zopen64 (const zlib_filefunc64_32_def * *pfilefunc*, voidpf *file*, int *mode*)

Definition at line 40 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, and zlib_filefunc64_def_s::zopen64_file.

```
{
    if (pfilefunc->zfile_func64.zopen64_file != NULL)
        return (*(pfilefunc->zfile_func64.zopen64_file)) (pfilefunc->zfile_func64.opaque,file,mode);
    else
    {
        return (*(pfilefunc->zopen32_file))(pfilefunc->zfile_func64.opaque,file,mode);
    }
}
```

13.139.2.2 int call_zseek64 (const zlib_filefunc64_32_def * *pfilefunc*, voidpf *filestream*, ZPOS64_T *offset*, int *origin*)

Definition at line 50 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zseek32_file, and zlib_filefunc64_def_s::zseek64_file.

```
{
    if (pfilefunc->zfile_func64.zseek64_file != NULL)
        return (*(pfilefunc->zfile_func64.zseek64_file)) (pfilefunc->zfile_func64.opaque,filestream,offset,origin);
    else
    {
        uLong offsetTruncated = (uLong)offset;
        if (offsetTruncated != offset)
            return -1;
        else
            return (*(pfilefunc->zseek32_file))(pfilefunc->zfile_func64.opaque,filestream,offsetTruncated,origin);
    }
}
```

13.139.2.3 ZPOS64_T call_ztell64 (const zlib_filefunc64_32_def * *pfilefunc*, voidpf *filestream*)

Definition at line 64 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc64_32_def_s::ztell32_file, and zlib_filefunc64_def_s::ztell64_file.

```
{
    if (pfilefunc->zfile_func64.zseek64_file != NULL)
        return (*(pfilefunc->zfile_func64.ztell64_file)) (pfilefunc->zfile_func64.opaque,filestream);
    else
    {
        uLong tell_uLong = (*(pfilefunc->ztell32_file))(pfilefunc->zfile_func64.opaque,filestream);
        if ((tell_uLong) == ((uLong)-1))
            return (ZPOS64_T)-1;
        else
            return tell_uLong;
    }
}
```

13.139.2.4 void fill_qiodevice64_filefunc (zlib_filefunc64_def * *pzlib_filefunc_def*)

Definition at line 331 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, qiodevice64_seek_file_func(), qiodevice64_tell_file_func(), qiodevice_close_file_func(), qiodevice_error_file_func(), qiodevice_fakeclose_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_write_file_func(), zlib_filefunc64_def_s::zclose_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc64_def_s::ztell64_file, and zlib_filefunc64_def_s::zwrite_file.

Referenced by unzOpenInternal(), and zipOpen3().

```
{
    // Open functions are the same for Qt.
    pzlib_filefunc_def->zopen64_file = qiodevice_open_file_func;
    pzlib_filefunc_def->zread_file = qiodevice_read_file_func;
    pzlib_filefunc_def->zwrite_file = qiodevice_write_file_func;
    pzlib_filefunc_def->ztell64_file = qiodevice64_tell_file_func;
    pzlib_filefunc_def->zseek64_file = qiodevice64_seek_file_func;
    pzlib_filefunc_def->zclose_file = qiodevice_close_file_func;
    pzlib_filefunc_def->zerror_file = qiodevice_error_file_func;
    pzlib_filefunc_def->opaque = new QIODevice_descriptor;
    pzlib_filefunc_def->zfakeclose_file = qiodevice_fakeclose_file_func;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.139.2.5 void fill_qiodevice_filefunc (zlib_filefunc_def * *pzlib_filefunc_def*)

Definition at line 318 of file qioapi.cpp.

References zlib_filefunc_def_s::opaque, qiodevice_close_file_func(), qiodevice_error_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_seek_file_func(), qiodevice_tell_file_func(), qiodevice_write_file_func(), zlib_filefunc_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc_def_s::ztell_file, and zlib_filefunc_def_s::zwrite_file.

```
320 {
```

```
    pzlib_filefunc_def->zopen_file = qiodevice_open_file_func;
    pzlib_filefunc_def->zread_file = qiodevice_read_file_func;
    pzlib_filefunc_def->zwrite_file = qiodevice_write_file_func;
    pzlib_filefunc_def->ztell_file = qiodevice_tell_file_func;
    pzlib_filefunc_def->zseek_file = qiodevice_seek_file_func;
    pzlib_filefunc_def->zclose_file = qiodevice_close_file_func;
    pzlib_filefunc_def->zerror_file = qiodevice_error_file_func;
    pzlib_filefunc_def->opaque = new QIODevice_descriptor;
}
```

Here is the call graph for this function:

13.139.2.6 void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def * *p_filefunc64_32*, const zlib_filefunc_def * *p_filefunc32*)

Definition at line 346 of file qioapi.cpp.

References zlib_filefunc_def_s::opaque, zlib_filefunc64_def_s::opaque, zlib_filefunc_def_s::zclose_file, zlib_filefunc64_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_32_def_s::zseek32_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc64_32_def_s::ztell32_file, zlib_filefunc64_def_s::ztell64_file, zlib_filefunc_def_s::ztell_file, zlib_filefunc_def_s::zwrite_file, and zlib_filefunc64_def_s::zwrite_file.

Referenced by unzOpen2(), and zipOpen2().

```
{
    p_filefunc64_32->zfile_func64.zopen64_file = NULL;
    p_filefunc64_32->zopen32_file = p_filefunc32->zopen_file;
    p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
  zerror_file;
    p_filefunc64_32->zfile_func64.zread_file = p_filefunc32->
```

```
    zread_file;
352     p_filefunc64_32->zfile_func64.zwrite_file = p_filefunc32->
    zwrite_file;
353     p_filefunc64_32->zfile_func64.ztell64_file = NULL;
354     p_filefunc64_32->zfile_func64.zseek64_file = NULL;
355     p_filefunc64_32->zfile_func64.zclose_file = p_filefunc32->
    zclose_file;
356     p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
    zerror_file;
357     p_filefunc64_32->zfile_func64.opaque = p_filefunc32->
    opaque;
358     p_filefunc64_32->zfile_func64.zfakeclose_file = NULL;
359     p_filefunc64_32->zseek32_file = p_filefunc32->zseek_file;
360     p_filefunc64_32->ztell32_file = p_filefunc32->ztell_file;
361 }
```

Here is the caller graph for this function:

13.139.2.7 int qiodevice64_seek_file_func (voidpf , voidpf *stream*, ZPOS64_T *offset*, int *origin*)

Definition at line 244 of file qioapi.cpp.

References ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_END, and ZLIB_FILEFUNC_SEEK_SET.

Referenced by fill_qiodevice64_filefunc().

```
249 {
250     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
251     if (iodevice->isSequential()) {
252         if (origin == ZLIB_FILEFUNC_SEEK_END
253                 && offset == 0) {
254             // sequential devices are always at end (needed in mdAppend)
255             return 0;
256         } else {
257             qWarning("qiodevice_seek_file_func() called for sequential device");
258             return -1;
259         }
260     }
261     qint64 qiodevice_seek_result=0;
262     int ret;
263     switch (origin)
264     {
265     case ZLIB_FILEFUNC_SEEK_CUR :
266         qiodevice_seek_result = ((QIODevice*)stream)->pos() + offset;
267         break;
268     case ZLIB_FILEFUNC_SEEK_END :
269         qiodevice_seek_result = ((QIODevice*)stream)->size() - offset;
270         break;
271     case ZLIB_FILEFUNC_SEEK_SET :
272         qiodevice_seek_result = offset;
273         break;
274     default:
275         return -1;
276     }
277     ret = !iodevice->seek(qiodevice_seek_result);
278     return ret;
279 }
```

Here is the caller graph for this function:

13.139.2.8 ZPOS64_T qiodevice64_tell_file_func (voidpf *opaque,* voidpf *stream*)

Definition at line 192 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc().

```
195 {
196     QIODevice_descriptor *d = reinterpret_cast<
    QIODevice_descriptor*>(opaque);
197     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
198     qint64 ret;
199     if (iodevice->isSequential()) {
200         ret = d->pos;
201     } else {
202         ret = iodevice->pos();
203     }
204     return static_cast<ZPOS64_T>(ret);
205 }
```

Here is the caller graph for this function:

13.139.2.9 int qiodevice_close_file_func (voidpf *opaque,* voidpf *stream*)

Definition at line 281 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
284 {
285     QIODevice_descriptor *d = reinterpret_cast<
    QIODevice_descriptor*>(opaque);
286     delete d;
287     QIODevice *device = reinterpret_cast<QIODevice*>(stream);
288 #ifdef QUAZIP_QSAVEFILE_BUG_WORKAROUND
289     // QSaveFile terribly breaks the is-a idiom:
290     // it IS a QIODevice, but it is NOT compatible with it: close() is private
291     QSaveFile *file = qobject_cast<QSaveFile*>(device);
292     if (file != NULL) {
293         // We have to call the ugly commit() instead:
294         return file->commit() ? 0 : -1;
295     }
```

```
#endif
    device->close();
    return 0;
}
```

Here is the caller graph for this function:

13.139.2.10 int qiodevice_error_file_func (voidpf , voidpf)

Definition at line 310 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
{
    // can't check for error due to the QIODevice API limitation
    return 0;
}
```

Here is the caller graph for this function:

13.139.2.11 int qiodevice_fakeclose_file_func (voidpf *opaque*, voidpf)

Definition at line 301 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc().

```
{
    QIODevice_descriptor *d = reinterpret_cast<
  QIODevice_descriptor*>(opaque);
    delete d;
    return 0;
}
```

Here is the caller graph for this function:

13.139.2.12 voidpf qiodevice_open_file_func (voidpf *opaque,* voidpf *file,* int *mode*)

Definition at line 86 of file qioapi.cpp.

References QIODevice_descriptor::pos, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, and ZLIB_FILEFUNC_MODE_READWRITEFILTER.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
{
    QIODevice_descriptor *d = reinterpret_cast<QIODevice_descriptor*>(opaque);
    QIODevice *iodevice = reinterpret_cast<QIODevice*>(file);
    QIODevice::OpenMode desiredMode;
    if ((mode & ZLIB_FILEFUNC_MODE_READWRITEFILTER)==ZLIB_FILEFUNC_MODE_READ)
        desiredMode = QIODevice::ReadOnly;
    else if (mode & ZLIB_FILEFUNC_MODE_EXISTING)
        desiredMode = QIODevice::ReadWrite;
    else if (mode & ZLIB_FILEFUNC_MODE_CREATE)
        desiredMode = QIODevice::WriteOnly;
    if (iodevice->isOpen()) {
        if ((iodevice->openMode() & desiredMode) == desiredMode) {
            if (desiredMode != QIODevice::WriteOnly
                    && iodevice->isSequential()) {
                // We can use sequential devices only for writing.
                delete d;
                return NULL;
            } else {
                if ((desiredMode & QIODevice::WriteOnly) != 0) {
                    // open for writing, need to seek existing device
                    if (!iodevice->isSequential()) {
                        iodevice->seek(0);
                    } else {
                        d->pos = iodevice->pos();
                    }
                }
            }
            return iodevice;
        } else {
            delete d;
            return NULL;
        }
    }
    iodevice->open(desiredMode);
    if (iodevice->isOpen()) {
        if (desiredMode != QIODevice::WriteOnly && iodevice->isSequential()) {
            // We can use sequential devices only for writing.
            iodevice->close();
            delete d;
            return NULL;
        } else {
            return iodevice;
        }
    } else {
        delete d;
        return NULL;
    }
}
```

Here is the caller graph for this function:

13.139.2.13 uLong qiodevice_read_file_func (voidpf *opaque,* voidpf *stream,* void ∗ *buf,* uLong *size*)

Definition at line 140 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
145 {
146     QIODevice_descriptor *d = reinterpret_cast<
    QIODevice_descriptor*>(opaque);
147     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
148     qint64 ret64 = iodevice->read((char*)buf,size);
149     uLong ret;
150     ret = (uLong) ret64;
151     if (ret64 != -1) {
152         d->pos += ret64;
153     }
154     return ret;
155 }
```

Here is the caller graph for this function:

13.139.2.14 int qiodevice_seek_file_func (voidpf , voidpf *stream,* uLong *offset,* int *origin*)

Definition at line 207 of file qioapi.cpp.

References ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_END, and ZLIB_FILEFUNC_SEEK_SET.

Referenced by fill_qiodevice_filefunc().

```
212 {
213     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
214     if (iodevice->isSequential()) {
215         if (origin == ZLIB_FILEFUNC_SEEK_END
216                 && offset == 0) {
217             // sequential devices are always at end (needed in mdAppend)
218             return 0;
219         } else {
220             qWarning("qiodevice_seek_file_func() called for sequential device");
221             return -1;
```

```
        }
    }
    uLong qiodevice_seek_result=0;
    int ret;
    switch (origin)
    {
    case ZLIB_FILEFUNC_SEEK_CUR :
        qiodevice_seek_result = ((QIODevice*)stream)->pos() + offset;
        break;
    case ZLIB_FILEFUNC_SEEK_END :
        qiodevice_seek_result = ((QIODevice*)stream)->size() - offset;
        break;
    case ZLIB_FILEFUNC_SEEK_SET :
        qiodevice_seek_result = offset;
        break;
    default:
        return -1;
    }
    ret = !iodevice->seek(qiodevice_seek_result);
    return ret;
}
```

Here is the caller graph for this function:

13.139.2.15 uLong qiodevice_tell_file_func (voidpf *opaque*, voidpf *stream*)

Definition at line 175 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice_filefunc().

```
{
    QIODevice_descriptor *d = reinterpret_cast<
  QIODevice_descriptor*>(opaque);
    QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
    uLong ret;
    qint64 ret64;
    if (iodevice->isSequential()) {
        ret64 = d->pos;
    } else {
        ret64 = iodevice->pos();
    }
    ret = static_cast<uLong>(ret64);
    return ret;
}
```

Here is the caller graph for this function:

13.139.2.16 uLong qiodevice_write_file_func (voidpf *opaque*, voidpf *stream*, const void ∗ *buf*, uLong *size*)

Definition at line 158 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
163 {
164     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
165     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
166     uLong ret;
167     qint64 ret64 = iodevice->write((char*)buf,size);
168     if (ret64 != -1) {
169         d->pos += ret64;
170     }
171     ret = (uLong) ret64;
172     return ret;
173 }
```

Here is the caller graph for this function:

13.140 src/ckb/quazip/quaadler32.cpp File Reference

```
#include "quaadler32.h"
#include "zlib.h"
```

Include dependency graph for quaadler32.cpp:

13.141 src/ckb/quazip/quaadler32.h File Reference

```
#include <QByteArray>
#include "quachecksum32.h"
```

Include dependency graph for quaadler32.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaAdler32

  Adler32 checksum.

13.142 src/ckb/quazip/quachecksum32.h File Reference

```
#include <QByteArray>
#include "quazip_global.h"
```

Include dependency graph for quachecksum32.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaChecksum32

  Checksum interface.

13.143 src/ckb/quazip/quacrc32.cpp File Reference

```
#include "quacrc32.h"
#include "zlib.h"
```

Include dependency graph for quacrc32.cpp:

13.144 src/ckb/quazip/quacrc32.h File Reference

```
#include "quachecksum32.h"
```

Include dependency graph for quacrc32.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaCrc32

  CRC32 checksum.

13.145 src/ckb/quazip/quagzipfile.cpp File Reference

```
#include <QFile>
#include "quagzipfile.h"
```

Include dependency graph for quagzipfile.cpp:

13.146 src/ckb/quazip/quagzipfile.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include <zlib.h>
```

Include dependency graph for quagzipfile.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaGzipFile

  GZIP file.

13.147 src/ckb/quazip/quaziodevice.cpp File Reference

`#include "quaziodevice.h"`

Include dependency graph for quaziodevice.cpp:

Macros

- #define QUAZIO_INBUFSIZE 4096

- #define QUAZIO_OUTBUFSIZE 4096

13.147.1 Macro Definition Documentation

13.147.1.1 #define QUAZIO_INBUFSIZE 4096

Definition at line 27 of file quaziodevice.cpp.

Referenced by QuaZIODevice::readData().

13.147.1.2 #define QUAZIO_OUTBUFSIZE 4096

Definition at line 28 of file quaziodevice.cpp.

Referenced by QuaZIODevice::flush(), and QuaZIODevice::writeData().

13.148 src/ckb/quazip/quaziodevice.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include <zlib.h>
```

Include dependency graph for quaziodevice.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaZIODevice

  A class to compress/decompress QIODevice.

13.149 src/ckb/quazip/quazip.cpp File Reference

```
#include <QFile>
#include <QFlags>
#include <QHash>
#include "quazip.h"
```

Include dependency graph for quazip.cpp:

Data Structures

- class QuaZipPrivate

  All the internal stuff for the QuaZip class.

Functions

- template<typename TFileInfo >
  TFileInfo QuaZip_getFileInfo (QuaZip *zip, bool *ok)

- template<>
  QuaZipFileInfo QuaZip_getFileInfo (QuaZip *zip, bool *ok)
- template<>
  QuaZipFileInfo64 QuaZip_getFileInfo (QuaZip *zip, bool *ok)
- template<>
  QString QuaZip_getFileInfo (QuaZip *zip, bool *ok)

13.149.1 Function Documentation

13.149.1.1 template<typename TFileInfo > TFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo(), and QuaZip::getCurrentFileName().

```
664 {
665     QuaZipFileInfo info;
666     *ok = zip->getCurrentFileInfo(&info);
667     return info;
668 }
```

Here is the call graph for this function:

13.149.1.2 template<> QuaZipFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo().

```
664 {
665     QuaZipFileInfo info;
666     *ok = zip->getCurrentFileInfo(&info);
667     return info;
668 }
```

Here is the call graph for this function:

13.149.1.3 template<> QuaZipFileInfo64 QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 671 of file quazip.cpp.

References QuaZip::getCurrentFileInfo().

```
672 {
673     QuaZipFileInfo64 info;
674     *ok = zip->getCurrentFileInfo(&info);
675     return info;
676 }
```

Here is the call graph for this function:

13.149.1.4 template<> QString QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 679 of file quazip.cpp.

References QuaZip::getCurrentFileName().

```
680 {
681     QString name = zip->getCurrentFileName();
682     *ok = !name.isEmpty();
683     return name;
684 }
```

Here is the call graph for this function:

13.150 src/ckb/quazip/quazip.h File Reference

```
#include <QString>
#include <QStringList>
#include <QTextCodec>
#include "zip.h"
#include "unzip.h"
#include "quazip_global.h"
#include "quazipfileinfo.h"
```

Include dependency graph for quazip.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaZip

  ZIP archive.

Macros

- #define UNZ_OPENERROR -1000

13.150.1 Macro Definition Documentation

13.150.1.1 #define UNZ_OPENERROR -1000

Definition at line 41 of file quazip.h.

Referenced by QuaZip::open().

13.151 src/ckb/quazip/quazip_global.h File Reference

```
#include <QtCore/qglobal.h>
```

Include dependency graph for quazip_global.h:

This graph shows which files directly or indirectly include this file:

Macros

- #define QUAZIP_EXPORT Q_DECL_IMPORT

  This is automatically defined when building a static library, but when including QuaZip sources directly into a project, QUAZIP_STATIC should be defined explicitly to avoid possible troubles with unnecessary importing/exporting.
- #define UNUSED
- #define QUAZIP_EXTRA_NTFS_MAGIC 0x000Au
- #define QUAZIP_EXTRA_NTFS_TIME_MAGIC 0x0001u

13.151.1 Macro Definition Documentation

13.151.1.1 #define QUAZIP_EXPORT Q_DECL_IMPORT

When building a DLL with MSVC, QUAZIP_BUILD must be defined. qglobal.h takes care of defining Q_DECL_∗ correctly for msvc/gcc.

Definition at line 46 of file quazip_global.h.

13.151.1.2 #define QUAZIP_EXTRA_NTFS_MAGIC 0x000Au

Definition at line 56 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

13.151.1.3 #define QUAZIP_EXTRA_NTFS_TIME_MAGIC 0x0001u

Definition at line 57 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

13.151.1.4 #define UNUSED

Definition at line 53 of file quazip_global.h.

13.152 src/ckb/quazip/quazipdir.cpp File Reference

```
#include "quazipdir.h"
#include <QSet>
#include <QSharedData>
```

Include dependency graph for quazipdir.cpp:

Functions

- QuaZipFileInfo64 QuaZipDir_getFileInfo (QuaZip *zip, bool *ok, const QString &relativeName, bool isReal)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QList< QuaZipFileInfo64 > &to)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QStringList &to)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QList< QuaZipFileInfo > &to)

13.152.1 Function Documentation

13.152.1.1 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QList< QuaZipFileInfo64 > & *to*) [static]

Definition at line 188 of file quazipdir.cpp.

```
{
    to = from;
}
```

13.152.1.2 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QStringList & *to*) [static]

Definition at line 194 of file quazipdir.cpp.

```
{
    to.clear();
    for (QList<QuaZipFileInfo64>::const_iterator i = from.constBegin();
            i != from.constEnd();
            ++i) {
        to.append(i->name);
    }
}
```

13.152.1.3 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QList< QuaZipFileInfo > & *to*) [static]

Definition at line 205 of file quazipdir.cpp.

```
{
    to.clear();
    for (QList<QuaZipFileInfo64>::const_iterator i = from.constBegin();
            i != from.constEnd();
            ++i) {
        QuaZipFileInfo info32;
        i->toQuaZipFileInfo(info32);
        to.append(info32);
    }
}
```

13.152.1.4 QuaZipFileInfo64 QuaZipDir_getFileInfo (QuaZip * *zip*, bool * *ok*, const QString & *relativeName*, bool *isReal*)

Definition at line 165 of file quazipdir.cpp.

References QuaZipFileInfo64::compressedSize, QuaZipFileInfo64::crc, QuaZipFileInfo64::diskNumberStart, QuaZipFileInfo64::externalAttr, QuaZipFileInfo64::flags, QuaZip::getCurrentFileInfo(), QuaZipFileInfo64::internalAttr, QuaZipFileInfo64::method, QuaZipFileInfo64::name, QuaZipFileInfo64::uncompressedSize, QuaZipFileInfo64::versionCreated, and QuaZipFileInfo64::versionNeeded.

```
{
    QuaZipFileInfo64 info;
    if (isReal) {
        *ok = zip->getCurrentFileInfo(&info);
    } else {
        *ok = true;
        info.compressedSize = 0;
        info.crc = 0;
        info.diskNumberStart = 0;
        info.externalAttr = 0;
        info.flags = 0;
        info.internalAttr = 0;
        info.method = 0;
        info.uncompressedSize = 0;
        info.versionCreated = info.versionNeeded = 0;
    }
    info.name = relativeName;
    return info;
}
```

Here is the call graph for this function:

13.153 src/ckb/quazip/quazipdir.h File Reference

```
#include "quazip.h"
#include "quazipfileinfo.h"
#include <QDir>
#include <QList>
#include <QSharedDataPointer>
```

Include dependency graph for quazipdir.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaZipDir

  Provides ZIP archive navigation.

13.154 src/ckb/quazip/quazipfile.cpp File Reference

```
#include "quazipfile.h"
```

Include dependency graph for quazipfile.cpp:

Data Structures

- class QuaZipFilePrivate

  The implementation class for QuaZip.

13.155 src/ckb/quazip/quazipfile.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include "quazip.h"
#include "quazipnewinfo.h"
```

Include dependency graph for quazipfile.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class QuaZipFile

  A file inside ZIP archive.

13.156 src/ckb/quazip/quazipfileinfo.cpp File Reference

`#include "quazipfileinfo.h"`
Include dependency graph for quazipfileinfo.cpp:

Functions

- static QFile::Permissions permissionsFromExternalAttr (quint32 externalAttr)
- static QDateTime getNTFSTime (const QByteArray &extra, int position, int *fineTicks)

13.156.1 Function Documentation

13.156.1.1 static QDateTime getNTFSTime (const QByteArray & *extra*, int *position*, int * *fineTicks*) [static]

Definition at line 92 of file quazipfileinfo.cpp.

References QUAZIP_EXTRA_NTFS_MAGIC, and QUAZIP_EXTRA_NTFS_TIME_MAGIC.

Referenced by QuaZipFileInfo64::getNTFSaTime(), QuaZipFileInfo64::getNTFScTime(), and QuaZipFileInfo64::getNTFSmTime().

```
{
    QDateTime dateTime;
    for (int i = 0; i <= extra.size() - 4; ) {
        unsigned type = static_cast<unsigned>(static_cast<unsigned char>(
                                                extra.at(i)))
                | (static_cast<unsigned>(static_cast<unsigned char>(
                                                 extra.at(i + 1))) << 8);
        i += 2;
        unsigned length = static_cast<unsigned>(static_cast<unsigned char>(
                                                 extra.at(i)))
                 | (static_cast<unsigned>(static_cast<unsigned char>(
                                                 extra.at(i + 1))) << 8);
        i += 2;
        if (type == QUAZIP_EXTRA_NTFS_MAGIC && length >= 32) {
            i += 4; // reserved
            while (i <= extra.size() - 4) {
                unsigned tag = static_cast<unsigned>(
                            static_cast<unsigned char>(extra.at(i)))
                        | (static_cast<unsigned>(
                                static_cast<unsigned char>(extra.at(i + 1)))
                            << 8);
                i += 2;
                int tagsize = static_cast<unsigned>(
                            static_cast<unsigned char>(extra.at(i)))
                        | (static_cast<unsigned>(
                                static_cast<unsigned char>(extra.at(i + 1)))
                            << 8);
                i += 2;
                if (tag == QUAZIP_EXTRA_NTFS_TIME_MAGIC
                        && tagsize >= position + 8) {
                    i += position;
                    quint64 mtime = static_cast<quint64>(
                                 static_cast<unsigned char>(extra.at(i)))
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 1))) << 8)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 2))) << 16)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 3))) << 24)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 4))) << 32)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 5))) << 40)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 6))) << 48)
                        | (static_cast<quint64>(static_cast<unsigned char>(
                                                extra.at(i + 7))) << 56);
                    // the NTFS time is measured from 1601 for whatever reason
                    QDateTime base(QDate(1601, 1, 1), QTime(0, 0), Qt::UTC);
                    dateTime = base.addMSecs(mtime / 10000);
                    if (fineTicks != NULL) {
                        *fineTicks = static_cast<int>(mtime % 10000);
                    }
                    i += tagsize - position;
                } else {
                    i += tagsize;
                }

            }
        } else {
            i += length;
        }
    }
    if (fineTicks != NULL && dateTime.isNull()) {
        *fineTicks = 0;
    }
    return dateTime;
}
```

Here is the caller graph for this function:

13.156.1.2 static QFile::Permissions permissionsFromExternalAttr (quint32 *externalAttr*) [static]

Definition at line 27 of file quazipfileinfo.cpp.

Referenced by QuaZipFileInfo::getPermissions(), and QuaZipFileInfo64::getPermissions().

```
27                                                                          {
28     quint32 uPerm = (externalAttr & 0xFFFF0000u) >> 16;
29     QFile::Permissions perm = 0;
30     if ((uPerm & 0400) != 0)
31         perm |= QFile::ReadOwner;
32     if ((uPerm & 0200) != 0)
33         perm |= QFile::WriteOwner;
34     if ((uPerm & 0100) != 0)
35         perm |= QFile::ExeOwner;
36     if ((uPerm & 0040) != 0)
37         perm |= QFile::ReadGroup;
38     if ((uPerm & 0020) != 0)
39         perm |= QFile::WriteGroup;
40     if ((uPerm & 0010) != 0)
41         perm |= QFile::ExeGroup;
42     if ((uPerm & 0004) != 0)
43         perm |= QFile::ReadOther;
44     if ((uPerm & 0002) != 0)
45         perm |= QFile::WriteOther;
46     if ((uPerm & 0001) != 0)
47         perm |= QFile::ExeOther;
48     return perm;
49
50 }
```

Here is the caller graph for this function:

13.157 src/ckb/quazip/quazipfileinfo.h File Reference

```
#include <QByteArray>
```

```
#include <QDateTime>
#include <QFile>
#include "quazip_global.h"
```

Include dependency graph for quazipfileinfo.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct QuaZipFileInfo

  Information about a file inside archive.

- struct QuaZipFileInfo64

  Information about a file inside archive (with zip64 support).

13.158 src/ckb/quazip/quazipnewinfo.cpp File Reference

```
#include <QFileInfo>
#include "quazipnewinfo.h"
#include <string.h>
```

Include dependency graph for quazipnewinfo.cpp:

Functions

- static void QuaZipNewInfo_setPermissions (QuaZipNewInfo *info, QFile::Permissions perm, bool isDir)
- template<typename FileInfo >
  void QuaZipNewInfo_init (QuaZipNewInfo &self, const FileInfo &existing)
- static void setNTFSTime (QByteArray &extra, const QDateTime &time, int position, int fineTicks)

13.158.1 Function Documentation

13.158.1.1 template<typename FileInfo > void QuaZipNewInfo_init (QuaZipNewInfo & *self*, const FileInfo & *existing*)

Definition at line 57 of file quazipnewinfo.cpp.

Referenced by QuaZipNewInfo::QuaZipNewInfo().

```
{
    self.name = existing.name;
    self.dateTime = existing.dateTime;
    self.internalAttr = existing.internalAttr;
    self.externalAttr = existing.externalAttr;
    self.comment = existing.comment;
    self.extraLocal = existing.extra;
    self.extraGlobal = existing.extra;
    self.uncompressedSize = existing.uncompressedSize;
}
```

Here is the caller graph for this function:

13.158.1.2 static void QuaZipNewInfo_setPermissions (QuaZipNewInfo * *info*, QFile::Permissions *perm*, bool *isDir*) [static]

Definition at line 31 of file quazipnewinfo.cpp.

References QuaZipNewInfo::externalAttr.

Referenced by QuaZipNewInfo::QuaZipNewInfo(), QuaZipNewInfo::setFilePermissions(), and QuaZipNewInfo::setPermissions().

```
{
    quint32 uPerm = isDir ? 0040000 : 0100000;
    if ((perm & QFile::ReadOwner) != 0)
        uPerm |= 0400;
    if ((perm & QFile::WriteOwner) != 0)
        uPerm |= 0200;
    if ((perm & QFile::ExeOwner) != 0)
        uPerm |= 0100;
    if ((perm & QFile::ReadGroup) != 0)
        uPerm |= 0040;
    if ((perm & QFile::WriteGroup) != 0)
        uPerm |= 0020;
    if ((perm & QFile::ExeGroup) != 0)
        uPerm |= 0010;
    if ((perm & QFile::ReadOther) != 0)
        uPerm |= 0004;
    if ((perm & QFile::WriteOther) != 0)
        uPerm |= 0002;
    if ((perm & QFile::ExeOther) != 0)
        uPerm |= 0001;
    info->externalAttr = (info->externalAttr & ~0xFFFF0000u) | (uPerm << 16);
}
```

Here is the caller graph for this function:

13.158.1.3 static void setNTFSTime (QByteArray & *extra*, const QDateTime & *time*, int *position*, int *fineTicks*) [static]

Definition at line 131 of file quazipnewinfo.cpp.

References QUAZIP_EXTRA_NTFS_MAGIC, and QUAZIP_EXTRA_NTFS_TIME_MAGIC.

Referenced by QuaZipNewInfo::setFileNTFSaTime(), QuaZipNewInfo::setFileNTFScTime(), and QuaZipNewInfo::setFileNTFSmTime().

```
                                        {
    int ntfsPos = -1, timesPos = -1;
    unsigned ntfsLength = 0, ntfsTimesLength = 0;
    for (int i = 0; i <= extra.size() - 4; ) {
        unsigned type = static_cast<unsigned>(static_cast<unsigned char>(
                                                extra.at(i)))
                | (static_cast<unsigned>(static_cast<unsigned char>(
                                                extra.at(i + 1))) << 8);
        i += 2;
        unsigned length = static_cast<unsigned>(static_cast<unsigned char>(
                                                extra.at(i)))
                | (static_cast<unsigned>(static_cast<unsigned char>(
                                                extra.at(i + 1))) << 8);
        i += 2;
        if (type == QUAZIP_EXTRA_NTFS_MAGIC) {
            ntfsPos = i - 4; // the beginning of the NTFS record
            ntfsLength = length;
            if (length <= 4) {
                break; // no times in the NTFS record
            }
            i += 4; // reserved
            while (i <= extra.size() - 4) {
                unsigned tag = static_cast<unsigned>(
                            static_cast<unsigned char>(extra.at(i)))
                        | (static_cast<unsigned>(
                                static_cast<unsigned char>(extra.at(i + 1)))
                            << 8);
                i += 2;
                unsigned tagsize = static_cast<unsigned>(
                            static_cast<unsigned char>(extra.at(i)))
                        | (static_cast<unsigned>(
                                static_cast<unsigned char>(extra.at(i + 1)))
                            << 8);
                i += 2;
                if (tag == QUAZIP_EXTRA_NTFS_TIME_MAGIC) {
                    timesPos = i - 4; // the beginning of the NTFS times tag
                    ntfsTimesLength = tagsize;
                    break;
                } else {
                    i += tagsize;
                }
            }
            break; // I ain't going to search for yet another NTFS record!
        } else {
            i += length;
        }
    }
    if (ntfsPos == -1) {
        // No NTFS record, need to create one.
        ntfsPos = extra.size();
        ntfsLength = 32;
        extra.resize(extra.size() + 4 + ntfsLength);
        // the NTFS record header
        extra[ntfsPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_MAGIC);
        extra[ntfsPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_MAGIC >> 8);
        extra[ntfsPos + 2] = 32; // the 2-byte size in LittleEndian
        extra[ntfsPos + 3] = 0;
        // zero the record
        memset(extra.data() + ntfsPos + 4, 0, 32);
        timesPos = ntfsPos + 8;
        // now set the tag data
        extra[timesPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC);
        extra[timesPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC
                                                >> 8);
        // the size:
        extra[timesPos + 2] = 24;
        extra[timesPos + 3] = 0;
        ntfsTimesLength = 24;
    }
    if (timesPos == -1) {
        // No time tag in the NTFS record, need to add one.
        timesPos = ntfsPos + 4 + ntfsLength;
        extra.resize(extra.size() + 28);
        // Now we need to move the rest of the field
        // (possibly zero bytes, but memmove() is OK with that).
        // 0 ......... ntfsPos .. ntfsPos + 4   ... timesPos
        // <some data> <header>   <NTFS record>     <need-to-move data>    <end>
        memmove(extra.data() + timesPos + 28, extra.data() + timesPos,
                extra.size() - 28 - timesPos);
        ntfsLength += 28;
        // now set the tag data
```

```
        extra[timesPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC);
        extra[timesPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC
                                                >> 8);
        // the size:
        extra[timesPos + 2] = 24;
        extra[timesPos + 3] = 0;
        // zero the record
        memset(extra.data() + timesPos + 4, 0, 24);
        ntfsTimesLength = 24;
    }
    if (ntfsTimesLength < 24) {
        // Broken times field. OK, this is really unlikely, but just in case...
        size_t timesEnd = timesPos + 4 + ntfsTimesLength;
        extra.resize(extra.size() + (24 - ntfsTimesLength));
        // Move it!
        // 0 ......... timesPos .... timesPos + 4 .. timesEnd
        // <some data> <time header> <broken times> <need-to-move data> <end>
        memmove(extra.data() + timesEnd + (24 - ntfsTimesLength),
                extra.data() + timesEnd,
                extra.size() - (24 - ntfsTimesLength) - timesEnd);
        // Now we have to increase the NTFS record and time tag lengths.
        ntfsLength += (24 - ntfsTimesLength);
        ntfsTimesLength = 24;
        extra[ntfsPos + 2] = static_cast<char>(ntfsLength);
        extra[ntfsPos + 3] = static_cast<char>(ntfsLength >> 8);
        extra[timesPos + 2] = static_cast<char>(ntfsTimesLength);
        extra[timesPos + 3] = static_cast<char>(ntfsTimesLength >> 8);
    }
    QDateTime base(QDate(1601, 1, 1), QTime(0, 0), Qt::UTC);
#if (QT_VERSION >= 0x040700)
    quint64 ticks = base.msecsTo(time) * 10000 + fineTicks;
#else
    QDateTime utc = time.toUTC();
    quint64 ticks = (static_cast<qint64>(base.date().daysTo(utc.date()))
            * Q_INT64_C(86400000)
            + static_cast<qint64>(base.time().msecsTo(utc.time())))
        * Q_INT64_C(10000) + fineTicks;
#endif
    extra[timesPos + 4 + position] = static_cast<char>(ticks);
    extra[timesPos + 5 + position] = static_cast<char>(ticks >> 8);
    extra[timesPos + 6 + position] = static_cast<char>(ticks >> 16);
    extra[timesPos + 7 + position] = static_cast<char>(ticks >> 24);
    extra[timesPos + 8 + position] = static_cast<char>(ticks >> 32);
    extra[timesPos + 9 + position] = static_cast<char>(ticks >> 40);
    extra[timesPos + 10 + position] = static_cast<char>(ticks >> 48);
    extra[timesPos + 11 + position] = static_cast<char>(ticks >> 56);
}
```

Here is the caller graph for this function:

13.159 src/ckb/quazip/quazipnewinfo.h File Reference

```
#include <QDateTime>
#include <QFile>
#include <QString>
#include "quazip_global.h"
#include "quazipfileinfo.h"
```

Include dependency graph for quazipnewinfo.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct QuaZipNewInfo

  Information about a file to be created.

13.160 src/ckb/quazip/unzip.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "zlib.h"
#include "unzip.h"
#include <errno.h>
#include "crypt.h"
```

Include dependency graph for unzip.c:

Data Structures

- struct unz_file_info64_internal_s
- struct file_in_zip64_read_info_s
- struct unz64_s

Macros

- #define local static
- #define CASESENSITIVITYDEFAULT_NO
- #define UNZ_BUFSIZE (16384)
- #define UNZ_MAXFILENAMEINZIP (256)
- #define ALLOC(size) (malloc(size))
- #define TRYFREE(p) {if (p) free(p);}
- #define SIZECENTRALDIRITEM (0x2e)
- #define SIZEZIPLOCALHEADER (0x1e)
- #define CASESENSITIVITYDEFAULTVALUE 2
- #define STRCMPCASENOSENTIVEFUNCTION strcmpcasenosensitive_internal
- #define BUFREADCOMMENT (0x400)

Typedefs

- typedef uLongf z_crc_t
- typedef struct unz_file_info64_internal_s unz_file_info64_internal

Functions

- static int unz64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi))
- static int unz64local_getByte (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)
- static int unz64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX))

- static int unz64local_getShort (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int unz64local_getLong (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int unz64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX))
- static int unz64local_getLong64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)
- static int strcmpcasenosensitive_internal (const char *fileName1, const char *fileName2)
- int ZEXPORT unzStringFileNameCompare (const char *fileName1, const char *fileName2, int iCaseSensitivity)
- static ZPOS64_T unz64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream))
- static ZPOS64_T unz64local_SearchCentralDir (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- static ZPOS64_T unz64local_SearchCentralDir64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- unzFile unzOpenInternal (voidpf file, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, int is64bitOpenFunction, unsigned flags)
- unzFile ZEXPORT unzOpen2 (voidpf file, zlib_filefunc_def *pzlib_filefunc32_def)
- unzFile ZEXPORT unzOpen2_64 (voidpf file, zlib_filefunc64_def *pzlib_filefunc_def)
- unzFile ZEXPORT unzOpen (voidpf file)
- unzFile ZEXPORT unzOpen64 (voidpf file)
- int ZEXPORT unzClose (unzFile file)
- int ZEXPORT unzGetGlobalInfo64 (unzFile file, unz_global_info64 *pglobal_info)
- int ZEXPORT unzGetGlobalInfo (unzFile file, unz_global_info *pglobal_info32)
- static void unz64local_DosDateToTmuDate (ZPOS64_T ulDosDate, tm_unz *ptm)
- static int unz64local_GetCurrentFileInfoInternal _Z_OF ((unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))
- static int unz64local_GetCurrentFileInfoInternal (unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGetCurrentFileInfo64 (unzFile file, unz_file_info64 *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGetCurrentFileInfo (unzFile file, unz_file_info *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGoToFirstFile (unzFile file)
- int ZEXPORT unzGoToNextFile (unzFile file)
- int ZEXPORT unzLocateFile (unzFile file, const char *szFileName, int iCaseSensitivity)
- int ZEXPORT unzGetFilePos64 (unzFile file, unz64_file_pos *file_pos)
- int ZEXPORT unzGetFilePos (unzFile file, unz_file_pos *file_pos)
- int ZEXPORT unzGoToFilePos64 (unzFile file, const unz64_file_pos *file_pos)
- int ZEXPORT unzGoToFilePos (unzFile file, unz_file_pos *file_pos)
- static int unz64local_CheckCurrentFileCoherencyHeader (unz64_s *s, uInt *piSizeVar, ZPOS64_T *poffset_local_extrafield, uInt *psize_local_extrafield)
- int ZEXPORT unzOpenCurrentFile3 (unzFile file, int *method, int *level, int raw, const char *password)
- int ZEXPORT unzOpenCurrentFile (unzFile file)
- int ZEXPORT unzOpenCurrentFilePassword (unzFile file, const char *password)
- int ZEXPORT unzOpenCurrentFile2 (unzFile file, int *method, int *level, int raw)
- ZPOS64_T ZEXPORT unzGetCurrentFileZStreamPos64 (unzFile file)

  Addition for GDAL : START.
- int ZEXPORT unzReadCurrentFile (unzFile file, voidp buf, unsigned len)

Addition for GDAL : END.

- z_off_t ZEXPORT unztell (unzFile file)
- ZPOS64_T ZEXPORT unztell64 (unzFile file)
- int ZEXPORT unzeof (unzFile file)
- int ZEXPORT unzGetLocalExtrafield (unzFile file, voidp buf, unsigned len)
- int ZEXPORT unzCloseCurrentFile (unzFile file)
- int ZEXPORT unzGetGlobalComment (unzFile file, char *szComment, uLong uSizeBuf)
- ZPOS64_T ZEXPORT unzGetOffset64 (unzFile file)
- uLong ZEXPORT unzGetOffset (unzFile file)
- int ZEXPORT unzSetOffset64 (unzFile file, ZPOS64_T pos)
- int ZEXPORT unzSetOffset (unzFile file, uLong pos)
- int ZEXPORT unzSetFlags (unzFile file, unsigned flags)
- int ZEXPORT unzClearFlags (unzFile file, unsigned flags)

Variables

- const char unz_copyright []

13.160.1 Data Structure Documentation

13.160.1.1 struct unz_file_info64_internal_s

Definition at line 128 of file unzip.c.

Collaboration diagram for unz_file_info64_internal_s:

Data Fields

ZPOS64_T	offset_curfile	

13.160.1.2 struct file_in_zip64_read_info_s

Definition at line 136 of file unzip.c.

Collaboration diagram for file_in_zip64_read_info_s:

Data Fields

ZPOS64_T	byte_before_the_zipfile	
uLong	compression_method	
uLong	crc32	
uLong	crc32_wait	
voidpf	filestream	
ZPOS64_T	offset_local_extrafield	
ZPOS64_T	pos_in_zipfile	
ZPOS64_T	pos_local_extrafield	
int	raw	
char *	read_buffer	
ZPOS64_T	rest_read_compressed	
ZPOS64_T	rest_read_uncompressed	
uInt	size_local_extrafield	
z_stream	stream	
uLong	stream_initialised	
ZPOS64_T	total_out_64	
zlib_filefunc64_32_def	z_filefunc	

13.160.1.3 struct unz64_s

Definition at line 167 of file unzip.c.

Collaboration diagram for unz64_s:

Data Fields

ZPOS64_T	byte_before_the_zipfile	
ZPOS64_T	central_pos	
unz_file_info64	cur_file_info	
unz_file_info64_internal	cur_file_info_internal	
ZPOS64_T	current_file_ok	
int	encrypted	
voidpf	filestream	
unsigned	flags	
unz_global_info64	gi	
int	is64bitOpenFunction	
int	isZip64	
unsigned long	keys[3]	
ZPOS64_T	num_file	
ZPOS64_T	offset_central_dir	
const z_crc_t FAR *	pcrc_32_tab	
file_in_zip64_read_info_s *	pfile_in_zip_read	
ZPOS64_T	pos_in_central_dir	
ZPOS64_T	size_central_dir	
zlib_filefunc64_32_def	z_filefunc	

13.160.2 Macro Definition Documentation

13.160.2.1 #define ALLOC(*size*) (malloc(size))

Definition at line 114 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzOpenCurrentFile3(), and

unzOpenInternal().

13.160.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 408 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), and unz64local_SearchCentralDir64().

13.160.2.3 #define CASESENSITIVITYDEFAULT_NO

Definition at line 100 of file unzip.c.

13.160.2.4 #define CASESENSITIVITYDEFAULTVALUE 2

Definition at line 375 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.160.2.5 #define local static

Definition at line 93 of file unzip.c.

13.160.2.6 #define SIZECENTRALDIRITEM (0x2e)

Definition at line 120 of file unzip.c.

Referenced by unzGoToNextFile().

13.160.2.7 #define SIZEZIPLOCALHEADER (0x1e)

Definition at line 121 of file unzip.c.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), and unzOpenCurrentFile3().

13.160.2.8 #define STRCMPCASENOSENTIVEFUNCTION strcmpcasenosensitive_internal

Definition at line 381 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.160.2.9 #define TRYFREE(*p*) {if (p) free(p);}

Definition at line 117 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzClose(), unzCloseCurrentFile(), and unzOpenCurrentFile3().

13.160.2.10 #define UNZ_BUFSIZE (16384)

Definition at line 106 of file unzip.c.

Referenced by unzOpenCurrentFile3(), and unzReadCurrentFile().

13.160.2.11 #define UNZ_MAXFILENAMEINZIP (256)

Definition at line 110 of file unzip.c.

Referenced by unzLocateFile().

13.160.3 Typedef Documentation

13.160.3.1 typedef struct unz_file_info64_internal_s unz_file_info64_internal

13.160.3.2 typedef uLongf z_crc_t

Definition at line 76 of file unzip.c.

13.160.4 Function Documentation

13.160.4.1 static int unz64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.160.4.2 static int unz64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.160.4.3 static int unz64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.160.4.4 static ZPOS64_T unz64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.160.4.5 static int unz64local_GetCurrentFileInfoInternal _Z_OF ((unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)) [static]

13.160.4.6 static int strcmpcasenosensitive_internal (const char * *fileName1*, const char * *fileName2*) [static]

Definition at line 352 of file unzip.c.

```
{
    for (;;)
    {
        char c1=*(fileName1++);
        char c2=*(fileName2++);
        if ((c1>='a') && (c1<='z'))
            c1 -= 0x20;
        if ((c2>='a') && (c2<='z'))
            c2 -= 0x20;
        if (c1=='\0')
            return ((c2=='\0') ? 0 : -1);
        if (c2=='\0')
            return 1;
        if (c1<c2)
            return -1;
        if (c1>c2)
            return 1;
    }
}
```

13.160.4.7 static int unz64local_CheckCurrentFileCoherencyHeader (unz64_s * *s*, uInt * *piSizeVar*, ZPOS64_T * *poffset_local_extrafield*, uInt * *psize_local_extrafield*) [static]

Definition at line 1393 of file unzip.c.

References unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info64_s::crc, unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::filestream, unz_file_info64_internal_s::offset_curfile, unz_file_info64_s::size_filename, SIZEZIPLOCALHEADER, unz_file_info64_s::uncompressed_size, unz64local_getLong(), unz64local_getShort(), UNZ_BADZIPFILE, UNZ_ERRNO, UNZ_OK, Z_BZIP2ED, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, and ZSEEK64.

Referenced by unzOpenCurrentFile3().

```
{
    uLong uMagic,uData,uFlags;
    uLong size_filename;
    uLong size_extra_field;
    int err=UNZ_OK;

    *piSizeVar = 0;
    *poffset_local_extrafield = 0;
    *psize_local_extrafield = 0;

    if (ZSEEK64(s->z_filefunc, s->filestream,s->cur_file_info_internal.offset_curfile +
                                s->byte_before_the_zipfile, ZLIB_FILEFUNC_SEEK_SET)!=0)
        return UNZ_ERRNO;


    if (err==UNZ_OK)
    {
        if (unz64local_getLong(&s->z_filefunc, s->filestream,&uMagic) != UNZ_OK)
            err=UNZ_ERRNO;
        else if (uMagic!=0x04034b50)
            err=UNZ_BADZIPFILE;
    }

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&uData) != UNZ_OK)
        err=UNZ_ERRNO;
/*
    else if ((err==UNZ_OK) && (uData!=s->cur_file_info.wVersion))
        err=UNZ_BADZIPFILE;
*/
    if (unz64local_getShort(&s->z_filefunc, s->filestream,&uFlags) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&uData) != UNZ_OK)
        err=UNZ_ERRNO;
    else if ((err==UNZ_OK) && (uData!=s->cur_file_info.compression_method))
        err=UNZ_BADZIPFILE;

    if ((err==UNZ_OK) && (s->cur_file_info.compression_method!=0) &&
/* #ifdef HAVE_BZIP2 */
                        (s->cur_file_info.compression_method!=Z_BZIP2ED) &&
/* #endif */
                        (s->cur_file_info.compression_method!=Z_DEFLATED))
        err=UNZ_BADZIPFILE;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uData) != UNZ_OK) /* date/time */
        err=UNZ_ERRNO;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uData) != UNZ_OK) /* crc */
        err=UNZ_ERRNO;
    else if ((err==UNZ_OK) && (uData!=s->cur_file_info.crc) && ((uFlags & 8)==0))
        err=UNZ_BADZIPFILE;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uData) != UNZ_OK) /* size compr */
        err=UNZ_ERRNO;
    else if (uData != 0xFFFFFFFF && (err==UNZ_OK) && (uData!=s->cur_file_info.compressed_size) && ((uFlags & 8)==0))
        err=UNZ_BADZIPFILE;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uData) != UNZ_OK) /* size uncompr */
        err=UNZ_ERRNO;
    else if (uData != 0xFFFFFFFF && (err==UNZ_OK) && (uData!=s->cur_file_info.uncompressed_size) && ((uFlags & 8)==0))
        err=UNZ_BADZIPFILE;

    if (unz64local_getShort(&s->z_filefunc, s->
```

```
    filestream,&size_filename) != UNZ_OK)
        err=UNZ_ERRNO;
    else if ((err==UNZ_OK) && (size_filename!=s->cur_file_info.size_filename))
        err=UNZ_BADZIPFILE;

    *piSizeVar += (uInt)size_filename;

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&size_extra_field) != UNZ_OK)
        err=UNZ_ERRNO;
    *poffset_local_extrafield= s->cur_file_info_internal.offset_curfile +
                                    SIZEZIPLOCALHEADER + size_filename;
    *psize_local_extrafield = (uInt)size_extra_field;

    *piSizeVar += (uInt)size_extra_field;

    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.8 static void unz64local_DosDateToTmuDate (ZPOS64_T *ulDosDate*, tm_unz * *ptm*) [static]

Definition at line 862 of file unzip.c.

References tm_unz_s::tm_hour, tm_unz_s::tm_mday, tm_unz_s::tm_min, tm_unz_s::tm_mon, tm_unz_s::tm_sec, and tm_unz_s::tm_year.

Referenced by unz64local_GetCurrentFileInfoInternal().

```
{
    ZPOS64_T uDate;
    uDate = (ZPOS64_T)(ulDosDate>>16);
    ptm->tm_mday = (uInt)(uDate&0x1f) ;
    ptm->tm_mon =  (uInt)((((uDate)&0x1E0)/0x20)-1) ;
    ptm->tm_year = (uInt)(((uDate&0x0FE00)/0x0200)+1980) ;

    ptm->tm_hour = (uInt) ((ulDosDate &0xF800)/0x800);
    ptm->tm_min =  (uInt) ((ulDosDate&0x7E0)/0x20) ;
```

```
    ptm->tm_sec =  (uInt) (2*(ulDosDate&0x1f)) ;
}
```

Here is the caller graph for this function:

13.160.4.9 static int unz64local_getByte (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* int * *pi*) [static]

Definition at line 215 of file unzip.c.

References UNZ_EOF, UNZ_ERRNO, UNZ_OK, ZERROR64, and ZREAD64.

Referenced by unz64local_getLong(), unz64local_getLong64(), and unz64local_getShort().

```
{
    unsigned char c;
    int err = (int)ZREAD64(*pzlib_filefunc_def,filestream,&c,1);
    if (err==1)
    {
        *pi = (int)c;
        return UNZ_OK;
    }
    else
    {
        if (ZERROR64(*pzlib_filefunc_def,filestream))
            return UNZ_ERRNO;
        else
            return UNZ_EOF;
    }
}
```

Here is the caller graph for this function:

13.160.4.10 static int unz64local_GetCurrentFileInfoInternal (unzFile *file*, unz_file_info64 * *pfile_info*, unz_file_info64_internal * *pfile_info_internal*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*) [static]

Definition at line 889 of file unzip.c.

References unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info64_s::crc, unz_file_info64_s::disk_num_start, unz_file_info64_s::dosDate, unz_file_info64_s::external_fa, unz64_s::filestream, unz_file_info64_s::flag, unz_file_info64_s::internal_fa, unz_file_info64_internal_s::offset_curfile, unz64_s::pos_in_central_dir, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, unz_file_info64_s::tmu_date, unz_file_info64_s::uncompressed_size, unz64local_DosDateToTmuDate(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), UNZ_BADZIPFILE, UNZ_ERRNO, UNZ_OK, UNZ_PARAMERROR, unz_file_info64_s::version, unz_file_info64_s::version_needed, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by unzGetCurrentFileInfo(), unzGetCurrentFileInfo64(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), and unzSetOffset64().

```
{
    unz64_s* s;
    unz_file_info64 file_info;
    unz_file_info64_internal file_info_internal;
    int err=UNZ_OK;
    uLong uMagic;
    ZPOS64_T llSeek=0;
    uLong uL;

    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    if (ZSEEK64(s->z_filefunc, s->filestream,
              s->pos_in_central_dir+s->byte_before_the_zipfile,
              ZLIB_FILEFUNC_SEEK_SET)!=0)
        err=UNZ_ERRNO;


    /* we check the magic */
    if (err==UNZ_OK)
    {
        if (unz64local_getLong(&s->z_filefunc, s->filestream,&uMagic) != UNZ_OK)
            err=UNZ_ERRNO;
        else if (uMagic!=0x02014b50)
            err=UNZ_BADZIPFILE;
    }

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.version) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.version_needed) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.flag) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.compression_method) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&file_info.dosDate) != UNZ_OK)
        err=UNZ_ERRNO;

    unz64local_DosDateToTmuDate(file_info.dosDate,&file_info.tmu_date);

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&file_info.crc) != UNZ_OK)
        err=UNZ_ERRNO;

    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uL) != UNZ_OK)
        err=UNZ_ERRNO;
    file_info.compressed_size = uL;

    if (unz64local_getLong(&s->z_filefunc, s->
```

```
filestream,&uL) != UNZ_OK)
        err=UNZ_ERRNO;
  file_info.uncompressed_size = uL;

  if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.size_filename) != UNZ_OK)
        err=UNZ_ERRNO;

  if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.size_file_extra) != UNZ_OK)
        err=UNZ_ERRNO;

  if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.size_file_comment) != UNZ_OK)
        err=UNZ_ERRNO;

  if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.disk_num_start) != UNZ_OK)
        err=UNZ_ERRNO;

  if (unz64local_getShort(&s->z_filefunc, s->filestream,&file_info.internal_fa) != UNZ_OK)
        err=UNZ_ERRNO;

  if (unz64local_getLong(&s->z_filefunc, s->filestream,&file_info.external_fa) != UNZ_OK)
        err=UNZ_ERRNO;

                /* relative offset of local header */
  if (unz64local_getLong(&s->z_filefunc, s->filestream,&uL) != UNZ_OK)
        err=UNZ_ERRNO;
  file_info_internal.offset_curfile = uL;

  llSeek+=file_info.size_filename;
  if ((err==UNZ_OK) && (szFileName!=NULL))
  {
      uLong uSizeRead ;
      if (file_info.size_filename<fileNameBufferSize)
      {
          *(szFileName+file_info.size_filename)='\0';
          uSizeRead = file_info.size_filename;
      }
      else
          uSizeRead = fileNameBufferSize;

      if ((file_info.size_filename>0) && (fileNameBufferSize>0))
          if (ZREAD64(s->z_filefunc, s->filestream,szFileName,uSizeRead)!=uSizeRead)
              err=UNZ_ERRNO;
      llSeek -= uSizeRead;
  }

  /* Read extrafield */
  if ((err==UNZ_OK) && (extraField!=NULL))
  {
      ZPOS64_T uSizeRead ;
      if (file_info.size_file_extra<extraFieldBufferSize)
          uSizeRead = file_info.size_file_extra;
       else
          uSizeRead = extraFieldBufferSize;

       if (llSeek!=0)
       {
          if (ZSEEK64(s->z_filefunc, s->filestream,llSeek,ZLIB_FILEFUNC_SEEK_CUR)==0)
              llSeek=0;
          else
              err=UNZ_ERRNO;
       }

       if ((file_info.size_file_extra>0) && (extraFieldBufferSize>0))
          if (ZREAD64(s->z_filefunc, s->filestream,extraField,(uLong)uSizeRead)!=uSizeRead)
              err=UNZ_ERRNO;

       llSeek += file_info.size_file_extra - (uLong)uSizeRead;
    }
    else
       llSeek += file_info.size_file_extra;


    if ((err==UNZ_OK) && (file_info.size_file_extra != 0))
    {
                                uLong acc = 0;

       /* since lSeek now points to after the extra field we need to move back */
```

```
        llSeek -= file_info.size_file_extra;

        if (llSeek!=0)
        {
            if (ZSEEK64(s->z_filefunc, s->filestream,llSeek, ZLIB_FILEFUNC_SEEK_CUR)==0)
                llSeek=0;
            else
                err=UNZ_ERRNO;
        }

        while(acc < file_info.size_file_extra)
        {
            uLong headerId;
                                                uLong dataSize;

            if (unz64local_getShort(&s->z_filefunc, s->filestream,&headerId) != UNZ_OK)
                err=UNZ_ERRNO;

            if (unz64local_getShort(&s->z_filefunc, s->filestream,&dataSize) != UNZ_OK)
                err=UNZ_ERRNO;

            /* ZIP64 extra fields */
            if (headerId == 0x0001)
            {
                uLong uL;

                if(file_info.uncompressed_size == (ZPOS64_T)0xFFFFFFFFu)
                {
                    if (unz64local_getLong64(&s->z_filefunc, s->filestream,&file_info.uncompressed_size) != UNZ_OK)
                        err=UNZ_ERRNO;
                }

                if(file_info.compressed_size == (ZPOS64_T)0xFFFFFFFFu)
                {
                    if (unz64local_getLong64(&s->z_filefunc, s->filestream,&file_info.compressed_size) != UNZ_OK)
                        err=UNZ_ERRNO;
                }

                if(file_info_internal.offset_curfile == (ZPOS64_T)0xFFFFFFFFu)
                {
                    /* Relative Header offset */
                    if (unz64local_getLong64(&s->z_filefunc, s->filestream,&file_info_internal.offset_curfile) != UNZ_OK)
                        err=UNZ_ERRNO;
                }

                if(file_info.disk_num_start == 0xFFFFFFFFu)
                {
                    /* Disk Start Number */
                    if (unz64local_getLong(&s->z_filefunc, s->filestream,&uL) != UNZ_OK)
                        err=UNZ_ERRNO;
                }

            }
            else
            {
                if (ZSEEK64(s->z_filefunc, s->filestream,dataSize, ZLIB_FILEFUNC_SEEK_CUR)!=0)
                    err=UNZ_ERRNO;
            }

            acc += 2 + 2 + dataSize;
        }
    }

    if ((err==UNZ_OK) && (szComment!=NULL))
    {
        uLong uSizeRead ;
        if (file_info.size_file_comment<commentBufferSize)
        {
            *(szComment+file_info.size_file_comment)='\0';
            uSizeRead = file_info.size_file_comment;
        }
        else
            uSizeRead = commentBufferSize;

        if (llSeek!=0)
        {
            if (ZSEEK64(s->z_filefunc, s->filestream,llSeek, ZLIB_FILEFUNC_SEEK_CUR)==0)
                llSeek=0;
```

```
            else
                err=UNZ_ERRNO;
        }

        if ((file_info.size_file_comment>0) && (commentBufferSize>0))
            if (ZREAD64(s->z_filefunc, s->filestream,szComment,uSizeRead)!=
    uSizeRead)
                err=UNZ_ERRNO;
        llSeek+=file_info.size_file_comment - uSizeRead;
    }
    else
        llSeek+=file_info.size_file_comment;


    if ((err==UNZ_OK) && (pfile_info!=NULL))
        *pfile_info=file_info;

    if ((err==UNZ_OK) && (pfile_info_internal!=NULL))
        *pfile_info_internal=file_info_internal;

    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.11 static int unz64local_getLong (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*, uLong * *pX*) [static]

Definition at line 269 of file unzip.c.

References unz64local_getByte(), UNZ_OK, and x.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir64(), and unzOpenInternal().

```
{
    uLong x ;
```

```
    int i = 0;
    int err;

    err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x = (uLong)i;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((uLong)i)<<8;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((uLong)i)<<16;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x += ((uLong)i)<<24;

    if (err==UNZ_OK)
        *pX = x;
    else
        *pX = 0;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.12 static int unz64local_getLong64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*, ZPOS64_T * *pX*) [static]

Definition at line 305 of file unzip.c.

References unz64local_getByte(), UNZ_OK, and x.

Referenced by unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir64(), and unzOpenInternal().

```
{
    ZPOS64_T x ;
    int i = 0;
    int err;

    err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x = (ZPOS64_T)i;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<8;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<16;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<24;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<32;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<40;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<48;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((ZPOS64_T)i)<<56;

    if (err==UNZ_OK)
        *pX = x;
    else
        *pX = 0;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.13 static int unz64local_getShort (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 242 of file unzip.c.

References unz64local_getByte(), UNZ_OK, and x.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), and unzOpenInternal().

```
{
    uLong x ;
    int i = 0;
    int err;

    err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x = (uLong)i;

    if (err==UNZ_OK)
        err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
    x |= ((uLong)i)<<8;

    if (err==UNZ_OK)
        *pX = x;
    else
        *pX = 0;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.14 static ZPOS64_T unz64local_SearchCentralDir (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

Definition at line 416 of file unzip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_-SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by unzOpenInternal().

```
{
    unsigned char* buf;
    ZPOS64_T uSizeFile;
    ZPOS64_T uBackRead;
    ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
    ZPOS64_T uPosFound=0;

    if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
        return 0;


    uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);

    if (uMaxBack>uSizeFile)
        uMaxBack = uSizeFile;

    buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
    if (buf==NULL)
        return 0;

    uBackRead = 4;
    while (uBackRead<uMaxBack)
    {
        uLong uReadSize;
        ZPOS64_T uReadPos ;
        int i;
        if (uBackRead+BUFREADCOMMENT>uMaxBack)
            uBackRead = uMaxBack;
        else
            uBackRead+=BUFREADCOMMENT;
        uReadPos = uSizeFile-uBackRead ;

        uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
                     (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
        if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
            break;

        if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
            break;

        for (i=(int)uReadSize-3; (i--)>0;)
            if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
                ((*(buf+i+2))==0x05) && ((*(buf+i+3))==0x06))
            {
                uPosFound = uReadPos+i;
                break;
            }

        if (uPosFound!=0)
            break;
    }
    TRYFREE(buf);
    return uPosFound;
}
```

Here is the caller graph for this function:

13.160.4.15 static ZPOS64_T unz64local_SearchCentralDir64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

Definition at line 481 of file unzip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, unz64local_getLong(), unz64local_getLong64(), UNZ_OK, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by unzOpenInternal().

```
{
    unsigned char* buf;
    ZPOS64_T uSizeFile;
    ZPOS64_T uBackRead;
    ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
    ZPOS64_T uPosFound=0;
    uLong uL;
                ZPOS64_T relativeOffset;

    if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
        return 0;


    uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);

    if (uMaxBack>uSizeFile)
        uMaxBack = uSizeFile;

    buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
    if (buf==NULL)
        return 0;

    uBackRead = 4;
    while (uBackRead<uMaxBack)
    {
        uLong uReadSize;
        ZPOS64_T uReadPos;
        int i;
        if (uBackRead+BUFREADCOMMENT>uMaxBack)
            uBackRead = uMaxBack;
        else
            uBackRead+=BUFREADCOMMENT;
        uReadPos = uSizeFile-uBackRead ;

        uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
                     (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
        if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
            break;

        if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
            break;

        for (i=(int)uReadSize-3; (i--)>0;)
            if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
                ((*(buf+i+2))==0x06) && ((*(buf+i+3))==0x07))
            {
                uPosFound = uReadPos+i;
                break;
            }

        if (uPosFound!=0)
            break;
    }
    TRYFREE(buf);
    if (uPosFound == 0)
        return 0;

    /* Zip64 end of central directory locator */
    if (ZSEEK64(*pzlib_filefunc_def,filestream, uPosFound,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
        return 0;

    /* the signature, already checked */
    if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
        return 0;

    /* number of the disk with the start of the zip64 end of  central directory */
    if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
        return 0;
    if (uL != 0)
        return 0;
```

```
    /* relative offset of the zip64 end of central directory record */
    if (unz64local_getLong64(pzlib_filefunc_def,filestream,&relativeOffset)!=UNZ_OK)
        return 0;

    /* total number of disks */
    if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=UNZ_OK)
        return 0;
    if (uL != 1)
        return 0;

    /* Goto end of central directory record */
    if (ZSEEK64(*pzlib_filefunc_def,filestream, relativeOffset, ZLIB_FILEFUNC_SEEK_SET)!=0)
        return 0;

     /* the signature */
    if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=UNZ_OK)
        return 0;

    if (uL != 0x06064b50)
        return 0;

    return relativeOffset;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.16 int ZEXPORT unzClearFlags (unzFile *file*, unsigned *flags*)

Definition at line 2147 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
{
    unz64_s* s;
    if (file == NULL)
        return UNZ_PARAMERROR;
    s = (unz64_s*)file;
    s->flags &= ~flags;
    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.160.4.17 int ZEXPORT unzClose (unzFile *file*)

Definition at line 815 of file unzip.c.

References unz64_s::filestream, unz64_s::flags, unz64_s::pfile_in_zip_read, TRYFREE, UNZ_AUTO_CLOSE, UNZ_OK, UNZ_PARAMERROR, unzCloseCurrentFile(), unz64_s::z_filefunc, ZCLOSE64, and ZFAKECLOSE64.

Referenced by QuaZip::close(), and QuaZip::open().

```
{
    unz64_s* s;
    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;

    if (s->pfile_in_zip_read!=NULL)
        unzCloseCurrentFile(file);

    if ((s->flags & UNZ_AUTO_CLOSE) != 0)
        ZCLOSE64(s->z_filefunc, s->filestream);
    else
        ZFAKECLOSE64(s->z_filefunc, s->filestream);
    TRYFREE(s);
    return UNZ_OK;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.18 int ZEXPORT unzCloseCurrentFile (unzFile *file*)

Definition at line 2012 of file unzip.c.

References file_in_zip64_read_info_s::crc32, file_in_zip64_read_info_s::crc32_wait, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_uncompressed, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::stream_initialised, TRYFREE, UNZ_CRCERROR, UNZ_OK, UNZ_PARAMERROR, and Z_BZIP2ED.

Referenced by QuaZipFile::close(), unzClose(), and unzOpenCurrentFile3().

```
{
    int err=UNZ_OK;

    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    pfile_in_zip_read_info=s->pfile_in_zip_read;

    if (pfile_in_zip_read_info==NULL)
        return UNZ_PARAMERROR;


    if ((pfile_in_zip_read_info->rest_read_uncompressed == 0) &&
        (!pfile_in_zip_read_info->raw))
    {
        if (pfile_in_zip_read_info->crc32 != pfile_in_zip_read_info->crc32_wait)
            err=UNZ_CRCERROR;
    }


    TRYFREE(pfile_in_zip_read_info->read_buffer);
    pfile_in_zip_read_info->read_buffer = NULL;
    if (pfile_in_zip_read_info->stream_initialised == Z_DEFLATED)
        inflateEnd(&pfile_in_zip_read_info->stream);
#ifdef HAVE_BZIP2
    else if (pfile_in_zip_read_info->stream_initialised == Z_BZIP2ED)
        BZ2_bzDecompressEnd(&pfile_in_zip_read_info->bstream);
#endif


    pfile_in_zip_read_info->stream_initialised = 0;
    TRYFREE(pfile_in_zip_read_info);

    s->pfile_in_zip_read=NULL;

    return err;
}
```

Here is the caller graph for this function:

13.160.4.19 int ZEXPORT unzeof (unzFile *file*)

Definition at line 1932 of file unzip.c.

References unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::rest_read_uncompressed, and UNZ_PARAMERROR.

Referenced by QuaZipFile::atEnd().

```
1933 {
1934     unz64_s* s;
1935     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1936     if (file==NULL)
1937         return UNZ_PARAMERROR;
1938     s=(unz64_s*)file;
1939     pfile_in_zip_read_info=s->pfile_in_zip_read;
1940
1941     if (pfile_in_zip_read_info==NULL)
1942         return UNZ_PARAMERROR;
1943
1944     if (pfile_in_zip_read_info->rest_read_uncompressed == 0)
1945         return 1;
1946     else
1947         return 0;
1948 }
```

Here is the caller graph for this function:

13.160.4.20 int ZEXPORT unzGetCurrentFileInfo (unzFile *file*, unz_file_info * *pfile_info*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*)

Definition at line 1146 of file unzip.c.

References unz_file_info64_s::compressed_size, unz_file_info_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info_s::compression_method, unz_file_info64_s::crc, unz_file_info_s::crc, unz_file_info64_s::disk_num_start, unz_file_info_s::disk_num_start, unz_file_info64_s::dosDate, unz_file_info_s::dosDate,

unz_file_info64_s::external_fa, unz_file_info_s::external_fa, unz_file_info64_s::flag, unz_file_info_s::flag, unz_file_info64_s::internal_fa, unz_file_info_s::internal_fa, unz_file_info64_s::size_file_comment, unz_file_info_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info_s::size_file_extra, unz_file_info64_s::size_filename, unz_file_info_s::size_filename, unz_file_info64_s::tmu_date, unz_file_info_s::tmu_date, unz_file_info64_s::uncompressed_size, unz_file_info_s::uncompressed_size, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, unz_file_info64_s::version, unz_file_info_s::version, unz_file_info64_s::version_needed, and unz_file_info_s::version_needed.

```
1151 {
1152     int err;
1153     unz_file_info64 file_info64;
1154     err = unz64local_GetCurrentFileInfoInternal(file,&file_info64,NULL
     ,
1155                                                 szFileName,fileNameBufferSize,
1156                                                 extraField,extraFieldBufferSize,
1157                                                 szComment,commentBufferSize);
1158     if (err==UNZ_OK && pfile_info != NULL)
1159     {
1160         pfile_info->version = file_info64.version;
1161         pfile_info->version_needed = file_info64.version_needed;
1162         pfile_info->flag = file_info64.flag;
1163         pfile_info->compression_method = file_info64.
     compression_method;
1164         pfile_info->dosDate = file_info64.dosDate;
1165         pfile_info->crc = file_info64.crc;
1166
1167         pfile_info->size_filename = file_info64.size_filename;
1168         pfile_info->size_file_extra = file_info64.size_file_extra;
1169         pfile_info->size_file_comment = file_info64.
     size_file_comment;
1170
1171         pfile_info->disk_num_start = file_info64.disk_num_start;
1172         pfile_info->internal_fa = file_info64.internal_fa;
1173         pfile_info->external_fa = file_info64.external_fa;
1174
1175         pfile_info->tmu_date = file_info64.tmu_date,
1176
1177
1178         pfile_info->compressed_size = (uLong)file_info64.
     compressed_size;
1179         pfile_info->uncompressed_size = (uLong)file_info64.
     uncompressed_size;
1180
1181     }
1182     return err;
1183 }
```

Here is the call graph for this function:

13.160.4.21 int ZEXPORT unzGetCurrentFileInfo64 (unzFile *file*, unz_file_info64 * *pfile_info*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*)

Definition at line 1134 of file unzip.c.

References unz64local_GetCurrentFileInfoInternal().

Referenced by QuaZipFile::csize(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), unzLocateFile(), and QuaZipFile::usize().

```
{
    return unz64local_GetCurrentFileInfoInternal(file,pfile_info,NULL,
                                                 szFileName,fileNameBufferSize,
                                                 extraField,extraFieldBufferSize,
                                                 szComment,commentBufferSize);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.22 ZPOS64_T ZEXPORT unzGetCurrentFileZStreamPos64 (unzFile *file*)

Definition at line 1666 of file unzip.c.

References file_in_zip64_read_info_s::byte_before_the_zipfile, unz64_s::pfile_in_zip_read, and file_in_zip64_read_info_s::pos_in_zipfile.

```
{
    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    s=(unz64_s*)file;
    if (file==NULL)
        return 0; /*UNZ_PARAMERROR; */
    pfile_in_zip_read_info=s->pfile_in_zip_read;
    if (pfile_in_zip_read_info==NULL)
        return 0; /*UNZ_PARAMERROR; */
    return pfile_in_zip_read_info->pos_in_zipfile +
                         pfile_in_zip_read_info->byte_before_the_zipfile;
}
```

13.160.4.23 int ZEXPORT unzGetFilePos (unzFile *file*, unz_file_pos * *file_pos*)

Definition at line 1334 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, and unzGetFilePos64().

```
{
    unz64_file_pos file_pos64;
    int err = unzGetFilePos64(file,&file_pos64);
    if (err==UNZ_OK)
    {
```

```
        file_pos->pos_in_zip_directory = (uLong)file_pos64.pos_in_zip_directory;
        file_pos->num_of_file = (uLong)file_pos64.num_of_file;
    }
    return err;
}
```

Here is the call graph for this function:

13.160.4.24 int ZEXPORT unzGetFilePos64 (unzFile *file*, unz64_file_pos * *file_pos*)

Definition at line 1318 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::addCurrentFileToDirectoryMap(), and unzGetFilePos().

```
{
    unz64_s* s;

    if (file==NULL || file_pos==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    if (!s->current_file_ok)
        return UNZ_END_OF_LIST_OF_FILE;

    file_pos->pos_in_zip_directory  = s->pos_in_central_dir;
    file_pos->num_of_file           = s->num_file;

    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.160.4.25 int ZEXPORT unzGetGlobalComment (unzFile *file*, char * *szComment*, uLong *uSizeBuf*)

Definition at line 2059 of file unzip.c.

References unz64_s::central_pos, unz64_s::filestream, unz64_s::gi, unz_global_info64_s::size_comment, UNZ_ERRNO, UNZ_PARAMERROR, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by QuaZip::getComment().

```
{
    unz64_s* s;
    uLong uReadThis ;
    if (file==NULL)
        return (int)UNZ_PARAMERROR;
    s=(unz64_s*)file;

    uReadThis = uSizeBuf;
    if (uReadThis>s->gi.size_comment)
        uReadThis = s->gi.size_comment;

    if (ZSEEK64(s->z_filefunc,s->filestream,s->central_pos+22,ZLIB_FILEFUNC_SEEK_SET)!=0)
        return UNZ_ERRNO;

    if (uReadThis>0)
    {
      *szComment='\0';
      if (ZREAD64(s->z_filefunc,s->filestream,szComment,uReadThis)!=uReadThis)
        return UNZ_ERRNO;
    }

    if ((szComment != NULL) && (uSizeBuf > s->gi.size_comment))
        *(szComment+s->gi.size_comment)='\0';
    return (int)uReadThis;
}
```

Here is the caller graph for this function:

13.160.4.26 int ZEXPORT unzGetGlobalInfo (unzFile *file*, unz_global_info * *pglobal_info32*)

Definition at line 848 of file unzip.c.

References unz64_s::gi, unz_global_info64_s::number_entry, unz_global_info_s::number_entry, unz_global_-info64_s::size_comment, unz_global_info_s::size_comment, UNZ_OK, and UNZ_PARAMERROR.

```
{
    unz64_s* s;
    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    /* to do : check if number_entry is not truncated */
    pglobal_info32->number_entry = (uLong)s->gi.number_entry;
    pglobal_info32->size_comment = s->gi.size_comment;
    return UNZ_OK;
}
```

13.160.4.27 int ZEXPORT unzGetGlobalInfo64 (unzFile *file*, unz_global_info64 * *pglobal_info*)

Definition at line 838 of file unzip.c.

References unz64_s::gi, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::getComment(), and QuaZip::getEntriesCount().

```
{
    unz64_s* s;
    if (file==NULL)
```

```
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    *pglobal_info=s->gi;
    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.160.4.28 int ZEXPORT unzGetLocalExtrafield (unzFile *file*, voidp *buf*, unsigned *len*)

Definition at line 1964 of file unzip.c.

References file_in_zip64_read_info_s::filestream, file_in_zip64_read_info_s::offset_local_extrafield, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_local_extrafield, file_in_zip64_read_info_s::size_local_extrafield, UNZ_ERRNO, UNZ_PARAMERROR, file_in_zip64_read_info_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

```
{
    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    uInt read_now;
    ZPOS64_T size_to_read;

    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    pfile_in_zip_read_info=s->pfile_in_zip_read;

    if (pfile_in_zip_read_info==NULL)
        return UNZ_PARAMERROR;

    size_to_read = (pfile_in_zip_read_info->size_local_extrafield -
                pfile_in_zip_read_info->pos_local_extrafield);

    if (buf==NULL)
        return (int)size_to_read;

    if (len>size_to_read)
        read_now = (uInt)size_to_read;
    else
        read_now = (uInt)len ;

    if (read_now==0)
        return 0;

    if (ZSEEK64(pfile_in_zip_read_info->z_filefunc,
              pfile_in_zip_read_info->filestream,
              pfile_in_zip_read_info->offset_local_extrafield +
              pfile_in_zip_read_info->pos_local_extrafield,
              ZLIB_FILEFUNC_SEEK_SET)!=0)
        return UNZ_ERRNO;

    if (ZREAD64(pfile_in_zip_read_info->z_filefunc,
              pfile_in_zip_read_info->filestream,
              buf,read_now)!=read_now)
        return UNZ_ERRNO;

    return (int)read_now;
}
```

13.160.4.29 uLong ZEXPORT unzGetOffset (unzFile *file*)

Definition at line 2102 of file unzip.c.

References unzGetOffset64().

```
{
    ZPOS64_T offset64;

    if (file==NULL)
          return 0; /*UNZ_PARAMERROR; */
    offset64 = unzGetOffset64(file);
    return (uLong)offset64;
}
```

Here is the call graph for this function:

13.160.4.30 ZPOS64_T ZEXPORT unzGetOffset64 (unzFile *file*)

Definition at line 2087 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, and unz64_s::pos_in_central_dir.

Referenced by unzGetOffset().

```
{
    unz64_s* s;

    if (file==NULL)
          return 0; /*UNZ_PARAMERROR; */
    s=(unz64_s*)file;
    if (!s->current_file_ok)
      return 0;
    if (s->gi.number_entry != 0 && s->gi.number_entry != 0xffff)
      if (s->num_file==s->gi.number_entry)
         return 0;
    return s->pos_in_central_dir;
}
```

Here is the caller graph for this function:

13.160.4.31 int ZEXPORT unzGoToFilePos (unzFile *file*, unz_file_pos * *file_pos*)

Definition at line 1370 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_PARAMERROR, and unzGoToFilePos64().

```
{
    unz64_file_pos file_pos64;
    if (file_pos == NULL)
        return UNZ_PARAMERROR;

    file_pos64.pos_in_zip_directory = file_pos->pos_in_zip_directory;
    file_pos64.num_of_file = file_pos->num_of_file;
    return unzGoToFilePos64(file,&file_pos64);
}
```

Here is the call graph for this function:

13.160.4.32 int ZEXPORT unzGoToFilePos64 (unzFile *file*, const unz64_file_pos * *file_pos*)

Definition at line 1348 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::setCurrentFile(), and unzGoToFilePos().

```
{
    unz64_s* s;
    int err;

    if (file==NULL || file_pos==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;

    /* jump to the right spot */
    s->pos_in_central_dir = file_pos->pos_in_zip_directory;
    s->num_file           = file_pos->num_of_file;

    /* set the current file */
    err = unz64local_GetCurrentFileInfoInternal(file,&s->cur_file_info,
                                                &s->cur_file_info_internal,
                                                NULL,0,NULL,0,NULL,0);
    /* return results */
    s->current_file_ok = (err == UNZ_OK);
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.33 int ZEXPORT unzGoToFirstFile (unzFile *file*)

Definition at line 1188 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_s::offset_central_dir, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::goToFirstFile(), QuaZipPrivate::goToFirstUnmappedFile(), unzLocateFile(), and unzOpenInternal().

```
{
    int err=UNZ_OK;
    unz64_s* s;
    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    s->pos_in_central_dir=s->offset_central_dir;
    s->num_file=0;
    err=unz64local_GetCurrentFileInfoInternal(file,&s->cur_file_info,
                                              &s->cur_file_info_internal,
                                              NULL,0,NULL,0,NULL,0);
    s->current_file_ok = (err == UNZ_OK);
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.34 int ZEXPORT unzGoToNextFile (unzFile *file*)

Definition at line 1209 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, SIZECENTRALDIRITEM, unz64local_GetCurrentFileInfoInternal(), UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), and unzLocateFile().

```
{
    unz64_s* s;
    int err;

    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    if (!s->current_file_ok)
        return UNZ_END_OF_LIST_OF_FILE;
    if (s->gi.number_entry != 0xffff)    /* 2^16 files overflow hack */
      if (s->num_file+1==s->gi.number_entry)
        return UNZ_END_OF_LIST_OF_FILE;

    s->pos_in_central_dir += SIZECENTRALDIRITEM + s->cur_file_info.size_filename +
            s->cur_file_info.size_file_extra + s->cur_file_info.size_file_comment ;
    s->num_file++;
    err = unz64local_GetCurrentFileInfoInternal(file,&s->cur_file_info,
                                                &s->cur_file_info_internal,
                                                NULL,0,NULL,0,NULL,0);
    s->current_file_ok = (err == UNZ_OK);
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.35 int ZEXPORT unzLocateFile (unzFile *file*, const char * *szFileName*, int *iCaseSensitivity*)

Definition at line 1242 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_s::pos_in_central_dir, UNZ_END_OF_LIST_OF_FILE, UNZ_MAXFILENAMEINZIP, UNZ_OK, UNZ_PARAMERROR, unzGetCurrentFileInfo64(), unzGoToFirstFile(), unzGoToNextFile(), and unzStringFileNameCompare().

```
{
    unz64_s* s;
    int err;

    /* We remember the 'current' position in the file so that we can jump
     * back there if we fail.
     */
    unz_file_info64 cur_file_infoSaved;
    unz_file_info64_internal cur_file_info_internalSaved;
    ZPOS64_T num_fileSaved;
    ZPOS64_T pos_in_central_dirSaved;


    if (file==NULL)
        return UNZ_PARAMERROR;

    if (strlen(szFileName)>=UNZ_MAXFILENAMEINZIP)
        return UNZ_PARAMERROR;

    s=(unz64_s*)file;
    if (!s->current_file_ok)
        return UNZ_END_OF_LIST_OF_FILE;

    /* Save the current state */
    num_fileSaved = s->num_file;
    pos_in_central_dirSaved = s->pos_in_central_dir;
    cur_file_infoSaved = s->cur_file_info;
    cur_file_info_internalSaved = s->cur_file_info_internal;

    err = unzGoToFirstFile(file);

    while (err == UNZ_OK)
    {
        char szCurrentFileName[UNZ_MAXFILENAMEINZIP+1];
        err = unzGetCurrentFileInfo64(file,NULL,
                                      szCurrentFileName,sizeof(szCurrentFileName)-1,
                                      NULL,0,NULL,0);
        if (err == UNZ_OK)
        {
            if (unzStringFileNameCompare(szCurrentFileName,
                                         szFileName,iCaseSensitivity)==0)
                return UNZ_OK;
            err = unzGoToNextFile(file);
        }
    }

    /* We failed, so restore the state of the 'current file' to where we
     * were.
     */
    s->num_file = num_fileSaved ;
    s->pos_in_central_dir = pos_in_central_dirSaved ;
    s->cur_file_info = cur_file_infoSaved;
    s->cur_file_info_internal = cur_file_info_internalSaved;
    return err;
}
```

Here is the call graph for this function:

13.160.4.36 unzFile ZEXPORT unzOpen (voidpf *file*)

Definition at line 800 of file unzip.c.

References UNZ_DEFAULT_FLAGS, and unzOpenInternal().

```
801 {
802     return unzOpenInternal(file, NULL, 0, UNZ_DEFAULT_FLAGS);
803 }
```

Here is the call graph for this function:

13.160.4.37 unzFile ZEXPORT unzOpen2 (voidpf *file*, zlib_filefunc_def * *pzlib_filefunc32_def*)

Definition at line 772 of file unzip.c.

References fill_zlib_filefunc64_32_def_from_filefunc32(), UNZ_DEFAULT_FLAGS, and unzOpenInternal().

Referenced by QuaZip::open().

```
774 {
775     if (pzlib_filefunc32_def != NULL)
776     {
777         zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
778         fill_zlib_filefunc64_32_def_from_filefunc32(&
```

```
    zlib_filefunc64_32_def_fill,pzlib_filefunc32_def);
        return unzOpenInternal(file, &zlib_filefunc64_32_def_fill, 0,
    UNZ_DEFAULT_FLAGS);
    }
    else
        return unzOpenInternal(file, NULL, 0, UNZ_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.38 unzFile ZEXPORT unzOpen2_64 (voidpf *file*, zlib_filefunc64_def * *pzlib_filefunc_def*)

Definition at line 785 of file unzip.c.

References UNZ_DEFAULT_FLAGS, unzOpenInternal(), zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_-32_def_s::zseek32_file, and zlib_filefunc64_32_def_s::ztell32_file.

```
{
    if (pzlib_filefunc_def != NULL)
    {
        zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
        zlib_filefunc64_32_def_fill.zfile_func64 = *pzlib_filefunc_def;
        zlib_filefunc64_32_def_fill.ztell32_file = NULL;
        zlib_filefunc64_32_def_fill.zseek32_file = NULL;
        return unzOpenInternal(file, &zlib_filefunc64_32_def_fill, 1,
    UNZ_DEFAULT_FLAGS);
    }
    else
```

```
        return unzOpenInternal(file, NULL, 1, UNZ_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

13.160.4.39 unzFile ZEXPORT unzOpen64 (voidpf *file*)

Definition at line 805 of file unzip.c.

References UNZ_DEFAULT_FLAGS, and unzOpenInternal().

```
{
    return unzOpenInternal(file, NULL, 1, UNZ_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

13.160.4.40 int ZEXPORT unzOpenCurrentFile (unzFile *file*)

Definition at line 1649 of file unzip.c.

References unzOpenCurrentFile3().

```
1650 {
1651     return unzOpenCurrentFile3(file, NULL, NULL, 0, NULL);
1652 }
```

Here is the call graph for this function:

13.160.4.41 int ZEXPORT unzOpenCurrentFile2 (unzFile *file*, int * *method*, int * *level*, int *raw*)

Definition at line 1659 of file unzip.c.

References unzOpenCurrentFile3().

```
1660 {
1661     return unzOpenCurrentFile3(file, method, level, raw, NULL);
1662 }
```

Here is the call graph for this function:

13.160.4.42 int ZEXPORT unzOpenCurrentFile3 (unzFile *file*, int * *method*, int * *level*, int *raw*, const char * *password*)

Definition at line 1480 of file unzip.c.

References ALLOC, file_in_zip64_read_info_s::byte_before_the_zipfile, unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, file_in_zip64_read_info_s::compression_method, unz_file_info64_s::crc, file_in_zip64_read_info_s::crc32, file_in_zip64_read_info_s::crc32_wait, unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::encrypted, file_in_zip64_read_info_s::filestream, unz64_s::filestream, unz_file_info64_s::flag, init_keys(), unz64_s::keys, unz_file_info64_internal_s::offset_curfile, file_in_zip64_read_info_s::offset_local_extrafield, unz64_s::pcrc_32_tab, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_in_zipfile, file_in_zip64_read_info_s::pos_local_extrafield, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_compressed, file_in_zip64_read_info_s::rest_read_uncompressed, SEEK_SET, file_in_zip64_read_info_s::size_local_extrafield,

SIZEZIPLOCALHEADER, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::stream_initialised, file_in_zip64_read_info_s::total_out_64, TRYFREE, unz_file_info64_s::uncompressed_size, unz64local_CheckCurrentFileCoherencyHeader(), UNZ_BADZIPFILE, UNZ_BUFSIZE, UNZ_INTERNALERROR, UNZ_OK, UNZ_PARAMERROR, unzCloseCurrentFile(), Z_BZIP2ED, file_in_zip64_read_info_s::z_filefunc, unz64_s::z_filefunc, zdecode, ZREAD64, and ZSEEK64.

Referenced by QuaZipFile::open(), unzOpenCurrentFile(), unzOpenCurrentFile2(), and unzOpenCurrentFilePassword().

```
{
    int err=UNZ_OK;
    uInt iSizeVar;
    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    ZPOS64_T offset_local_extrafield;  /* offset of the local extra field */
    uInt  size_local_extrafield;    /* size of the local extra field */
#    ifndef NOUNCRYPT
    char source[12];
#    else
    if (password != NULL)
        return UNZ_PARAMERROR;
#    endif

    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    if (!s->current_file_ok)
        return UNZ_PARAMERROR;

    if (s->pfile_in_zip_read != NULL)
        unzCloseCurrentFile(file);

    if (unz64local_CheckCurrentFileCoherencyHeader(s,&iSizeVar, &offset_local_extrafield,&size_local_extrafield)!=UNZ_OK)
        return UNZ_BADZIPFILE;

    pfile_in_zip_read_info = (file_in_zip64_read_info_s*)ALLOC(sizeof(file_in_zip64_read_info_s));
    if (pfile_in_zip_read_info==NULL)
        return UNZ_INTERNALERROR;

    pfile_in_zip_read_info->read_buffer=(char*)ALLOC(UNZ_BUFSIZE);
    pfile_in_zip_read_info->offset_local_extrafield = offset_local_extrafield;
    pfile_in_zip_read_info->size_local_extrafield = size_local_extrafield;
    pfile_in_zip_read_info->pos_local_extrafield=0;
    pfile_in_zip_read_info->raw=raw;

    if (pfile_in_zip_read_info->read_buffer==NULL)
    {
        TRYFREE(pfile_in_zip_read_info);
        return UNZ_INTERNALERROR;
    }

    pfile_in_zip_read_info->stream_initialised=0;

    if (method!=NULL)
        *method = (int)s->cur_file_info.compression_method;

    if (level!=NULL)
    {
        *level = 6;
        switch (s->cur_file_info.flag & 0x06)
        {
          case 6 : *level = 1; break;
          case 4 : *level = 2; break;
          case 2 : *level = 9; break;
        }
    }

    if ((s->cur_file_info.compression_method!=0) &&
/* #ifdef HAVE_BZIP2 */
        (s->cur_file_info.compression_method!=Z_BZIP2ED) &&
/* #endif */
        (s->cur_file_info.compression_method!=Z_DEFLATED))

        err=UNZ_BADZIPFILE;

    pfile_in_zip_read_info->crc32_wait=s->cur_file_info.crc;
    pfile_in_zip_read_info->crc32=0;
    pfile_in_zip_read_info->total_out_64=0;
    pfile_in_zip_read_info->compression_method = s->cur_file_info.compression_method;
```

```
    pfile_in_zip_read_info->filestream=s->filestream;
    pfile_in_zip_read_info->z_filefunc=s->z_filefunc;
    pfile_in_zip_read_info->byte_before_the_zipfile=s->byte_before_the_zipfile;

    pfile_in_zip_read_info->stream.total_out = 0;

    if ((s->cur_file_info.compression_method==Z_BZIP2ED) && (!raw))
    {
#ifdef HAVE_BZIP2
      pfile_in_zip_read_info->bstream.bzalloc = (void *(*) (void *, int, int))0;
      pfile_in_zip_read_info->bstream.bzfree = (free_func)0;
      pfile_in_zip_read_info->bstream.opaque = (voidpf)0;
      pfile_in_zip_read_info->bstream.state = (voidpf)0;

      pfile_in_zip_read_info->stream.zalloc = (alloc_func)0;
      pfile_in_zip_read_info->stream.zfree = (free_func)0;
      pfile_in_zip_read_info->stream.opaque = (voidpf)0;
      pfile_in_zip_read_info->stream.next_in = (voidpf)0;
      pfile_in_zip_read_info->stream.avail_in = 0;

      err=BZ2_bzDecompressInit(&pfile_in_zip_read_info->bstream, 0, 0);
      if (err == Z_OK)
        pfile_in_zip_read_info->stream_initialised=Z_BZIP2ED;
      else
      {
        TRYFREE(pfile_in_zip_read_info);
        return err;
      }
#else
      pfile_in_zip_read_info->raw=1;
#endif
    }
    else if ((s->cur_file_info.compression_method==Z_DEFLATED) && (!raw))
    {
      pfile_in_zip_read_info->stream.zalloc = (alloc_func)0;
      pfile_in_zip_read_info->stream.zfree = (free_func)0;
      pfile_in_zip_read_info->stream.opaque = (voidpf)0;
      pfile_in_zip_read_info->stream.next_in = 0;
      pfile_in_zip_read_info->stream.avail_in = 0;

      err=inflateInit2(&pfile_in_zip_read_info->stream, -MAX_WBITS);
      if (err == Z_OK)
        pfile_in_zip_read_info->stream_initialised=Z_DEFLATED;
      else
      {
        TRYFREE(pfile_in_zip_read_info);
        return err;
      }
        /* windowBits is passed < 0 to tell that there is no zlib header.
         * Note that in this case inflate *requires* an extra "dummy" byte
         * after the compressed stream in order to complete decompression and
         * return Z_STREAM_END.
         * In unzip, i don't wait absolutely Z_STREAM_END because I known the
         * size of both compressed and uncompressed data
         */
    }
    pfile_in_zip_read_info->rest_read_compressed =
            s->cur_file_info.compressed_size ;
    pfile_in_zip_read_info->rest_read_uncompressed =
            s->cur_file_info.uncompressed_size ;


    pfile_in_zip_read_info->pos_in_zipfile =
            s->cur_file_info_internal.offset_curfile + SIZEZIPLOCALHEADER +
              iSizeVar;

    pfile_in_zip_read_info->stream.avail_in = (uInt)0;

    s->pfile_in_zip_read = pfile_in_zip_read_info;
                s->encrypted = 0;

#    ifndef NOUNCRYPT
    if (password != NULL)
    {
        int i;
        s->pcrc_32_tab = get_crc_table();
        init_keys(password,s->keys,s->pcrc_32_tab);
        if (ZSEEK64(s->z_filefunc, s->filestream,
                  s->pfile_in_zip_read->pos_in_zipfile +
                     s->pfile_in_zip_read->byte_before_the_zipfile,
                  SEEK_SET)!=0)
            return UNZ_INTERNALERROR;
        if(ZREAD64(s->z_filefunc, s->filestream,source, 12)<12)
```

```
            return UNZ_INTERNALERROR;

        for (i = 0; i<12; i++)
            zdecode(s->keys,s->pcrc_32_tab,source[i]);

        s->pfile_in_zip_read->pos_in_zipfile+=12;
        s->encrypted=1;
    }
#    endif


    return UNZ_OK;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.43 int ZEXPORT unzOpenCurrentFilePassword (unzFile *file*, const char * *password*)

Definition at line 1654 of file unzip.c.

References unzOpenCurrentFile3().

```
{
    return unzOpenCurrentFile3(file, NULL, NULL, 0, password);
}
```

Here is the call graph for this function:

13.160.4.44 unzFile unzOpenInternal (voidpf *file*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, int *is64bitOpenFunction*, unsigned *flags*)

Definition at line 587 of file unzip.c.

References ALLOC, unz64_s::byte_before_the_zipfile, unz64_s::central_pos, unz64_s::encrypted, unz64_s::filestream, fill_qiodevice64_filefunc(), unz64_s::flags, unz64_s::gi, unz64_s::is64bitOpenFunction, unz64_s::isZip64, unz_global_info64_s::number_entry, unz64_s::offset_central_dir, unz64_s::pfile_in_zip_read, unz64_s::size_central_dir, unz_global_info64_s::size_comment, unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), UNZ_AUTO_CLOSE, UNZ_BADZIPFILE, unz_copyright, UNZ_ERRNO, UNZ_OK, unzGoToFirstFile(), unz64_s::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_SEEK_SET, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, and zlib_filefunc64_32_def_s::ztell32_file.

Referenced by QuaZip::open(), unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

```
{
    unz64_s us;
    unz64_s *s;
    ZPOS64_T central_pos;
    uLong   uL;

    uLong number_disk;          /* number of the current dist, used for
                                   spaning ZIP, unsupported, always 0*/
    uLong number_disk_with_CD;  /* number the the disk with central dir, used
                                   for spaning ZIP, unsupported, always 0*/
    ZPOS64_T number_entry_CD;      /* total number of entries in
                                   the central dir
                                   (same than number_entry on nospan) */

    int err=UNZ_OK;

    if (unz_copyright[0]!=' ')
        return NULL;

    us.flags = flags;
    us.z_filefunc.zseek32_file = NULL;
    us.z_filefunc.ztell32_file = NULL;
    if (pzlib_filefunc64_32_def==NULL)
        fill_qiodevice64_filefunc(&us.z_filefunc.zfile_func64);
    else
        us.z_filefunc = *pzlib_filefunc64_32_def;
    us.is64bitOpenFunction = is64bitOpenFunction;



    us.filestream = ZOPEN64(us.z_filefunc,
                                                file,
                                                ZLIB_FILEFUNC_MODE_READ |
                                                ZLIB_FILEFUNC_MODE_EXISTING);
    if (us.filestream==NULL)
        return NULL;

    central_pos = unz64local_SearchCentralDir64(&us.z_filefunc,us.filestream);
    if (central_pos)
    {
        uLong uS;
        ZPOS64_T uL64;

```

```
        us.isZip64 = 1;

        if (ZSEEK64(us.z_filefunc, us.filestream,
                                    central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
        err=UNZ_ERRNO;

        /* the signature, already checked */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* size of zip64 end of central directory record */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&uL64)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* version made by */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uS)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* version needed to extract */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uS)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of this disk */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&number_disk)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of the disk with the start of the central directory */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&number_disk_with_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central directory on this disk */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.gi.number_entry)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central directory */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&number_entry_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        if ((number_entry_CD!=us.gi.number_entry) ||
            (number_disk_with_CD!=0) ||
            (number_disk!=0))
            err=UNZ_BADZIPFILE;

        /* size of the central directory */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.size_central_dir)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* offset of start of central directory with respect to the
          starting disk number */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.offset_central_dir)!=UNZ_OK)
            err=UNZ_ERRNO;

        us.gi.size_comment = 0;
    }
    else
    {
        central_pos = unz64local_SearchCentralDir(&us.z_filefunc,us.filestream);
        if (central_pos==0)
            err=UNZ_ERRNO;

        us.isZip64 = 0;

        if (ZSEEK64(us.z_filefunc, us.filestream,
                                    central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
            err=UNZ_ERRNO;

        /* the signature, already checked */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of this disk */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&number_disk)!=UNZ_OK)
            err=UNZ_ERRNO;

```

```
        /* number of the disk with the start of the central directory */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&number_disk_with_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central dir on this disk */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.gi.number_entry = uL;

        /* total number of entries in the central dir */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        number_entry_CD = uL;

        if ((number_entry_CD!=us.gi.number_entry) ||
            (number_disk_with_CD!=0) ||
            (number_disk!=0))
            err=UNZ_BADZIPFILE;

        /* size of the central directory */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.size_central_dir = uL;

        /* offset of start of central directory with respect to the
            starting disk number */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.offset_central_dir = uL;

        /* zipfile comment length */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&us.gi.size_comment)!=UNZ_OK)
            err=UNZ_ERRNO;
    }

    if ((central_pos<us.offset_central_dir+us.size_central_dir) &&
        (err==UNZ_OK))
        err=UNZ_BADZIPFILE;

    if (err!=UNZ_OK)
    {
        if ((us.flags & UNZ_AUTO_CLOSE) != 0)
            ZCLOSE64(us.z_filefunc, us.filestream);
        else
            ZFAKECLOSE64(us.z_filefunc, us.filestream);
        return NULL;
    }

    us.byte_before_the_zipfile = central_pos -
                            (us.offset_central_dir+us.size_central_dir);
    us.central_pos = central_pos;
    us.pfile_in_zip_read = NULL;
    us.encrypted = 0;


    s=(unz64_s*)ALLOC(sizeof(unz64_s));
    if( s != NULL)
    {
        *s=us;
        unzGoToFirstFile((unzFile)s);
    }
    return (unzFile)s;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.45 int ZEXPORT unzReadCurrentFile (unzFile *file*, voidp *buf*, unsigned *len*)

Definition at line 1692 of file unzip.c.

References file_in_zip64_read_info_s::byte_before_the_zipfile, file_in_zip64_read_info_s::compression_method, file_in_zip64_read_info_s::crc32, unz64_s::encrypted, file_in_zip64_read_info_s::filestream, unz64_s::keys, unz64_s::pcrc_32_tab, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_in_zipfile, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_compressed, file_in_zip64_read_info_s::rest_read_uncompressed, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::total_out_64, UNZ_BUFSIZE, UNZ_END_OF_LIST_OF_FILE, UNZ_EOF, UNZ_ERRNO, UNZ_OK, UNZ_PARAMERROR, Z_BZIP2ED, file_in_zip64_read_info_s::z_filefunc, zdecode, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by QuaZipFile::readData().

```
{
    int err=UNZ_OK;
    uInt iRead = 0;
    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    if (file==NULL)
```

```
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    pfile_in_zip_read_info=s->pfile_in_zip_read;

    if (pfile_in_zip_read_info==NULL)
        return UNZ_PARAMERROR;


    if (pfile_in_zip_read_info->read_buffer == NULL)
        return UNZ_END_OF_LIST_OF_FILE;
    if (len==0)
        return 0;

    pfile_in_zip_read_info->stream.next_out = (Bytef*)buf;

    pfile_in_zip_read_info->stream.avail_out = (uInt)len;

    if ((len>pfile_in_zip_read_info->rest_read_uncompressed) &&
        (!(pfile_in_zip_read_info->raw)))
        pfile_in_zip_read_info->stream.avail_out =
            (uInt)pfile_in_zip_read_info->rest_read_uncompressed;

    if ((len>pfile_in_zip_read_info->rest_read_compressed+
           pfile_in_zip_read_info->stream.avail_in) &&
         (pfile_in_zip_read_info->raw))
        pfile_in_zip_read_info->stream.avail_out =
            (uInt)pfile_in_zip_read_info->rest_read_compressed+
            pfile_in_zip_read_info->stream.avail_in;

    while (pfile_in_zip_read_info->stream.avail_out>0)
    {
        if ((pfile_in_zip_read_info->stream.avail_in==0) &&
            (pfile_in_zip_read_info->rest_read_compressed>0))
        {
            uInt uReadThis = UNZ_BUFSIZE;
            if (pfile_in_zip_read_info->rest_read_compressed<uReadThis)
                uReadThis = (uInt)pfile_in_zip_read_info->rest_read_compressed;
            if (uReadThis == 0)
                return UNZ_EOF;
            if (ZSEEK64(pfile_in_zip_read_info->z_filefunc,
                      pfile_in_zip_read_info->filestream,
                      pfile_in_zip_read_info->pos_in_zipfile +
                         pfile_in_zip_read_info->byte_before_the_zipfile,
                         ZLIB_FILEFUNC_SEEK_SET)!=0)
                return UNZ_ERRNO;
            if (ZREAD64(pfile_in_zip_read_info->z_filefunc,
                      pfile_in_zip_read_info->filestream,
                      pfile_in_zip_read_info->read_buffer,
                      uReadThis)!=uReadThis)
                return UNZ_ERRNO;


#            ifndef NOUNCRYPT
            if(s->encrypted)
            {
                uInt i;
                for(i=0;i<uReadThis;i++)
                  pfile_in_zip_read_info->read_buffer[i] =
                      zdecode(s->keys,s->pcrc_32_tab,
                              pfile_in_zip_read_info->read_buffer[i]);
            }
#            endif


            pfile_in_zip_read_info->pos_in_zipfile += uReadThis;

            pfile_in_zip_read_info->rest_read_compressed-=uReadThis;

            pfile_in_zip_read_info->stream.next_in =
                (Bytef*)pfile_in_zip_read_info->read_buffer;
            pfile_in_zip_read_info->stream.avail_in = (uInt)uReadThis;
        }

        if ((pfile_in_zip_read_info->compression_method==0) || (pfile_in_zip_read_info->raw))
        {
            uInt uDoCopy,i ;

            if ((pfile_in_zip_read_info->stream.avail_in == 0) &&
                (pfile_in_zip_read_info->rest_read_compressed == 0))
                return (iRead==0) ? UNZ_EOF : iRead;

            if (pfile_in_zip_read_info->stream.avail_out <
                            pfile_in_zip_read_info->stream.avail_in)
                uDoCopy = pfile_in_zip_read_info->stream.avail_out ;
            else
                uDoCopy = pfile_in_zip_read_info->stream.avail_in ;
```

```

            for (i=0;i<uDoCopy;i++)
                *(pfile_in_zip_read_info->stream.next_out+i) =
                        *(pfile_in_zip_read_info->stream.next_in+i);

            pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->total_out_64 + uDoCopy;

            pfile_in_zip_read_info->crc32 = crc32(pfile_in_zip_read_info->crc32,
                                pfile_in_zip_read_info->stream.next_out,
                                uDoCopy);
            pfile_in_zip_read_info->rest_read_uncompressed-=uDoCopy;
            pfile_in_zip_read_info->stream.avail_in -= uDoCopy;
            pfile_in_zip_read_info->stream.avail_out -= uDoCopy;
            pfile_in_zip_read_info->stream.next_out += uDoCopy;
            pfile_in_zip_read_info->stream.next_in += uDoCopy;
            pfile_in_zip_read_info->stream.total_out += uDoCopy;
            iRead += uDoCopy;
        }
        else if (pfile_in_zip_read_info->compression_method==Z_BZIP2ED)
        {
#ifdef HAVE_BZIP2
            uLong uTotalOutBefore,uTotalOutAfter;
            const Bytef *bufBefore;
            uLong uOutThis;

            pfile_in_zip_read_info->bstream.next_in        = (char*)pfile_in_zip_read_info->stream.next_in;
            pfile_in_zip_read_info->bstream.avail_in       = pfile_in_zip_read_info->stream.avail_in;
            pfile_in_zip_read_info->bstream.total_in_lo32  = pfile_in_zip_read_info->stream.total_in;
            pfile_in_zip_read_info->bstream.total_in_hi32  = 0;
            pfile_in_zip_read_info->bstream.next_out       = (char*)pfile_in_zip_read_info->stream.next_out;
            pfile_in_zip_read_info->bstream.avail_out      = pfile_in_zip_read_info->stream.avail_out;
            pfile_in_zip_read_info->bstream.total_out_lo32 = pfile_in_zip_read_info->stream.total_out;
            pfile_in_zip_read_info->bstream.total_out_hi32 = 0;

            uTotalOutBefore = pfile_in_zip_read_info->bstream.total_out_lo32;
            bufBefore = (const Bytef *)pfile_in_zip_read_info->bstream.next_out;

            err=BZ2_bzDecompress(&pfile_in_zip_read_info->bstream);

            uTotalOutAfter = pfile_in_zip_read_info->bstream.total_out_lo32;
            uOutThis = uTotalOutAfter-uTotalOutBefore;

            pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->total_out_64 + uOutThis;

            pfile_in_zip_read_info->crc32 = crc32(pfile_in_zip_read_info->crc32,bufBefore, (uInt)(uOutThis));
            pfile_in_zip_read_info->rest_read_uncompressed -= uOutThis;
            iRead += (uInt)(uTotalOutAfter - uTotalOutBefore);

            pfile_in_zip_read_info->stream.next_in   = (Bytef*)pfile_in_zip_read_info->bstream.next_in;
            pfile_in_zip_read_info->stream.avail_in  = pfile_in_zip_read_info->bstream.avail_in;
            pfile_in_zip_read_info->stream.total_in  = pfile_in_zip_read_info->bstream.total_in_lo32;
            pfile_in_zip_read_info->stream.next_out  = (Bytef*)pfile_in_zip_read_info->bstream.next_out;
            pfile_in_zip_read_info->stream.avail_out = pfile_in_zip_read_info->bstream.avail_out;
            pfile_in_zip_read_info->stream.total_out = pfile_in_zip_read_info->bstream.total_out_lo32;

            if (err==BZ_STREAM_END)
              return (iRead==0) ? UNZ_EOF : iRead;
            if (err!=BZ_OK)
              break;
#endif
        } /* end Z_BZIP2ED */
        else
        {
            ZPOS64_T uTotalOutBefore,uTotalOutAfter;
            const Bytef *bufBefore;
            ZPOS64_T uOutThis;
            int flush=Z_SYNC_FLUSH;

            uTotalOutBefore = pfile_in_zip_read_info->stream.total_out;
            bufBefore = pfile_in_zip_read_info->stream.next_out;

            /*
            if ((pfile_in_zip_read_info->rest_read_uncompressed ==
```

```
                    pfile_in_zip_read_info->stream.avail_out) &&
                (pfile_in_zip_read_info->rest_read_compressed == 0))
                flush = Z_FINISH;
            */
            err=inflate(&pfile_in_zip_read_info->stream,flush);

            if ((err>=0) && (pfile_in_zip_read_info->stream.msg!=NULL))
              err = Z_DATA_ERROR;

            uTotalOutAfter = pfile_in_zip_read_info->stream.total_out;
            uOutThis = uTotalOutAfter-uTotalOutBefore;

            pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->
    total_out_64 + uOutThis;

            pfile_in_zip_read_info->crc32 =
                crc32(pfile_in_zip_read_info->crc32,bufBefore,
                        (uInt)(uOutThis));

            pfile_in_zip_read_info->rest_read_uncompressed -=
                uOutThis;

            iRead += (uInt)(uTotalOutAfter - uTotalOutBefore);

            if (err==Z_STREAM_END)
                return (iRead==0) ? UNZ_EOF : iRead;
            if (err!=Z_OK)
                break;
        }
    }

    if (err==Z_OK)
        return iRead;
    return err;
}
```

Here is the caller graph for this function:

13.160.4.46 int ZEXPORT unzSetFlags (unzFile *file*, unsigned *flags*)

Definition at line 2136 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
{
    unz64_s* s;
    if (file == NULL)
        return UNZ_PARAMERROR;
    s = (unz64_s*)file;
    s->flags |= flags;
    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.160.4.47 int ZEXPORT unzSetOffset (unzFile *file*, uLong *pos*)

Definition at line 2130 of file unzip.c.

References unzSetOffset64().

```
2131 {
2132     return unzSetOffset64(file,pos);
2133 }
```

Here is the call graph for this function:

13.160.4.48 int ZEXPORT unzSetOffset64 (unzFile *file*, ZPOS64_T *pos*)

Definition at line 2112 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by unzSetOffset().

```
2113 {
2114     unz64_s* s;
2115     int err;
2116
2117     if (file==NULL)
2118         return UNZ_PARAMERROR;
2119     s=(unz64_s*)file;
2120
2121     s->pos_in_central_dir = pos;
2122     s->num_file = s->gi.number_entry;       /* hack */
2123     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
2124                                                 &s->cur_file_info_internal,
2125                                                 NULL,0,NULL,0,NULL,0);
2126     s->current_file_ok = (err == UNZ_OK);
2127     return err;
2128 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.160.4.49 int ZEXPORT unzStringFileNameCompare (const char * *fileName1*, const char * *fileName2*, int *iCaseSensitivity*)

Definition at line 393 of file unzip.c.

References CASESENSITIVITYDEFAULTVALUE, and STRCMPCASENOSENTIVEFUNCTION.

Referenced by unzLocateFile().

```
397 {
398     if (iCaseSensitivity==0)
399         iCaseSensitivity=CASESENSITIVITYDEFAULTVALUE;
400
401     if (iCaseSensitivity==1)
402         return strcmp(fileName1,fileName2);
403
404     return STRCMPCASENOSENTIVEFUNCTION(fileName1,fileName2);
405 }
```

Here is the caller graph for this function:

13.160.4.50 z_off_t ZEXPORT unztell (unzFile *file*)

Definition at line 1897 of file unzip.c.

References unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::stream, and UNZ_PARAMERROR.

Referenced by QuaZipFile::pos().

```
{
    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    if (file==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    pfile_in_zip_read_info=s->pfile_in_zip_read;

    if (pfile_in_zip_read_info==NULL)
        return UNZ_PARAMERROR;

    return (z_off_t)pfile_in_zip_read_info->stream.total_out;
}
```

Here is the caller graph for this function:

13.160.4.51 ZPOS64_T ZEXPORT unztell64 (unzFile *file*)

Definition at line 1912 of file unzip.c.

References unz64_s::pfile_in_zip_read, and file_in_zip64_read_info_s::total_out_64.

```
{

    unz64_s* s;
    file_in_zip64_read_info_s* pfile_in_zip_read_info;
    if (file==NULL)
        return (ZPOS64_T)-1;
    s=(unz64_s*)file;
    pfile_in_zip_read_info=s->pfile_in_zip_read;

    if (pfile_in_zip_read_info==NULL)
        return (ZPOS64_T)-1;

    return pfile_in_zip_read_info->total_out_64;
}
```

13.160.5 Variable Documentation

13.160.5.1 const char unz_copyright[ ]

Initial value:

```
=
   " unzip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"
```

Definition at line 124 of file unzip.c.

Referenced by unzOpenInternal().

13.161 src/ckb/quazip/unzip.h File Reference

```
#include "zlib.h"
#include "ioapi.h"
```

Include dependency graph for unzip.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct tm_unz_s
- struct unz_global_info64_s
- struct unz_global_info_s
- struct unz_file_info64_s
- struct unz_file_info_s
- struct unz_file_pos_s
- struct unz64_file_pos_s

Macros

- #define Z_BZIP2ED 12

- #define UNZ_OK (0)
- #define UNZ_END_OF_LIST_OF_FILE (-100)
- #define UNZ_ERRNO (Z_ERRNO)
- #define UNZ_EOF (0)
- #define UNZ_PARAMERROR (-102)
- #define UNZ_BADZIPFILE (-103)
- #define UNZ_INTERNALERROR (-104)
- #define UNZ_CRCERROR (-105)
- #define UNZ_AUTO_CLOSE 0x01u
- #define UNZ_DEFAULT_FLAGS UNZ_AUTO_CLOSE

Typedefs

- typedef voidp unzFile
- typedef struct tm_unz_s tm_unz
- typedef struct unz_global_info64_s unz_global_info64
- typedef struct unz_global_info_s unz_global_info
- typedef struct unz_file_info64_s unz_file_info64
- typedef struct unz_file_info_s unz_file_info
- typedef struct unz_file_pos_s unz_file_pos
- typedef struct unz64_file_pos_s unz64_file_pos

Functions

- int ZEXPORT unzStringFileNameCompare _Z_OF ((const char ∗fileName1, const char ∗fileName2, int iCaseSensitivity))
- unzFile ZEXPORT unzOpen _Z_OF ((voidpf file))
- unzFile ZEXPORT unzOpen2 _Z_OF ((voidpf file, zlib_filefunc_def ∗pzlib_filefunc_def))
- unzFile ZEXPORT unzOpen2_64 _Z_OF ((voidpf file, zlib_filefunc64_def ∗pzlib_filefunc_def))
- unzFile unzOpenInternal (voidpf file, zlib_filefunc64_32_def ∗pzlib_filefunc64_32_def, int is64bitOpenFunction, unsigned flags)
- int ZEXPORT unzClose _Z_OF ((unzFile file))

  Addition for GDAL : START.
- int ZEXPORT unzGetGlobalInfo _Z_OF ((unzFile file, unz_global_info ∗pglobal_info))
- int ZEXPORT unzGetGlobalInfo64 _Z_OF ((unzFile file, unz_global_info64 ∗pglobal_info))
- int ZEXPORT unzGetGlobalComment _Z_OF ((unzFile file, char ∗szComment, uLong uSizeBuf))
- int ZEXPORT unzLocateFile _Z_OF ((unzFile file, const char ∗szFileName, int iCaseSensitivity))
- int ZEXPORT unzGetFilePos (unzFile file, unz_file_pos ∗file_pos)
- int ZEXPORT unzGoToFilePos (unzFile file, unz_file_pos ∗file_pos)
- int ZEXPORT unzGetFilePos64 (unzFile file, unz64_file_pos ∗file_pos)
- int ZEXPORT unzGoToFilePos64 (unzFile file, const unz64_file_pos ∗file_pos)
- int ZEXPORT unzGetCurrentFileInfo64 _Z_OF ((unzFile file, unz_file_info64 ∗pfile_info, char ∗szFileName, uLong fileNameBufferSize, void ∗extraField, uLong extraFieldBufferSize, char ∗szComment, uLong commentBufferSize))
- int ZEXPORT unzGetCurrentFileInfo _Z_OF ((unzFile file, unz_file_info ∗pfile_info, char ∗szFileName, uLong fileNameBufferSize, void ∗extraField, uLong extraFieldBufferSize, char ∗szComment, uLong commentBufferSize))
- int ZEXPORT unzOpenCurrentFilePassword _Z_OF ((unzFile file, const char ∗password))
- int ZEXPORT unzOpenCurrentFile2 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw))
- int ZEXPORT unzOpenCurrentFile3 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw, const char ∗password))
- int ZEXPORT unzReadCurrentFile _Z_OF ((unzFile file, voidp buf, unsigned len))
- ZPOS64_T ZEXPORT unzGetOffset64 (unzFile file)

- uLong ZEXPORT unzGetOffset (unzFile file)
- int ZEXPORT unzSetOffset64 (unzFile file, ZPOS64_T pos)
- int ZEXPORT unzSetOffset (unzFile file, uLong pos)
- int ZEXPORT unzSetFlags (unzFile file, unsigned flags)
- int ZEXPORT unzClearFlags (unzFile file, unsigned flags)

13.161.1 Data Structure Documentation

13.161.1.1 struct tm_unz_s

Definition at line 92 of file unzip.h.

Collaboration diagram for tm_unz_s:

Data Fields

uInt	tm_hour	
uInt	tm_mday	
uInt	tm_min	
uInt	tm_mon	
uInt	tm_sec	
uInt	tm_year	

13.161.1.2 struct unz_global_info64_s

Definition at line 104 of file unzip.h.

Collaboration diagram for unz_global_info64_s:

Data Fields

ZPOS64_T	number_entry	
uLong	size_comment	

13.161.1.3 struct unz_global_info_s

Definition at line 111 of file unzip.h.

Collaboration diagram for unz_global_info_s:

Data Fields

uLong	number_entry	
uLong	size_comment	

13.161.1.4 struct unz_file_info64_s

Definition at line 119 of file unzip.h.

Collaboration diagram for unz_file_info64_s:

Data Fields

ZPOS64_T	compressed_-size	

uLong	compression_-method	
uLong	crc	
uLong	disk_num_start	
uLong	dosDate	
uLong	external_fa	
uLong	flag	
uLong	internal_fa	
uLong	size_file_-comment	
uLong	size_file_extra	
uLong	size_filename	
tm_unz	tmu_date	
ZPOS64_T	uncompressed_-size	
uLong	version	
uLong	version_needed	

13.161.1.5 struct unz_file_info_s

Definition at line 140 of file unzip.h.

Collaboration diagram for unz_file_info_s:

Data Fields

uLong	compressed_-size	

uLong	compression_-method	
uLong	crc	
uLong	disk_num_start	
uLong	dosDate	
uLong	external_fa	
uLong	flag	
uLong	internal_fa	
uLong	size_file_-comment	
uLong	size_file_extra	
uLong	size_filename	
tm_unz	tmu_date	
uLong	uncompressed_-size	
uLong	version	
uLong	version_needed	

13.161.1.6 struct unz_file_pos_s

Definition at line 278 of file unzip.h.

Collaboration diagram for unz_file_pos_s:

Data Fields

uLong	num_of_file	
uLong	pos_in_zip_-directory	

13.161.1.7 struct unz64_file_pos_s

Definition at line 292 of file unzip.h.

Collaboration diagram for unz64_file_pos_s:

Data Fields

ZPOS64_T	num_of_file	
ZPOS64_T	pos_in_zip_-directory	

13.161.2 Macro Definition Documentation

13.161.2.1 #define UNZ_AUTO_CLOSE 0x01u

Definition at line 88 of file unzip.h.

Referenced by QuaZip::open(), unzClose(), and unzOpenInternal().

13.161.2.2 #define UNZ_BADZIPFILE (-103)

Definition at line 84 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unzOpenCurrentFile3(), and unzOpenInternal().

13.161.2.3 #define UNZ_CRCERROR (-105)

Definition at line 86 of file unzip.h.

Referenced by unzCloseCurrentFile().

13.161.2.4 #define UNZ_DEFAULT_FLAGS UNZ_AUTO_CLOSE

Definition at line 89 of file unzip.h.

Referenced by unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

13.161.2.5 #define UNZ_END_OF_LIST_OF_FILE (-100)

Definition at line 80 of file unzip.h.

Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), unzGetFilePos64(), unzGoToNextFile(), unzLocateFile(), and unzReadCurrentFile().

13.161.2.6 #define UNZ_EOF (0)

Definition at line 82 of file unzip.h.

Referenced by unz64local_getByte(), and unzReadCurrentFile().

13.161.2.7 #define UNZ_ERRNO (Z_ERRNO)

Definition at line 81 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenInternal(), and unzReadCurrentFile().

13.161.2.8 #define UNZ_INTERNALERROR (-104)

Definition at line 85 of file unzip.h.

Referenced by unzOpenCurrentFile3().

13.161.2.9 #define UNZ_OK (0)

Definition at line 79 of file unzip.h.

Referenced by QuaZip::close(), QuaZipFile::close(), JlCompress::compressFile(), QuaZipFile::csize(), JlCompress::extractFile(), QuaZipFile::getActualFileName(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), QuaZipFile::getFileInfo(), QuaZipPrivate::getFileInfoList(), QuaZip::goToFirstFile(), QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::open(), QuaZipFile::open(), QuaZipFile::readData(), QuaZipFilePrivate::resetZipError(), QuaZip::setCurrentFile(), QuaZipFilePrivate::setZipError(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir64(), unzClearFlags(), unzClose(), unzCloseCurrentFile(), unzGetCurrentFileInfo(), unzGetFilePos(), unzGetFilePos64(), unzGetGlobalInfo(), unzGetGlobalInfo64(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), unzLocateFile(), unzOpenCurrentFile3(), unzOpenInternal(), unzReadCurrentFile(), unzSetFlags(), unzSetOffset64(), and QuaZipFile::usize().

13.161.2.10 #define UNZ_PARAMERROR (-102)

Definition at line 83 of file unzip.h.

Referenced by QuaZip::setCurrentFile(), unz64local_GetCurrentFileInfoInternal(), unzClearFlags(), unzClose(), unzCloseCurrentFile(), unzeof(), unzGetFilePos64(), unzGetGlobalComment(), unzGetGlobalInfo(), unzGetGlobalInfo64(), unzGetLocalExtrafield(), unzGoToFilePos(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), unzLocateFile(), unzOpenCurrentFile3(), unzReadCurrentFile(), unzSetFlags(), unzSetOffset64(), and unztell().

13.161.2.11 #define Z_BZIP2ED 12

Definition at line 67 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unzCloseCurrentFile(), unzOpenCurrentFile3(), unzReadCurrentFile(), zip64FlushWriteBuffer(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipWriteInFileInZip().

13.161.3 Typedef Documentation

13.161.3.1 typedef struct tm_unz_s tm_unz

13.161.3.2 typedef struct unz64_file_pos_s unz64_file_pos

13.161.3.3 typedef struct unz_file_info_s unz_file_info

13.161.3.4 typedef struct unz_file_info64_s unz_file_info64

13.161.3.5 typedef struct unz_file_pos_s unz_file_pos

13.161.3.6 typedef struct unz_global_info_s unz_global_info

13.161.3.7 typedef struct unz_global_info64_s unz_global_info64

13.161.3.8 typedef voidp unzFile

Definition at line 75 of file unzip.h.

13.161.4 Function Documentation

13.161.4.1 int ZEXPORT unzStringFileNameCompare _Z_OF ((const char *fileName1, const char *fileName2, int iCaseSensitivity))

13.161.4.2 unzFile ZEXPORT unzOpen _Z_OF ((voidpf file))

13.161.4.3 unzFile ZEXPORT unzOpen2 _Z_OF ((voidpf file, zlib_filefunc_def *pzlib_filefunc_def))

13.161.4.4 unzFile ZEXPORT unzOpen2_64 _Z_OF ((voidpf file, zlib_filefunc64_def *pzlib_filefunc_def))

13.161.4.5 int ZEXPORT unzClose _Z_OF ((unzFile file))

Addition for GDAL : END.

13.161.4.6 int ZEXPORT unzGetGlobalInfo _Z_OF ((unzFile file, unz_global_info *pglobal_info))

13.161.4.7 int ZEXPORT unzGetGlobalInfo64 _Z_OF ((unzFile file, unz_global_info64 *pglobal_info))

13.161.4.8 int ZEXPORT unzGetGlobalComment _Z_OF ((unzFile file, char *szComment, uLong uSizeBuf))

13.161.4.9 int ZEXPORT unzLocateFile _Z_OF ((unzFile file, const char *szFileName, int iCaseSensitivity))

13.161.4.10 int ZEXPORT unzGetCurrentFileInfo64 _Z_OF ((unzFile file, unz_file_info64 *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))

13.161.4.11 int ZEXPORT unzGetCurrentFileInfo _Z_OF ((unzFile file, unz_file_info *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))

13.161.4.12 int ZEXPORT unzOpenCurrentFilePassword _Z_OF ((unzFile file, const char *password))

13.161.4.13 int ZEXPORT unzOpenCurrentFile2 _Z_OF ((unzFile file, int *method, int *level, int raw))

13.161.4.14 int ZEXPORT unzOpenCurrentFile3 _Z_OF ((unzFile file, int *method, int *level, int raw, const char *password))

13.161.4.15 int ZEXPORT unzReadCurrentFile _Z_OF ((unzFile file, voidp buf, unsigned len))

13.161.4.16 int ZEXPORT unzClearFlags (unzFile *file*, unsigned *flags*)

Definition at line 2147 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
2148 {
2149     unz64_s* s;
2150     if (file == NULL)
2151         return UNZ_PARAMERROR;
2152     s = (unz64_s*)file;
2153     s->flags &= ~flags;
2154     return UNZ_OK;
2155 }
```

Here is the caller graph for this function:

13.161.4.17 int ZEXPORT unzGetFilePos (unzFile *file*, unz_file_pos * *file_pos*)

Definition at line 1334 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, and unzGetFilePos64().

```
1337 {
1338     unz64_file_pos file_pos64;
1339     int err = unzGetFilePos64(file,&file_pos64);
1340     if (err==UNZ_OK)
1341     {
1342         file_pos->pos_in_zip_directory = (uLong)file_pos64.
      pos_in_zip_directory;
1343         file_pos->num_of_file = (uLong)file_pos64.num_of_file;
1344     }
1345     return err;
1346 }
```

Here is the call graph for this function:

13.161.4.18 int ZEXPORT unzGetFilePos64 (unzFile *file*, unz64_file_pos * *file_pos*)

Definition at line 1318 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::addCurrentFileToDirectoryMap(), and unzGetFilePos().

```
{
    unz64_s* s;

    if (file==NULL || file_pos==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;
    if (!s->current_file_ok)
        return UNZ_END_OF_LIST_OF_FILE;

    file_pos->pos_in_zip_directory  = s->pos_in_central_dir;
    file_pos->num_of_file           = s->num_file;

    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.161.4.19 uLong ZEXPORT unzGetOffset (unzFile *file*)

Definition at line 2102 of file unzip.c.

References unzGetOffset64().

```
{
    ZPOS64_T offset64;

    if (file==NULL)
          return 0; /*UNZ_PARAMERROR; */
    offset64 = unzGetOffset64(file);
    return (uLong)offset64;
}
```

Here is the call graph for this function:

13.161.4.20 ZPOS64_T ZEXPORT unzGetOffset64 (unzFile *file*)

Definition at line 2087 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, and unz64_s::pos_in_central_dir.

Referenced by unzGetOffset().

```
{
    unz64_s* s;

    if (file==NULL)
          return 0; /*UNZ_PARAMERROR; */
    s=(unz64_s*)file;
    if (!s->current_file_ok)
      return 0;
    if (s->gi.number_entry != 0 && s->gi.number_entry != 0xffff)
      if (s->num_file==s->gi.number_entry)
         return 0;
    return s->pos_in_central_dir;
}
```

Here is the caller graph for this function:

13.161.4.21 int ZEXPORT unzGoToFilePos (unzFile *file*, unz_file_pos * *file_pos*)

Definition at line 1370 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_PARAMERROR, and unzGoToFilePos64().

```
{
    unz64_file_pos file_pos64;
    if (file_pos == NULL)
        return UNZ_PARAMERROR;

    file_pos64.pos_in_zip_directory = file_pos->
  pos_in_zip_directory;
    file_pos64.num_of_file = file_pos->num_of_file;
    return unzGoToFilePos64(file,&file_pos64);
}
```

Here is the call graph for this function:

13.161.4.22 int ZEXPORT unzGoToFilePos64 (unzFile *file*, const unz64_file_pos * *file_pos*)

Definition at line 1348 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::setCurrentFile(), and unzGoToFilePos().

```
{
    unz64_s* s;
    int err;

    if (file==NULL || file_pos==NULL)
        return UNZ_PARAMERROR;
    s=(unz64_s*)file;

    /* jump to the right spot */
    s->pos_in_central_dir = file_pos->pos_in_zip_directory;
    s->num_file           = file_pos->num_of_file;

    /* set the current file */
    err = unz64local_GetCurrentFileInfoInternal(file,&s->cur_file_info,
                                                &s->cur_file_info_internal,
                                                NULL,0,NULL,0,NULL,0);
    /* return results */
    s->current_file_ok = (err == UNZ_OK);
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.161.4.23 unzFile unzOpenInternal (voidpf *file*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, int *is64bitOpenFunction*, unsigned *flags*)

Definition at line 587 of file unzip.c.

References ALLOC, unz64_s::byte_before_the_zipfile, unz64_s::central_pos, unz64_s::encrypted, unz64_s::filestream, fill_qiodevice64_filefunc(), unz64_s::flags, unz64_s::gi, unz64_s::is64bitOpenFunction, unz64_s::isZip64, unz_global_info64_s::number_entry, unz64_s::offset_central_dir, unz64_s::pfile_in_zip_read, unz64_s::size_central_dir, unz_global_info64_s::size_comment, unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), UNZ_AUTO_CLOSE, UNZ_BADZIPFILE, unz_copyright, UNZ_ERRNO, UNZ_OK, unzGoToFirstFile(), unz64_s::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_SEEK_SET, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, and zlib_filefunc64_32_def_s::ztell32_file.

Referenced by QuaZip::open(), unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

```
{
    unz64_s us;
    unz64_s *s;
    ZPOS64_T central_pos;
    uLong   uL;

    uLong number_disk;          /* number of the current dist, used for
                                   spaning ZIP, unsupported, always 0*/
    uLong number_disk_with_CD;  /* number the the disk with central dir, used
                                   for spaning ZIP, unsupported, always 0*/
    ZPOS64_T number_entry_CD;      /* total number of entries in
                                   the central dir
                                   (same than number_entry on nospan) */

    int err=UNZ_OK;

    if (unz_copyright[0]!=' ')
        return NULL;

    us.flags = flags;
    us.z_filefunc.zseek32_file = NULL;
    us.z_filefunc.ztell32_file = NULL;
    if (pzlib_filefunc64_32_def==NULL)
        fill_qiodevice64_filefunc(&us.z_filefunc.zfile_func64);
    else
        us.z_filefunc = *pzlib_filefunc64_32_def;
    us.is64bitOpenFunction = is64bitOpenFunction;



    us.filestream = ZOPEN64(us.z_filefunc,
                                                file,
                                                ZLIB_FILEFUNC_MODE_READ |
                                                ZLIB_FILEFUNC_MODE_EXISTING);
    if (us.filestream==NULL)
        return NULL;

    central_pos = unz64local_SearchCentralDir64(&us.z_filefunc,us.filestream);
    if (central_pos)
    {
        uLong uS;
        ZPOS64_T uL64;

```

```
        us.isZip64 = 1;

        if (ZSEEK64(us.z_filefunc, us.filestream,
                                    central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
        err=UNZ_ERRNO;

        /* the signature, already checked */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* size of zip64 end of central directory record */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&uL64)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* version made by */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uS)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* version needed to extract */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uS)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of this disk */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&number_disk)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of the disk with the start of the central directory */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&number_disk_with_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central directory on this disk */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.gi.number_entry)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central directory */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&number_entry_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        if ((number_entry_CD!=us.gi.number_entry) ||
            (number_disk_with_CD!=0) ||
            (number_disk!=0))
            err=UNZ_BADZIPFILE;

        /* size of the central directory */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.size_central_dir)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* offset of start of central directory with respect to the
          starting disk number */
        if (unz64local_getLong64(&us.z_filefunc, us.filestream,&us.offset_central_dir)!=UNZ_OK)
            err=UNZ_ERRNO;

        us.gi.size_comment = 0;
    }
    else
    {
        central_pos = unz64local_SearchCentralDir(&us.z_filefunc,us.filestream);
        if (central_pos==0)
            err=UNZ_ERRNO;

        us.isZip64 = 0;

        if (ZSEEK64(us.z_filefunc, us.filestream,
                                    central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
            err=UNZ_ERRNO;

        /* the signature, already checked */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* number of this disk */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&number_disk)!=UNZ_OK)
            err=UNZ_ERRNO;

```

```
        /* number of the disk with the start of the central directory */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&number_disk_with_CD)!=UNZ_OK)
            err=UNZ_ERRNO;

        /* total number of entries in the central dir on this disk */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.gi.number_entry = uL;

        /* total number of entries in the central dir */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        number_entry_CD = uL;

        if ((number_entry_CD!=us.gi.number_entry) ||
            (number_disk_with_CD!=0) ||
            (number_disk!=0))
            err=UNZ_BADZIPFILE;

        /* size of the central directory */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.size_central_dir = uL;

        /* offset of start of central directory with respect to the
            starting disk number */
        if (unz64local_getLong(&us.z_filefunc, us.filestream,&uL)!=UNZ_OK)
            err=UNZ_ERRNO;
        us.offset_central_dir = uL;

        /* zipfile comment length */
        if (unz64local_getShort(&us.z_filefunc, us.filestream,&us.gi.size_comment)!=UNZ_OK)
            err=UNZ_ERRNO;
    }

    if ((central_pos<us.offset_central_dir+us.size_central_dir) &&
        (err==UNZ_OK))
        err=UNZ_BADZIPFILE;

    if (err!=UNZ_OK)
    {
        if ((us.flags & UNZ_AUTO_CLOSE) != 0)
            ZCLOSE64(us.z_filefunc, us.filestream);
        else
            ZFAKECLOSE64(us.z_filefunc, us.filestream);
        return NULL;
    }

    us.byte_before_the_zipfile = central_pos -
                            (us.offset_central_dir+us.size_central_dir);
    us.central_pos = central_pos;
    us.pfile_in_zip_read = NULL;
    us.encrypted = 0;


    s=(unz64_s*)ALLOC(sizeof(unz64_s));
    if( s != NULL)
    {
        *s=us;
        unzGoToFirstFile((unzFile)s);
    }
    return (unzFile)s;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.161.4.24 int ZEXPORT unzSetFlags (unzFile *file*, unsigned *flags*)

Definition at line 2136 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
{
    unz64_s* s;
    if (file == NULL)
        return UNZ_PARAMERROR;
    s = (unz64_s*)file;
    s->flags |= flags;
    return UNZ_OK;
}
```

Here is the caller graph for this function:

13.161.4.25 int ZEXPORT unzSetOffset (unzFile *file*, uLong *pos*)

Definition at line 2130 of file unzip.c.

References unzSetOffset64().

```
2131 {
2132     return unzSetOffset64(file,pos);
2133 }
```

Here is the call graph for this function:

13.161.4.26 int ZEXPORT unzSetOffset64 (unzFile *file*, ZPOS64_T *pos*)

Definition at line 2112 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by unzSetOffset().

```
2113 {
2114     unz64_s* s;
2115     int err;
2116
2117     if (file==NULL)
2118         return UNZ_PARAMERROR;
2119     s=(unz64_s*)file;
2120
2121     s->pos_in_central_dir = pos;
2122     s->num_file = s->gi.number_entry;       /* hack */
2123     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
2124                                                 &s->cur_file_info_internal,
2125                                                 NULL,0,NULL,0,NULL,0);
2126     s->current_file_ok = (err == UNZ_OK);
2127     return err;
2128 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162 src/ckb/quazip/zip.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include "zlib.h"
#include "zip.h"
#include <errno.h>
#include "crypt.h"
```

Include dependency graph for zip.c:

Data Structures

- struct linkedlist_datablock_internal_s
- struct linkedlist_data_s
- struct curfile64_info
- struct zip64_internal

Macros

- #define local static
- #define VERSIONMADEBY (0x031e) /∗ best for standard pkware crypt ∗/
- #define Z_BUFSIZE (64∗1024) /∗ (16384) ∗/
- #define Z_MAXFILENAMEINZIP (256)
- #define ALLOC(size) (malloc(size))
- #define TRYFREE(p) {if (p) free(p);}
- #define MAKEULONG64(a, b) ((ZPOS64_T)(((unsigned long)(a)) | ((ZPOS64_T)((unsigned long)(b))) << 32))
- #define SEEK_CUR 1
- #define SEEK_END 2
- #define SEEK_SET 0
- #define SIZEDATA_INDATABLOCK (4096-(4∗4))
- #define LOCALHEADERMAGIC (0x04034b50)
- #define DESCRIPTORHEADERMAGIC (0x08074b50)
- #define CENTRALHEADERMAGIC (0x02014b50)
- #define ENDHEADERMAGIC (0x06054b50)
- #define ZIP64ENDHEADERMAGIC (0x6064b50)
- #define ZIP64ENDLOCHEADERMAGIC (0x7064b50)
- #define FLAG_LOCALHEADER_OFFSET (0x06)
- #define CRC_LOCALHEADER_OFFSET (0x0e)
- #define SIZECENTRALHEADER (0x2e) /∗ 46 ∗/
- #define INCLUDECRYPTINGCODE_IFCRYPTALLOWED
- #define BUFREADCOMMENT (0x400)

Typedefs

- typedef uLongf z_crc_t
- typedef struct linkedlist_datablock_internal_s linkedlist_datablock_internal
- typedef struct linkedlist_data_s linkedlist_data

Functions

- static linkedlist_datablock_internal ∗ allocate_new_datablock ()
- static void free_datablock (linkedlist_datablock_internal ∗ldi)
- static void init_linkedlist (linkedlist_data ∗ll)
- static void free_linkedlist (linkedlist_data ∗ll)
- static int add_data_in_datablock (linkedlist_data ∗ll, const void ∗buf, uLong len)
- static int zip64local_putValue _Z_OF ((const zlib_filefunc64_32_def ∗pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte))
- static int zip64local_putValue (const zlib_filefunc64_32_def ∗pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte)
- static void zip64local_putValue_inmemory _Z_OF ((void ∗dest, ZPOS64_T x, int nbByte))

- static void zip64local_putValue_inmemory (void *dest, ZPOS64_T x, int nbByte)
- static uLong zip64local_TmzDateToDosDate (const tm_zip *ptm)
- static int zip64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi))
- static int zip64local_getByte (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)
- static int zip64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX))
- static int zip64local_getShort (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int zip64local_getLong (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int zip64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX))
- static int zip64local_getLong64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)
- static ZPOS64_T zip64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream))
- static ZPOS64_T zip64local_SearchCentralDir (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- static ZPOS64_T zip64local_SearchCentralDir64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- int LoadCentralDirectoryRecord (zip64_internal *pziinit)
- zipFile ZEXPORT zipOpen3 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, unsigned flags)
- zipFile ZEXPORT zipOpen2 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc32_def)
- zipFile ZEXPORT zipOpen2_64 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def)
- zipFile ZEXPORT zipOpen (voidpf file, int append)
- zipFile ZEXPORT zipOpen64 (voidpf file, int append)
- int Write_LocalFileHeader (zip64_internal *zi, const char *filename, uInt size_extrafield_local, const void *extrafield_local, uLong version_to_extract)
- int ZEXPORT zipOpenNewFileInZip4_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64)
- int ZEXPORT zipOpenNewFileInZip4 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase)
- int ZEXPORT zipOpenNewFileInZip3 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting)
- int ZEXPORT zipOpenNewFileInZip3_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, int zip64)
- int ZEXPORT zipOpenNewFileInZip2 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw)
- int ZEXPORT zipOpenNewFileInZip2_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int zip64)
- int ZEXPORT zipOpenNewFileInZip64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int zip64)

- int ZEXPORT zipOpenNewFileInZip (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level)
- static int zip64FlushWriteBuffer (zip64_internal *zi)
- int ZEXPORT zipWriteInFileInZip (zipFile file, const void *buf, unsigned int len)
- int ZEXPORT zipCloseFileInZipRaw (zipFile file, uLong uncompressed_size, uLong crc32)
- int ZEXPORT zipCloseFileInZipRaw64 (zipFile file, ZPOS64_T uncompressed_size, uLong crc32)
- int ZEXPORT zipCloseFileInZip (zipFile file)
- int Write_Zip64EndOfCentralDirectoryLocator (zip64_internal *zi, ZPOS64_T zip64eocd_pos_inzip)
- int Write_Zip64EndOfCentralDirectoryRecord (zip64_internal *zi, uLong size_centraldir, ZPOS64_T centraldir_pos_inzip)
- int Write_EndOfCentralDirectoryRecord (zip64_internal *zi, uLong size_centraldir, ZPOS64_T centraldir_pos_inzip)
- int Write_GlobalComment (zip64_internal *zi, const char *global_comment)
- int ZEXPORT zipClose (zipFile file, const char *global_comment)
- int ZEXPORT zipRemoveExtraInfoBlock (char *pData, int *dataLen, short sHeader)
- int ZEXPORT zipSetFlags (zipFile file, unsigned flags)
- int ZEXPORT zipClearFlags (zipFile file, unsigned flags)

Variables

- const char zip_copyright [] =" zip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"

13.162.1 Data Structure Documentation

13.162.1.1 struct linkedlist_datablock_internal_s

Definition at line 121 of file zip.c.

Collaboration diagram for linkedlist_datablock_internal_s:

Data Fields

uLong	avail_in_this_-block	
unsigned char	data[(4096-(4 ∗4))]	
uLong	filled_in_this_-block	
struct linkedlist_-datablock_-internal_s ∗	next_datablock	
uLong	unused	

13.162.1.2 struct linkedlist_data_s

Definition at line 130 of file zip.c.

Collaboration diagram for linkedlist_data_s:

Data Fields

linkedlist_-datablock_-internal *	first_block	
linkedlist_-datablock_-internal *	last_block	

13.162.1.3 struct curfile64_info

Definition at line 137 of file zip.c.

Collaboration diagram for curfile64_info:

Data Fields

Byte	buffered_-data[(64 *1024)]	
char *	central_header	
uLong	crc32	
int	crypt_header_-size	
uLong	dosDate	
int	encrypt	
uLong	flag	
unsigned long	keys[3]	
int	method	
const z_crc_t FAR *	pcrc_32_tab	
uInt	pos_in_buffered-_data	
ZPOS64_T	pos_local_-header	
ZPOS64_T	pos_-zip64extrainfo	

int	raw	
uLong	size_central-Extra	
uLong	size_central-ExtraFree	
uLong	size_-centralheader	
z_stream	stream	
int	stream_-initialised	
ZPOS64_T	total-Compressed-Data	
ZPOS64_T	total-Uncompressed-Data	
int	zip64	

13.162.1.4 struct zip64_internal

Definition at line 172 of file zip.c.

Collaboration diagram for zip64_internal:

Data Fields

ZPOS64_T	add_position_-when_writting_-offset	
ZPOS64_T	begin_pos	
linkedlist_data	central_dir	
curfile64_info	ci	
voidpf	filestream	
unsigned	flags	
char *	globalcomment	
int	in_opened_file_-inzip	
ZPOS64_T	number_entry	
zlib_filefunc64_-32_def	z_filefunc	

13.162.2 Macro Definition Documentation

13.162.2.1 #define ALLOC(*size*) (malloc(size))

Definition at line 68 of file zip.c.

Referenced by allocate_new_datablock(), LoadCentralDirectoryRecord(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipOpen3(), zipOpenNewFileInZip4_64(), and zipRemoveExtraInfoBlock().

13.162.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 481 of file zip.c.

Referenced by zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.162.2.3 #define CENTRALHEADERMAGIC (0x02014b50)

Definition at line 111 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.162.2.4 #define CRC_LOCALHEADER_OFFSET (0x0e)

Definition at line 117 of file zip.c.

13.162.2.5 #define DESCRIPTORHEADERMAGIC (0x08074b50)

Definition at line 110 of file zip.c.

Referenced by zipCloseFileInZipRaw64().

13.162.2.6 #define ENDHEADERMAGIC (0x06054b50)

Definition at line 112 of file zip.c.

Referenced by Write_EndOfCentralDirectoryRecord().

13.162.2.7 #define FLAG_LOCALHEADER_OFFSET (0x06)

Definition at line 116 of file zip.c.

13.162.2.8 #define INCLUDECRYPTINGCODE_IFCRYPTALLOWED

Definition at line 194 of file zip.c.

13.162.2.9 #define local static

Definition at line 51 of file zip.c.

13.162.2.10 #define LOCALHEADERMAGIC (0x04034b50)

Definition at line 109 of file zip.c.

Referenced by Write_LocalFileHeader().

13.162.2.11 #define MAKEULONG64(a, b) ((ZPOS64_T)(((unsigned long)(a)) | ((ZPOS64_T)((unsigned long)(b))) << 32))

Definition at line 83 of file zip.c.

13.162.2.12 #define SEEK_CUR 1

Definition at line 86 of file zip.c.

13.162.2.13 #define SEEK_END 2

Definition at line 90 of file zip.c.

Referenced by zipOpen3().

13.162.2.14 #define SEEK_SET 0

Definition at line 94 of file zip.c.

13.162.2.15 #define SIZECENTRALHEADER (0x2e) /* 46 */

Definition at line 119 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.162.2.16 #define SIZEDATA_INDATABLOCK (4096-(4*4))

Definition at line 107 of file zip.c.

Referenced by allocate_new_datablock(), and LoadCentralDirectoryRecord().

13.162.2.17 #define TRYFREE(p) {if (p) free(p);}

Definition at line 71 of file zip.c.

Referenced by free_datablock(), LoadCentralDirectoryRecord(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipClose(), zipOpen3(), and zipRemoveExtraInfoBlock().

13.162.2.18 #define VERSIONMADEBY (0x031e) /* best for standard pkware crypt */

Definition at line 56 of file zip.c.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), zipOpenNewFileInZip3(), zipOpenNewFileInZip3_64(), and zipOpenNewFileInZip64().

13.162.2.19 #define Z_BUFSIZE (64*1024) /* (16384) */

Definition at line 60 of file zip.c.

Referenced by zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipWriteInFileInZip().

13.162.2.20 #define Z_MAXFILENAMEINZIP (256)

Definition at line 64 of file zip.c.

13.162.2.21 #define ZIP64ENDHEADERMAGIC (0x6064b50)

Definition at line 113 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryRecord().

13.162.2.22 #define ZIP64ENDLOCHEADERMAGIC (0x7064b50)

Definition at line 114 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryLocator().

13.162.3 Typedef Documentation

13.162.3.1 typedef struct linkedlist_data_s linkedlist_data

13.162.3.2 typedef struct linkedlist_datablock_internal_s linkedlist_datablock_internal

13.162.3.3 typedef uLongf z_crc_t

Definition at line 34 of file zip.c.

13.162.4 Function Documentation

13.162.4.1 static int zip64local_putValue _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte)) [static]

13.162.4.2 static void zip64local_putValue_inmemory _Z_OF ((void *dest, ZPOS64_T x, int nbByte)) [static]

13.162.4.3 static int zip64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.162.4.4 static int zip64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.162.4.5 static int zip64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.162.4.6 static ZPOS64_T zip64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.162.4.7 static int add_data_in_datablock (linkedlist_data * *ll*, const void * *buf*, uLong *len*) [static]

Definition at line 234 of file zip.c.

References allocate_new_datablock(), linkedlist_datablock_internal_s::avail_in_this_block, linkedlist_datablock_internal_s::data, linkedlist_datablock_internal_s::filled_in_this_block, linkedlist_data_s::first_block, linkedlist_data_s::last_block, linkedlist_datablock_internal_s::next_datablock, ZIP_INTERNALERROR, and ZIP_OK.

Referenced by LoadCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

```
{
    linkedlist_datablock_internal* ldi;
    const unsigned char* from_copy;

    if (ll==NULL)
        return ZIP_INTERNALERROR;

    if (ll->last_block == NULL)
    {
```

```
        ll->first_block = ll->last_block = allocate_new_datablock();
        if (ll->first_block == NULL)
            return ZIP_INTERNALERROR;
    }

    ldi = ll->last_block;
    from_copy = (unsigned char*)buf;

    while (len>0)
    {
        uInt copy_this;
        uInt i;
        unsigned char* to_copy;

        if (ldi->avail_in_this_block==0)
        {
            ldi->next_datablock = allocate_new_datablock();
            if (ldi->next_datablock == NULL)
                return ZIP_INTERNALERROR;
            ldi = ldi->next_datablock ;
            ll->last_block = ldi;
        }

        if (ldi->avail_in_this_block < len)
            copy_this = (uInt)ldi->avail_in_this_block;
        else
            copy_this = (uInt)len;

        to_copy = &(ldi->data[ldi->filled_in_this_block]);

        for (i=0;i<copy_this;i++)
            *(to_copy+i)=*(from_copy+i);

        ldi->filled_in_this_block += copy_this;
        ldi->avail_in_this_block -= copy_this;
        from_copy += copy_this ;
        len -= copy_this;
    }
    return ZIP_OK;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.8 static linkedlist_datablock_internal* allocate_new_datablock ( ) [static]

Definition at line 198 of file zip.c.

References ALLOC, linkedlist_datablock_internal_s::avail_in_this_block, linkedlist_datablock_internal_s::filled_in_-this_block, linkedlist_datablock_internal_s::next_datablock, and SIZEDATA_INDATABLOCK.

Referenced by add_data_in_datablock().

```
{
    linkedlist_datablock_internal* ldi;
    ldi = (linkedlist_datablock_internal*)
                ALLOC(sizeof(linkedlist_datablock_internal));
    if (ldi!=NULL)
    {
        ldi->next_datablock = NULL ;
        ldi->filled_in_this_block = 0 ;
        ldi->avail_in_this_block = SIZEDATA_INDATABLOCK ;
    }
    return ldi;
}
```

Here is the caller graph for this function:

13.162.4.9 static void free_datablock (linkedlist_datablock_internal * *ldi*) [static]

Definition at line 212 of file zip.c.

References linkedlist_datablock_internal_s::next_datablock, and TRYFREE.

Referenced by free_linkedlist().

```
{
    while (ldi!=NULL)
    {
        linkedlist_datablock_internal* ldinext = ldi->
next_datablock;
        TRYFREE(ldi);
        ldi = ldinext;
    }
}
```

Here is the caller graph for this function:

13.162.4.10 static void free_linkedlist (linkedlist_data * ll) [static]

Definition at line 227 of file zip.c.

References linkedlist_data_s::first_block, free_datablock(), and linkedlist_data_s::last_block.

Referenced by zipClose().

```
228 {
229     free_datablock(ll->first_block);
230     ll->first_block = ll->last_block = NULL;
231 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.11 static void init_linkedlist (linkedlist_data * ll) [static]

Definition at line 222 of file zip.c.

References linkedlist_data_s::first_block, and linkedlist_data_s::last_block.

Referenced by zipOpen3().

```
223 {
224     ll->first_block = ll->last_block = NULL;
225 }
```

Here is the caller graph for this function:

13.162.4.12 int LoadCentralDirectoryRecord (zip64_internal * *pziinit*)

Definition at line 649 of file zip.c.

References add_data_in_datablock(), zip64_internal::add_position_when_writting_offset, ALLOC, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::filestream, zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::number_entry, SIZEDATA_INDATABLOCK, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zip64local_getLong(), zip64local_getLong64(), zip64local_getShort(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), ZIP_AUTO_CLOSE, ZIP_BADZIPFILE, ZIP_ERRNO, ZIP_OK, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by zipOpen3().

```
650 {
651   int err=ZIP_OK;
652   ZPOS64_T byte_before_the_zipfile;/* byte before the zipfile, (>0 for sfx)*/
653
654   ZPOS64_T size_central_dir;     /* size of the central directory  */
655   ZPOS64_T offset_central_dir;   /* offset of start of central directory */
656   ZPOS64_T central_pos;
657   uLong uL;
658
659   uLong number_disk;          /* number of the current dist, used for
660                               spaning ZIP, unsupported, always 0*/
661   uLong number_disk_with_CD;  /* number the the disk with central dir, used
662                               for spaning ZIP, unsupported, always 0*/
663   ZPOS64_T number_entry;
664   ZPOS64_T number_entry_CD;      /* total number of entries in
665                                 the central dir
666                                 (same than number_entry on nospan) */
667   uLong VersionMadeBy;
668   uLong VersionNeeded;
669   uLong size_comment;
670
671   int hasZIP64Record = 0;
672
673   /* check first if we find a ZIP64 record */
674   central_pos = zip64local_SearchCentralDir64(&pziinit->
      z_filefunc,pziinit->filestream);
675   if(central_pos > 0)
676   {
677     hasZIP64Record = 1;
678   }
679   else if(central_pos == 0)
680   {
681     central_pos = zip64local_SearchCentralDir(&pziinit->
      z_filefunc,pziinit->filestream);
682   }
683
684 /* disable to allow appending to empty ZIP archive
685         if (central_pos==0)
686             err=ZIP_ERRNO;
687 */
688
689   if(hasZIP64Record)
690   {
691     ZPOS64_T sizeEndOfCentralDirectory;
692     if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, central_pos,
      ZLIB_FILEFUNC_SEEK_SET) != 0)
693       err=ZIP_ERRNO;
694
695     /* the signature, already checked */
```

```
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream,&uL)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* size of zip64 end of central directory record */
    if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->filestream, &sizeEndOfCentralDirectory)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* version made by */
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream, &VersionMadeBy)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* version needed to extract */
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream, &VersionNeeded)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* number of this disk */
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream,&number_disk)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* number of the disk with the start of the central directory */
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream,&number_disk_with_CD)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* total number of entries in the central directory on this disk */
    if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->filestream, &number_entry)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* total number of entries in the central directory */
    if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->filestream,&number_entry_CD)!=ZIP_OK)
      err=ZIP_ERRNO;

    if ((number_entry_CD!=number_entry) || (number_disk_with_CD!=0) || (number_disk!=0))
      err=ZIP_BADZIPFILE;

    /* size of the central directory */
    if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->filestream,&size_central_dir)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* offset of start of central directory with respect to the
    starting disk number */
    if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->filestream,&offset_central_dir)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* TODO.. */
    /* read the comment from the standard central header. */
    size_comment = 0;
  }
  else
  {
    /* Read End of central Directory info */
    if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, central_pos, ZLIB_FILEFUNC_SEEK_SET)!=0)
      err=ZIP_ERRNO;

    /* the signature, already checked */
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream,&uL)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* number of this disk */
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream,&number_disk)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* number of the disk with the start of the central directory */
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream,&number_disk_with_CD)!=ZIP_OK)
      err=ZIP_ERRNO;

    /* total number of entries in the central dir on this disk */
    number_entry = 0;
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream, &uL)!=ZIP_OK)
      err=ZIP_ERRNO;
    else
      number_entry = uL;

```

```
    /* total number of entries in the central dir */
    number_entry_CD = 0;
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream, &uL)!=ZIP_OK)
        err=ZIP_ERRNO;
    else
        number_entry_CD = uL;

    if ((number_entry_CD!=number_entry) || (number_disk_with_CD!=0) || (number_disk!=0))
        err=ZIP_BADZIPFILE;

    /* size of the central directory */
    size_central_dir = 0;
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream, &uL)!=ZIP_OK)
        err=ZIP_ERRNO;
    else
        size_central_dir = uL;

    /* offset of start of central directory with respect to the starting disk number */
    offset_central_dir = 0;
    if (zip64local_getLong(&pziinit->z_filefunc, pziinit->filestream, &uL)!=ZIP_OK)
        err=ZIP_ERRNO;
    else
        offset_central_dir = uL;


    /* zipfile global comment length */
    if (zip64local_getShort(&pziinit->z_filefunc, pziinit->filestream, &size_comment)!=ZIP_OK)
        err=ZIP_ERRNO;
  }

  if ((central_pos<offset_central_dir+size_central_dir) &&
     (err==ZIP_OK))
    err=ZIP_BADZIPFILE;

  if (err!=ZIP_OK)
  {
      if ((pziinit->flags & ZIP_AUTO_CLOSE) != 0) {
        ZCLOSE64(pziinit->z_filefunc, pziinit->filestream);
      } else {
        ZFAKECLOSE64(pziinit->z_filefunc, pziinit->filestream);
      }
    return ZIP_ERRNO;
  }

  if (size_comment>0)
  {
    pziinit->globalcomment = (char*)ALLOC(size_comment+1);
    if (pziinit->globalcomment)
    {
      size_comment = ZREAD64(pziinit->z_filefunc, pziinit->filestream, pziinit->globalcomment,size_comment);
      pziinit->globalcomment[size_comment]=0;
    }
  }

  byte_before_the_zipfile = central_pos - (offset_central_dir+size_central_dir);
  pziinit->add_position_when_writting_offset = byte_before_the_zipfile;

  {
    ZPOS64_T size_central_dir_to_read = size_central_dir;
    size_t buf_size = SIZEDATA_INDATABLOCK;
    void* buf_read = (void*)ALLOC(buf_size);
    if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, offset_central_dir + byte_before_the_zipfile, ZLIB_FILEFUNC_SEEK_SET) != 0)
        err=ZIP_ERRNO;

    while ((size_central_dir_to_read>0) && (err==ZIP_OK))
    {
      ZPOS64_T read_this = SIZEDATA_INDATABLOCK;
      if (read_this > size_central_dir_to_read)
        read_this = size_central_dir_to_read;

      if (ZREAD64(pziinit->z_filefunc, pziinit->filestream,buf_read,(uLong)read_this) != read_this)
        err=ZIP_ERRNO;

      if (err==ZIP_OK)
        err = add_data_in_datablock(&pziinit->central_dir,buf_read, (uLong)read_this);

      size_central_dir_to_read-=read_this;
    }
```

```
    TRYFREE(buf_read);
  }
  pziinit->begin_pos = byte_before_the_zipfile;
  pziinit->number_entry = number_entry_CD;

  if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, offset_central_dir+
  byte_before_the_zipfile,ZLIB_FILEFUNC_SEEK_SET) != 0)
    err=ZIP_ERRNO;

  return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.13 int Write_EndOfCentralDirectoryRecord (zip64_internal * *zi*, uLong *size_centraldir*, ZPOS64_T *centraldir_pos_inzip*)

Definition at line 1876 of file zip.c.

References zip64_internal::add_position_when_writting_offset, ENDHEADERMAGIC, zip64_internal::filestream, zip64_internal::number_entry, zip64_internal::z_filefunc, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

```
{
  int err = ZIP_OK;

  /*signature*/
  err = zip64local_putValue(&zi->z_filefunc,zi->
filestream,(uLong)ENDHEADERMAGIC,4);

  if (err==ZIP_OK) /* number of this disk */
    err = zip64local_putValue(&zi->z_filefunc,zi->
filestream,(uLong)0,2);

  if (err==ZIP_OK) /* number of the disk with the start of the central directory */
    err = zip64local_putValue(&zi->z_filefunc,zi->
filestream,(uLong)0,2);

  if (err==ZIP_OK) /* total number of entries in the central dir on this disk */
```

```
  {
    {
      if(zi->number_entry >= 0xFFFF)
        err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0xffff,2); /* use value in ZIP64 record */
      else
        err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)zi->number_entry,2);
    }
  }

  if (err==ZIP_OK) /* total number of entries in the central dir */
  {
    if(zi->number_entry >= 0xFFFF)
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0xffff,2); /* use value in ZIP64 record */
    else
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)zi->number_entry,2);
  }

  if (err==ZIP_OK) /* size of the central directory */
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)size_centraldir,4);

  if (err==ZIP_OK) /* offset of start of central directory with respect to the starting disk number */
  {
    ZPOS64_T pos = centraldir_pos_inzip - zi->add_position_when_writting_offset;
    if(pos >= 0xffffffff)
    {
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream, (uLong)0xffffffff,4);
    }
    else
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream, (uLong)(centraldir_pos_inzip - zi->add_position_when_writting_offset),4);
  }

   return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.14 int Write_GlobalComment (zip64_internal * *zi*, const char * *global_comment*)

Definition at line 1924 of file zip.c.

References zip64_internal::filestream, zip64_internal::z_filefunc, zip64local_putValue(), ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by zipClose().

```
{
  int err = ZIP_OK;
  uInt size_global_comment = 0;

  if(global_comment != NULL)
    size_global_comment = (uInt)strlen(global_comment);

  err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)size_global_comment,2);

  if (err == ZIP_OK && size_global_comment > 0)
  {
    if (ZWRITE64(zi->z_filefunc,zi->filestream, global_comment, size_global_comment) != size_global_comment)
      err = ZIP_ERRNO;
  }
  return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.15 int Write_LocalFileHeader (zip64_internal * *zi*, const char * *filename*, uInt *size_extrafield_local*, const void * *extrafield_local*, uLong *version_to_extract*)

Definition at line 977 of file zip.c.

References zip64_internal::ci, curfile64_info::dosDate, zip64_internal::filestream, curfile64_info::flag, LOCALHEADERMAGIC, curfile64_info::method, curfile64_info::pos_zip64extrainfo, zip64_internal::z_filefunc, curfile64_info::zip64, zip64local_putValue(), ZIP_ERRNO, ZIP_OK, ZTELL64, and ZWRITE64.

Referenced by zipOpenNewFileInZip4_64().

```
{
  /* write the local header */
  int err;
  uInt size_filename = (uInt)strlen(filename);
  uInt size_extrafield = size_extrafield_local;

  err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)LOCALHEADERMAGIC, 4);

  if (err==ZIP_OK)
  {
    if(zi->ci.zip64)
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)45,2);/* version needed to extract */
    else
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)version_to_extract,2);
  }

  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)zi->ci.flag,2);

  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)zi->ci.method,2);

  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)zi->ci.dosDate,4);

  /* CRC / Compressed size / Uncompressed size will be filled in later and rewritten later */
  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0,4); /* crc 32, unknown */
  if (err==ZIP_OK)
  {
    if(zi->ci.zip64)
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0xFFFFFFFF,4); /* compressed size, unknown */
    else
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0,4); /* compressed size, unknown */
  }
  if (err==ZIP_OK)
  {
    if(zi->ci.zip64)
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0xFFFFFFFF,4); /* uncompressed size, unknown */
    else
      err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0,4); /* uncompressed size, unknown */
  }

  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)size_filename,2);

  if(zi->ci.zip64)
  {
    size_extrafield += 20;
  }

  if (err==ZIP_OK)
    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)size_extrafield,2);

  if ((err==ZIP_OK) && (size_filename > 0))
  {
    if (ZWRITE64(zi->z_filefunc,zi->filestream,filename,size_filename)!=size_filename)
      err = ZIP_ERRNO;
  }

  if ((err==ZIP_OK) && (size_extrafield_local > 0))
  {
    if (ZWRITE64(zi->z_filefunc, zi->filestream, extrafield_local, size_extrafield_local) != size_extrafield_local)
      err = ZIP_ERRNO;
  }


  if ((err==ZIP_OK) && (zi->ci.zip64))
  {
      /* write the Zip64 extended info */
      short HeaderID = 1;
      short DataSize = 16;
```

```
1053        ZPOS64_T CompressedSize = 0;
1054        ZPOS64_T UncompressedSize = 0;
1055
1056        /* Remember position of Zip64 extended info for the local file header. (needed when we update size
     after done with file) */
1057        zi->ci.pos_zip64extrainfo = ZTELL64(zi->
    z_filefunc,zi->filestream);
1058
1059        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (short)HeaderID,2);
1060        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (short)DataSize,2);
1061
1062        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (ZPOS64_T)UncompressedSize,8);
1063        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (ZPOS64_T)CompressedSize,8);
1064    }
1065
1066    return err;
1067 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.16 int Write_Zip64EndOfCentralDirectoryLocator (zip64_internal * *zi*, ZPOS64_T *zip64eocd_pos_inzip*)

Definition at line 1815 of file zip.c.

References zip64_internal::add_position_when_writting_offset, zip64_internal::filestream, zip64_internal::z_-filefunc, ZIP64ENDLOCHEADERMAGIC, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

```
1816 {
1817   int err = ZIP_OK;
```

```
1818   ZPOS64_T pos = zip64eocd_pos_inzip - zi->
      add_position_when_writting_offset;
1819
1820   err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)ZIP64ENDLOCHEADERMAGIC,4);
1821
1822   /*num disks*/
1823     if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1824       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,4);
1825
1826   /*relative offset*/
1827     if (err==ZIP_OK) /* Relative offset to the Zip64EndOfCentralDirectory */
1828       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream, pos,8);
1829
1830   /*total disks*/ /* Do not support spawning of disk so always say 1 here*/
1831     if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1832       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)1,4);
1833
1834     return err;
1835 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.17 int Write_Zip64EndOfCentralDirectoryRecord (zip64_internal * *zi*, uLong *size_centraldir*, ZPOS64_T *centraldir_pos_inzip*)

Definition at line 1837 of file zip.c.

References zip64_internal::add_position_when_writting_offset, zip64_internal::filestream, zip64_internal::number_entry, zip64_internal::z_filefunc, ZIP64ENDHEADERMAGIC, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

```
1838 {
1839   int err = ZIP_OK;
1840
1841   uLong Zip64DataSize = 44;
1842
1843   err = zip64local_putValue(&zi->z_filefunc,zi->
```

```
    filestream,(uLong)ZIP64ENDHEADERMAGIC,4);

 if (err==ZIP_OK) /* size of this 'zip64 end of central directory' */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(ZPOS64_T)Zip64DataSize,8); /* why ZPOS64_T of this ? */

 if (err==ZIP_OK) /* version made by */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)45,2);

 if (err==ZIP_OK) /* version needed */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)45,2);

 if (err==ZIP_OK) /* number of this disk */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0,4);

 if (err==ZIP_OK) /* number of the disk with the start of the central directory */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)0,4);

 if (err==ZIP_OK) /* total number of entries in the central dir on this disk */
   err = zip64local_putValue(&zi->z_filefunc, zi->filestream, zi->number_entry, 8);

 if (err==ZIP_OK) /* total number of entries in the central dir */
   err = zip64local_putValue(&zi->z_filefunc, zi->filestream, zi->number_entry, 8);

 if (err==ZIP_OK) /* size of the central directory */
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(ZPOS64_T)size_centraldir,8);

 if (err==ZIP_OK) /* offset of start of central directory with respect to the starting disk number */
 {
   ZPOS64_T pos = centraldir_pos_inzip - zi->add_position_when_writting_offset;
   err = zip64local_putValue(&zi->z_filefunc,zi->filestream, (ZPOS64_T)pos,8);
 }
 return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.18 static int zip64FlushWriteBuffer (zip64_internal * *zi*) [static]

Definition at line 1403 of file zip.c.

References curfile64_info::buffered_data, zip64_internal::ci, curfile64_info::encrypt, zip64_internal::filestream, curfile64_info::keys, curfile64_info::method, curfile64_info::pcrc_32_tab, curfile64_info::pos_in_buffered_data, curfile64_info::stream, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Z_BZIP2ED, zip64_internal::z_filefunc, zencode, ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by zipCloseFileInZipRaw64(), and zipWriteInFileInZip().

```
{
    int err=ZIP_OK;

    if (zi->ci.encrypt != 0)
    {
#ifndef NOCRYPT
        uInt i;
        int t;
        for (i=0;i<zi->ci.pos_in_buffered_data;i++)
            zi->ci.buffered_data[i] = zencode(zi->ci.keys, zi->ci.pcrc_32_tab, zi->ci.buffered_data[i],t);
#endif
    }

    if (ZWRITE64(zi->z_filefunc,zi->filestream,zi->ci.buffered_data,zi->ci.pos_in_buffered_data) != zi->ci.pos_in_buffered_data)
      err = ZIP_ERRNO;

    zi->ci.totalCompressedData += zi->ci.pos_in_buffered_data;

#ifdef HAVE_BZIP2
    if(zi->ci.method == Z_BZIP2ED)
    {
      zi->ci.totalUncompressedData += zi->ci.bstream.total_in_lo32;
      zi->ci.bstream.total_in_lo32 = 0;
      zi->ci.bstream.total_in_hi32 = 0;
    }
    else
#endif
    {
      zi->ci.totalUncompressedData += zi->ci.stream.total_in;
      zi->ci.stream.total_in = 0;
    }


    zi->ci.pos_in_buffered_data = 0;

    return err;
}
```

Here is the caller graph for this function:

13.162.4.19 static int zip64local_getByte (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* int * *pi*) [static]

Definition at line 358 of file zip.c.

References ZERROR64, ZIP_EOF, ZIP_ERRNO, ZIP_OK, and ZREAD64.

Referenced by zip64local_getLong(), zip64local_getLong64(), and zip64local_getShort().

```
{
    unsigned char c;
    int err = (int)ZREAD64(*pzlib_filefunc_def,filestream,&c,1);
    if (err==1)
    {
        *pi = (int)c;
        return ZIP_OK;
    }
    else
    {
        if (ZERROR64(*pzlib_filefunc_def,filestream))
            return ZIP_ERRNO;
        else
            return ZIP_EOF;
    }
}
```

Here is the caller graph for this function:

13.162.4.20 static int zip64local_getLong (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 404 of file zip.c.

References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord(), and zip64local_SearchCentralDir64().

```
{
    uLong x ;
    int i = 0;
    int err;

    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x = (uLong)i;

    if (err==ZIP_OK)
        err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x += ((uLong)i)<<8;

    if (err==ZIP_OK)
        err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x += ((uLong)i)<<16;

    if (err==ZIP_OK)
        err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x += ((uLong)i)<<24;

    if (err==ZIP_OK)
        *pX = x;
    else
        *pX = 0;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.21 static int zip64local_getLong64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* ZPOS64_T * *pX*) [static]

Definition at line 435 of file zip.c.

References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord(), and zip64local_SearchCentralDir64().

```
{
  ZPOS64_T x;
  int i = 0;
  int err;

  err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x = (ZPOS64_T)i;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<8;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<16;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<24;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<32;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<40;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<48;

  if (err==ZIP_OK)
    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
  x += ((ZPOS64_T)i)<<56;

  if (err==ZIP_OK)
    *pX = x;
```

```
  else
    *pX = 0;

  return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.22 static int zip64local_getShort (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 382 of file zip.c.

References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord().

```
{
    uLong x ;
    int i = 0;
    int err;

    err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x = (uLong)i;

    if (err==ZIP_OK)
        err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
    x += ((uLong)i)<<8;

    if (err==ZIP_OK)
        *pX = x;
    else
        *pX = 0;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.23 static int zip64local_putValue (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* ZPOS64_T *x,* int *nbByte*) [static]

Definition at line 296 of file zip.c.

References ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by Write_EndOfCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

```
{
    unsigned char buf[8];
    int n;
    for (n = 0; n < nbByte; n++)
    {
        buf[n] = (unsigned char)(x & 0xff);
        x >>= 8;
    }
    if (x != 0)
      {     /* data overflow - hack for ZIP64 (X Roche) */
      for (n = 0; n < nbByte; n++)
        {
          buf[n] = 0xff;
        }
      }

    if (ZWRITE64(*pzlib_filefunc_def,filestream,buf,nbByte)!=(uLong)nbByte)
        return ZIP_ERRNO;
    else
        return ZIP_OK;
}
```

Here is the caller graph for this function:

13.162.4.24 static void zip64local_putValue_inmemory (void * *dest*, ZPOS64_T *x*, int *nbByte*) [static]

Definition at line 320 of file zip.c.

Referenced by zipCloseFileInZipRaw64(), and zipOpenNewFileInZip4_64().

```
{
    unsigned char* buf=(unsigned char*)dest;
    int n;
    for (n = 0; n < nbByte; n++) {
        buf[n] = (unsigned char)(x & 0xff);
        x >>= 8;
    }

    if (x != 0)
    {     /* data overflow - hack for ZIP64 */
       for (n = 0; n < nbByte; n++)
       {
          buf[n] = 0xff;
       }
    }
}
```

Here is the caller graph for this function:

13.162.4.25 static ZPOS64_T zip64local_SearchCentralDir (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*) [static]

Definition at line 489 of file zip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_-SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by LoadCentralDirectoryRecord().

```
{
  unsigned char* buf;
  ZPOS64_T uSizeFile;
```

```
  ZPOS64_T uBackRead;
  ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
  ZPOS64_T uPosFound=0;

  if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
    return 0;


  uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);

  if (uMaxBack>uSizeFile)
    uMaxBack = uSizeFile;

  buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
  if (buf==NULL)
    return 0;

  uBackRead = 4;
  while (uBackRead<uMaxBack)
  {
    uLong uReadSize;
    ZPOS64_T uReadPos ;
    int i;
    if (uBackRead+BUFREADCOMMENT>uMaxBack)
      uBackRead = uMaxBack;
    else
      uBackRead+=BUFREADCOMMENT;
    uReadPos = uSizeFile-uBackRead ;

    uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
      (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
    if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
  ZLIB_FILEFUNC_SEEK_SET)!=0)
      break;

    if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
      break;

    for (i=(int)uReadSize-3; (i--)>0;)
      if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
        ((*(buf+i+2))==0x05) && ((*(buf+i+3))==0x06))
      {
        uPosFound = uReadPos+i;
        break;
      }

    if (uPosFound!=0)
      break;
  }
  TRYFREE(buf);
  return uPosFound;
}
```

Here is the caller graph for this function:

13.162.4.26 static ZPOS64_T zip64local_SearchCentralDir64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

Definition at line 551 of file zip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, zip64local_getLong(), zip64local_getLong64(), ZIP_OK, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by LoadCentralDirectoryRecord().

```
552 {
```

```
unsigned char* buf;
ZPOS64_T uSizeFile;
ZPOS64_T uBackRead;
ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
ZPOS64_T uPosFound=0;
uLong uL;
ZPOS64_T relativeOffset;

if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
  return 0;

uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);

if (uMaxBack>uSizeFile)
  uMaxBack = uSizeFile;

buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
if (buf==NULL)
  return 0;

uBackRead = 4;
while (uBackRead<uMaxBack)
{
  uLong uReadSize;
  ZPOS64_T uReadPos;
  int i;
  if (uBackRead+BUFREADCOMMENT>uMaxBack)
    uBackRead = uMaxBack;
  else
    uBackRead+=BUFREADCOMMENT;
  uReadPos = uSizeFile-uBackRead ;

  uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
    (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
  if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
ZLIB_FILEFUNC_SEEK_SET)!=0)
    break;

  if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
    break;

  for (i=(int)uReadSize-3; (i--)>0;)
  {
    /* Signature "0x07064b50" Zip64 end of central directory locater */
    if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) && ((*(buf+i+2))==0x06) && ((*(buf+i+3))==0x07))
    {
      uPosFound = uReadPos+i;
      break;
    }
  }

    if (uPosFound!=0)
      break;
}

TRYFREE(buf);
if (uPosFound == 0)
  return 0;

/* Zip64 end of central directory locator */
if (ZSEEK64(*pzlib_filefunc_def,filestream, uPosFound,
ZLIB_FILEFUNC_SEEK_SET)!=0)
  return 0;

/* the signature, already checked */
if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
ZIP_OK)
  return 0;

/* number of the disk with the start of the zip64 end of  central directory */
if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
ZIP_OK)
  return 0;
if (uL != 0)
  return 0;

/* relative offset of the zip64 end of central directory record */
if (zip64local_getLong64(pzlib_filefunc_def,filestream,&relativeOffset)!=
ZIP_OK)
  return 0;

/* total number of disks */
if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
ZIP_OK)
  return 0;
if (uL != 1)
  return 0;
```

```
  /* Goto Zip64 end of central directory record */
  if (ZSEEK64(*pzlib_filefunc_def,filestream, relativeOffset,
  ZLIB_FILEFUNC_SEEK_SET)!=0)
    return 0;

  /* the signature */
  if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
  ZIP_OK)
    return 0;

  if (uL != 0x06064b50) /* signature of 'Zip64 end of central directory' */
    return 0;

  return relativeOffset;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.27 static uLong zip64local_TmzDateToDosDate (const tm_zip * *ptm*) [static]

Definition at line 341 of file zip.c.

References tm_zip_s::tm_hour, tm_zip_s::tm_mday, tm_zip_s::tm_min, tm_zip_s::tm_mon, tm_zip_s::tm_sec, and tm_zip_s::tm_year.

Referenced by zipOpenNewFileInZip4_64().

```
{
    uLong year = (uLong)ptm->tm_year;
    if (year>=1980)
        year-=1980;
    else if (year>=80)
        year-=80;
    return
      (uLong) (((ptm->tm_mday) + (32 * (ptm->tm_mon+1)) + (512 * year)) << 16) |
        ((ptm->tm_sec/2) + (32* ptm->tm_min) + (2048 * (uLong)ptm->
  tm_hour));
}
```

Here is the caller graph for this function:

13.162.4.28 int ZEXPORT zipClearFlags (zipFile *file*, unsigned *flags*)

Definition at line 2091 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZipFile::open().

```
{
    zip64_internal* zi;
    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;
    zi->flags &= ~flags;
    // If the data descriptor is not written, we can't use a non-seekable output.
    if ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0) {
        zi->flags &= ~ZIP_SEQUENTIAL;
    }
    return ZIP_OK;
}
```

Here is the caller graph for this function:

13.162.4.29 int ZEXPORT zipClose (zipFile *file*, const char * *global_comment*)

Definition at line 1942 of file zip.c.

References zip64_internal::add_position_when_writting_offset, zip64_internal::central_dir, linkedlist_datablock_internal_s::data, zip64_internal::filestream, linkedlist_datablock_internal_s::filled_in_this_block, linkedlist_data_s::first_block, zip64_internal::flags, free_linkedlist(), zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, linkedlist_datablock_internal_s::next_datablock, zip64_internal::number_entry, TRYFREE, Write_EndOf-

CentralDirectoryRecord(), Write_GlobalComment(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, ZIP_AUTO_CLOSE, ZIP_ERRNO, ZIP_OK, ZIP_PARAMERROR, zipCloseFileInZip(), ZTELL64, and ZWRITE64.

Referenced by QuaZip::close(), and QuaZip::open().

```
{
    zip64_internal* zi;
    int err = 0;
    uLong size_centraldir = 0;
    ZPOS64_T centraldir_pos_inzip;
    ZPOS64_T pos;

    if (file == NULL)
        return ZIP_PARAMERROR;

    zi = (zip64_internal*)file;

    if (zi->in_opened_file_inzip == 1)
    {
        err = zipCloseFileInZip (file);
    }

#ifndef NO_ADDFILEINEXISTINGZIP
    if (global_comment==NULL)
        global_comment = zi->globalcomment;
#endif

    centraldir_pos_inzip = ZTELL64(zi->z_filefunc,zi->filestream);

    if (err==ZIP_OK)
    {
        linkedlist_datablock_internal* ldi = zi->central_dir.first_block;
        while (ldi!=NULL)
        {
            if ((err==ZIP_OK) && (ldi->filled_in_this_block>0))
            {
                if (ZWRITE64(zi->z_filefunc,zi->filestream, ldi->data, ldi->filled_in_this_block) != ldi->filled_in_this_block)
                    err = ZIP_ERRNO;
            }

            size_centraldir += ldi->filled_in_this_block;
            ldi = ldi->next_datablock;
        }
    }
    free_linkedlist(&(zi->central_dir));

    pos = centraldir_pos_inzip - zi->add_position_when_writting_offset;
    if(pos >= 0xffffffff || zi->number_entry > 0xFFFF)
    {
      ZPOS64_T Zip64EOCDpos = ZTELL64(zi->z_filefunc,zi->filestream);
      Write_Zip64EndOfCentralDirectoryRecord(zi, size_centraldir, centraldir_pos_inzip);

      Write_Zip64EndOfCentralDirectoryLocator(zi, Zip64EOCDpos);
    }

    if (err==ZIP_OK)
      err = Write_EndOfCentralDirectoryRecord(zi, size_centraldir, centraldir_pos_inzip);

    if(err == ZIP_OK)
      err = Write_GlobalComment(zi, global_comment);

    if ((zi->flags & ZIP_AUTO_CLOSE) != 0) {
        if (ZCLOSE64(zi->z_filefunc,zi->filestream) != 0) {
            if (err == ZIP_OK)
                err = ZIP_ERRNO;
        }
    } else {
        if (ZFAKECLOSE64(zi->z_filefunc,zi->filestream) != 0) {
            if (err == ZIP_OK)
                err = ZIP_ERRNO;
        }
    }

#ifndef NO_ADDFILEINEXISTINGZIP
    TRYFREE(zi->globalcomment);
#endif
    TRYFREE(zi);

```

```
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.30 int ZEXPORT zipCloseFileInZip (zipFile *file*)

Definition at line 1810 of file zip.c.

References zipCloseFileInZipRaw().

Referenced by QuaZipFile::close(), zipClose(), and zipOpenNewFileInZip4_64().

```
{
    return zipCloseFileInZipRaw (file,0,0);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.31 int ZEXPORT zipCloseFileInZipRaw (zipFile *file,* uLong *uncompressed_size,* uLong *crc32*)

Definition at line 1549 of file zip.c.

References zipCloseFileInZipRaw64().

Referenced by zipCloseFileInZip().

```
1550 {
1551     return zipCloseFileInZipRaw64 (file, uncompressed_size, crc32);
1552 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.32 int ZEXPORT zipCloseFileInZipRaw64 (zipFile *file*, ZPOS64_T *uncompressed_size*, uLong *crc32*)

Definition at line 1554 of file zip.c.

References add_data_in_datablock(), curfile64_info::buffered_data, zip64_internal::central_dir, curfile64_info::central_header, zip64_internal::ci, curfile64_info::crc32, curfile64_info::crypt_header_size, DESCRIPTORHEADERMAGIC, zip64_internal::filestream, curfile64_info::flag, zip64_internal::flags, zip64_internal::in_opened_file_inzip, curfile64_info::method, zip64_internal::number_entry, curfile64_info::pos_in_buffered_data, curfile64_info::pos_local_header, curfile64_info::pos_zip64extrainfo, curfile64_info::raw, curfile64_info::size_centralExtra, curfile64_info::size_centralExtraFree, curfile64_info::size_centralheader, curfile64_info::stream, curfile64_info::stream_initialised, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Z_BUFSIZE, Z_BZIP2ED, zip64_internal::z_filefunc, curfile64_info::zip64, zip64FlushWriteBuffer(), zip64local_putValue(), zip64local_putValue_inmemory(), ZIP_BADZIPFILE, ZIP_ERRNO, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, ZLIB_FILEFUNC_SEEK_SET, ZSEEK64, and ZTELL64.

Referenced by QuaZipFile::close(), and zipCloseFileInZipRaw().

```
{
    zip64_internal* zi;
    ZPOS64_T compressed_size;
    uLong invalidValue = 0xffffffff;
    short datasize = 0;
    int err=ZIP_OK;

    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;

    if (zi->in_opened_file_inzip == 0)
        return ZIP_PARAMERROR;
    zi->ci.stream.avail_in = 0;

    if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
                {
                        while (err==ZIP_OK)
                        {
                                uLong uTotalOutBefore;
                                if (zi->ci.stream.avail_out == 0)
                                {
                                        if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
                                                err = ZIP_ERRNO;
                                        zi->ci.stream.avail_out = (uInt)Z_BUFSIZE;
                                        zi->ci.stream.next_out = zi->ci.buffered_data;
                                }
                                uTotalOutBefore = zi->ci.stream.total_out;
                                err=deflate(&zi->ci.stream,  Z_FINISH);
                                zi->ci.pos_in_buffered_data += (uInt)(zi->ci.stream.total_out - uTotalOutBefore) ;
                        }
                }
    else if ((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
    {
#ifdef HAVE_BZIP2
      err = BZ_FINISH_OK;
      while (err==BZ_FINISH_OK)
      {
        uLong uTotalOutBefore;
        if (zi->ci.bstream.avail_out == 0)
        {
          if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
            err = ZIP_ERRNO;
          zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
          zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
        }
        uTotalOutBefore = zi->ci.bstream.total_out_lo32;
        err=BZ2_bzCompress(&zi->ci.bstream,  BZ_FINISH);
        if(err == BZ_STREAM_END)
          err = Z_STREAM_END;

        zi->ci.pos_in_buffered_data += (uInt)(zi->ci.bstream.total_out_lo32 - uTotalOutBefore);
      }

      if(err == BZ_FINISH_OK)
        err = ZIP_OK;
#endif
    }

```

```
    if (err==Z_STREAM_END)
        err=ZIP_OK; /* this is normal */

    if ((zi->ci.pos_in_buffered_data>0) && (err==ZIP_OK))
                {
        if (zip64FlushWriteBuffer(zi)==ZIP_ERRNO)
            err = ZIP_ERRNO;
                }

    if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
    {
        int tmp_err = deflateEnd(&zi->ci.stream);
        if (err == ZIP_OK)
            err = tmp_err;
        zi->ci.stream_initialised = 0;
    }
#ifdef HAVE_BZIP2
    else if((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
    {
      int tmperr = BZ2_bzCompressEnd(&zi->ci.bstream);
                        if (err==ZIP_OK)
                                err = tmperr;
                        zi->ci.stream_initialised = 0;
    }
#endif

    if (!zi->ci.raw)
    {
        crc32 = (uLong)zi->ci.crc32;
        uncompressed_size = zi->ci.totalUncompressedData;
    }
    compressed_size = zi->ci.totalCompressedData;

#    ifndef NOCRYPT
    compressed_size += zi->ci.crypt_header_size;
#    endif

    /* update Current Item crc and sizes, */
    if(compressed_size >= 0xffffffff || uncompressed_size >= 0xffffffff || zi->ci.pos_local_header >= 0xffffffff)
    {
      /*version Made by*/
      zip64local_putValue_inmemory(zi->ci.central_header+4,(uLong)45,2);
      /*version needed*/
      zip64local_putValue_inmemory(zi->ci.central_header+6,(uLong)45,2);

    }

    zip64local_putValue_inmemory(zi->ci.central_header+16,crc32,4); /*crc*/


    if(compressed_size >= 0xffffffff)
      zip64local_putValue_inmemory(zi->ci.central_header+20, invalidValue,4); /*compr size*/
    else
      zip64local_putValue_inmemory(zi->ci.central_header+20, compressed_size,4); /*compr size*/

    /* set internal file attributes field */
    if (zi->ci.stream.data_type == Z_ASCII)
        zip64local_putValue_inmemory(zi->ci.central_header+36,(uLong)Z_ASCII,2);

    if(uncompressed_size >= 0xffffffff)
      zip64local_putValue_inmemory(zi->ci.central_header+24, invalidValue,4); /*uncompr size*/
    else
      zip64local_putValue_inmemory(zi->ci.central_header+24, uncompressed_size,4); /*uncompr size*/

    /* Add ZIP64 extra info field for uncompressed size */
    if(uncompressed_size >= 0xffffffff)
      datasize += 8;

    /* Add ZIP64 extra info field for compressed size */
    if(compressed_size >= 0xffffffff)
      datasize += 8;

    /* Add ZIP64 extra info field for relative offset to local file header of current file */
    if(zi->ci.pos_local_header >= 0xffffffff)
      datasize += 8;

    if(datasize > 0)
    {
```

```
      char* p = NULL;

      if((uLong)(datasize + 4) > zi->ci.size_centralExtraFree)
      {
        /* we can not write more data to the buffer that we have room for. */
        return ZIP_BADZIPFILE;
      }

      p = zi->ci.central_header + zi->ci.size_centralheader;

      /* Add Extra Information Header for 'ZIP64 information' */
      zip64local_putValue_inmemory(p, 0x0001, 2); /* HeaderID */
      p += 2;
      zip64local_putValue_inmemory(p, datasize, 2); /* DataSize */
      p += 2;

      if(uncompressed_size >= 0xffffffff)
      {
        zip64local_putValue_inmemory(p, uncompressed_size, 8);
        p += 8;
      }

      if(compressed_size >= 0xffffffff)
      {
        zip64local_putValue_inmemory(p, compressed_size, 8);
        p += 8;
      }

      if(zi->ci.pos_local_header >= 0xffffffff)
      {
        zip64local_putValue_inmemory(p, zi->ci.pos_local_header, 8);
        p += 8;
      }

      /* Update how much extra free space we got in the memory buffer */
      /* and increase the centralheader size so the new ZIP64 fields are included */
      /* ( 4 below is the size of HeaderID and DataSize field ) */
      zi->ci.size_centralExtraFree -= datasize + 4;
      zi->ci.size_centralheader += datasize + 4;

      /* Update the extra info size field */
      zi->ci.size_centralExtra += datasize + 4;
      zip64local_putValue_inmemory(zi->ci.central_header+30,(uLong)zi->ci.size_centralExtra,2);
    }

    if (err==ZIP_OK)
        err = add_data_in_datablock(&zi->central_dir, zi->ci.central_header, (uLong)zi->ci.size_centralheader);

    free(zi->ci.central_header);

    if (err==ZIP_OK)
    {
        if ((zi->flags & ZIP_SEQUENTIAL) == 0) {
            /* Update the LocalFileHeader with the new values. */

            ZPOS64_T cur_pos_inzip = ZTELL64(zi->z_filefunc,zi->filestream);

            if (ZSEEK64(zi->z_filefunc,zi->filestream, zi->ci.pos_local_header + 14,ZLIB_FILEFUNC_SEEK_SET)!=0)
                err = ZIP_ERRNO;

            if (err==ZIP_OK)
                err = zip64local_putValue(&zi->z_filefunc,zi->filestream,crc32,4); /* crc 32, unknown */

            if(uncompressed_size >= 0xffffffff || compressed_size >= 0xffffffff)
            {
                if(zi->ci.pos_zip64extrainfo > 0)
                {
                    /* Update the size in the ZIP64 extended field. */
                    if (ZSEEK64(zi->z_filefunc,zi->filestream, zi->ci.pos_zip64extrainfo + 4,ZLIB_FILEFUNC_SEEK_SET)!=0)
                        err = ZIP_ERRNO;

                    if (err==ZIP_OK) /* compressed size, unknown */
                        err = zip64local_putValue(&zi->z_filefunc, zi->filestream, uncompressed_size, 8);

                    if (err==ZIP_OK) /* uncompressed size, unknown */
                        err = zip64local_putValue(&zi->z_filefunc, zi->filestream, compressed_size, 8);
                }
            }
```

```
            else
            {
                if (err==ZIP_OK) /* compressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,compressed_size,4);

                if (err==ZIP_OK) /* uncompressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,uncompressed_size,4);
            }

            if (ZSEEK64(zi->z_filefunc,zi->filestream, cur_pos_inzip, ZLIB_FILEFUNC_SEEK_SET)!=0)
                err = ZIP_ERRNO;
        }

        if ((zi->ci.flag & 8) != 0) {
            /* Write local Descriptor after file data */
            if (err==ZIP_OK)
                err = zip64local_putValue(&zi->z_filefunc,zi->filestream,(uLong)DESCRIPTORHEADERMAGIC,4);
            if (err==ZIP_OK)
                err = zip64local_putValue(&zi->z_filefunc,zi->filestream,crc32,4); /* crc 32, unknown */
            if (zi->ci.zip64) {
                if (err==ZIP_OK) /* compressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,compressed_size,8);

                if (err==ZIP_OK) /* uncompressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,uncompressed_size,8);
            } else {
                if (err==ZIP_OK) /* compressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,compressed_size,4);
                if (err==ZIP_OK) /* uncompressed size, unknown */
                    err = zip64local_putValue(&zi->z_filefunc,zi->filestream,uncompressed_size,4);
            }
        }
    }

    zi->number_entry ++;
    zi->in_opened_file_inzip = 0;

    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.33 zipFile ZEXPORT zipOpen (voidpf *file*, int *append*)

Definition at line 967 of file zip.c.

References ZIP_DEFAULT_FLAGS, and zipOpen3().

```
968 {
969     return zipOpen3(file,append,NULL,NULL, ZIP_DEFAULT_FLAGS);
970 }
```

Here is the call graph for this function:

13.162.4.34 zipFile ZEXPORT zipOpen2 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc_def * *pzlib_filefunc32_def*)

Definition at line 939 of file zip.c.

References fill_zlib_filefunc64_32_def_from_filefunc32(), ZIP_DEFAULT_FLAGS, and zipOpen3().

Referenced by QuaZip::open().

```
{
    if (pzlib_filefunc32_def != NULL)
    {
        zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
        fill_zlib_filefunc64_32_def_from_filefunc32(&zlib_filefunc64_32_def_fill,pzlib_filefunc32_def);
        return zipOpen3(file, append, globalcomment, &zlib_filefunc64_32_def_fill, ZIP_DEFAULT_FLAGS);
    }
    else
        return zipOpen3(file, append, globalcomment, NULL, ZIP_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.35 zipFile ZEXPORT zipOpen2_64 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_def * *pzlib_filefunc_def*)

Definition at line 951 of file zip.c.

References zlib_filefunc64_32_def_s::zfile_func64, ZIP_DEFAULT_FLAGS, zipOpen3(), zlib_filefunc64_32_def_s::zseek32_file, and zlib_filefunc64_32_def_s::ztell32_file.

```
{
    if (pzlib_filefunc_def != NULL)
    {
```

```
        zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
        zlib_filefunc64_32_def_fill.zfile_func64 = *pzlib_filefunc_def;
        zlib_filefunc64_32_def_fill.ztell32_file = NULL;
        zlib_filefunc64_32_def_fill.zseek32_file = NULL;
        return zipOpen3(file, append, globalcomment, &zlib_filefunc64_32_def_fill,
    ZIP_DEFAULT_FLAGS);
    }
    else
        return zipOpen3(file, append, globalcomment, NULL,
    ZIP_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

13.162.4.36 zipFile ZEXPORT zipOpen3 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, unsigned *flags*)

Definition at line 862 of file zip.c.

References zip64_internal::add_position_when_writting_offset, ALLOC, APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::ci, zip64_internal::filestream, fill_qiodevice64_filefunc(), zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, init_linkedlist(), LoadCentralDirectoryRecord(), zip64_internal::number_entry, SEEK_END, curfile64_info::stream_initialised, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZIP_AUTO_CLOSE, ZIP_OK, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_MODE_WRITE, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, zlib_filefunc64_32_def_s::ztell32_file, and ZTELL64.

Referenced by QuaZip::open(), zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

```
{
    zip64_internal ziinit;
    zip64_internal* zi;
    int err=ZIP_OK;

    ziinit.flags = flags;
    ziinit.z_filefunc.zseek32_file = NULL;
    ziinit.z_filefunc.ztell32_file = NULL;
    if (pzlib_filefunc64_32_def==NULL)
        fill_qiodevice64_filefunc(&ziinit.z_filefunc.
    zfile_func64);
```

```
    else
        ziinit.z_filefunc = *pzlib_filefunc64_32_def;

    ziinit.filestream = ZOPEN64(ziinit.z_filefunc,
                    file,
                    (append == APPEND_STATUS_CREATE) ?
                    (ZLIB_FILEFUNC_MODE_READ | ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_CREATE) :
                      (ZLIB_FILEFUNC_MODE_READ | ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_EXISTING));

    if (ziinit.filestream == NULL)
        return NULL;

    if (append == APPEND_STATUS_CREATEAFTER)
        ZSEEK64(ziinit.z_filefunc,ziinit.filestream,0,SEEK_END);

    ziinit.begin_pos = ZTELL64(ziinit.z_filefunc,ziinit.filestream);
    ziinit.in_opened_file_inzip = 0;
    ziinit.ci.stream_initialised = 0;
    ziinit.number_entry = 0;
    ziinit.add_position_when_writting_offset = 0;
    init_linkedlist(&(ziinit.central_dir));



    zi = (zip64_internal*)ALLOC(sizeof(zip64_internal));
    if (zi==NULL)
    {
        if ((ziinit.flags & ZIP_AUTO_CLOSE) != 0) {
            ZCLOSE64(ziinit.z_filefunc,ziinit.filestream);
        } else {
            ZFAKECLOSE64(ziinit.z_filefunc,ziinit.filestream);
        }
        return NULL;
    }

    /* now we add file in a zipfile */
#    ifndef NO_ADDFILEINEXISTINGZIP
    ziinit.globalcomment = NULL;
    if (append == APPEND_STATUS_ADDINZIP)
    {
      /* Read and Cache Central Directory Records */
      err = LoadCentralDirectoryRecord(&ziinit);
    }

    if (globalcomment)
    {
      *globalcomment = ziinit.globalcomment;
    }
#    endif /* !NO_ADDFILEINEXISTINGZIP*/

    if (err != ZIP_OK)
    {
#    ifndef NO_ADDFILEINEXISTINGZIP
        TRYFREE(ziinit.globalcomment);
#    endif /* !NO_ADDFILEINEXISTINGZIP*/
        TRYFREE(zi);
        return NULL;
    }
    else
    {
        *zi = ziinit;
        return (zipFile)zi;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.37 zipFile ZEXPORT zipOpen64 (voidpf *file*, int *append*)

Definition at line 972 of file zip.c.

References ZIP_DEFAULT_FLAGS, and zipOpen3().

```
{
    return zipOpen3(file,append,NULL,NULL, ZIP_DEFAULT_FLAGS);
}
```

Here is the call graph for this function:

13.162.4.38 int ZEXPORT zipOpenNewFileInZip (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*)

Definition at line 1390 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1394 {
1395     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1396                                     extrafield_local, size_extrafield_local,
1397                                     extrafield_global, size_extrafield_global,
1398                                     comment, method, level, 0,
1399                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1400                                     NULL, 0, VERSIONMADEBY, 0, 0);
1401 }
```

Here is the call graph for this function:

13.162.4.39 int ZEXPORT zipOpenNewFileInZip2 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*)

Definition at line 1351 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
{
    return zipOpenNewFileInZip4_64 (file, filename, zipfi,
                                    extrafield_local, size_extrafield_local,
                                    extrafield_global, size_extrafield_global,
                                    comment, method, level, raw,
                                    -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
                                    NULL, 0, VERSIONMADEBY, 0, 0);
}
```

Here is the call graph for this function:

13.162.4.40 int ZEXPORT zipOpenNewFileInZip2_64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *zip64*)

Definition at line 1364 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
{
    return zipOpenNewFileInZip4_64 (file, filename, zipfi,
                                    extrafield_local, size_extrafield_local,
                                    extrafield_global, size_extrafield_global,
                                    comment, method, level, raw,
                                    -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
                                    NULL, 0, VERSIONMADEBY, 0, zip64);
}
```

Here is the call graph for this function:

13.162.4.41 int ZEXPORT zipOpenNewFileInZip3 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*)

Definition at line 1321 of file zip.c.

References VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
{
    return zipOpenNewFileInZip4_64 (file, filename, zipfi,
                                    extrafield_local, size_extrafield_local,
                                    extrafield_global, size_extrafield_global,
                                    comment, method, level, raw,
                                    windowBits, memLevel, strategy,
                                    password, crcForCrypting, VERSIONMADEBY, 0, 0);
}
```

Here is the call graph for this function:

13.162.4.42 int ZEXPORT zipOpenNewFileInZip3_64 (zipFile *file*, const char ∗ *filename*, const zip_fileinfo ∗ *zipfi*, const void ∗ *extrafield_local*, uInt *size_extrafield_local*, const void ∗ *extrafield_global*, uInt *size_extrafield_global*, const char ∗ *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char ∗ *password*, uLong *crcForCrypting*, int *zip64*)

Definition at line 1336 of file zip.c.

References VERSIONMADEBY, and zipOpenNewFileInZip4_64().

Referenced by QuaZipFile::open().

```
1342 {
1343     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1344                                 extrafield_local, size_extrafield_local,
1345                                 extrafield_global, size_extrafield_global,
1346                                 comment, method, level, raw,
1347                                 windowBits, memLevel, strategy,
1348                                 password, crcForCrypting, VERSIONMADEBY, 0, zip64);
1349 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.43 int ZEXPORT zipOpenNewFileInZip4 (zipFile *file*, const char ∗ *filename*, const zip_fileinfo ∗ *zipfi*, const void ∗ *extrafield_local*, uInt *size_extrafield_local*, const void ∗ *extrafield_global*, uInt *size_extrafield_global*, const char ∗ *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char ∗ *password*, uLong *crcForCrypting*, uLong *versionMadeBy*, uLong *flagBase*)

Definition at line 1305 of file zip.c.

References zipOpenNewFileInZip4_64().

```
{
    return zipOpenNewFileInZip4_64 (file, filename, zipfi,
                                    extrafield_local, size_extrafield_local,
                                    extrafield_global, size_extrafield_global,
                                    comment, method, level, raw,
                                    windowBits, memLevel, strategy,
                                    password, crcForCrypting, versionMadeBy, flagBase, 0);
}
```

Here is the call graph for this function:

13.162.4.44 int ZEXPORT zipOpenNewFileInZip4_64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*, uLong *versionMadeBy*, uLong *flagBase*, int *zip64*)

Definition at line 1077 of file zip.c.

References zip64_internal::add_position_when_writting_offset, ALLOC, curfile64_info::buffered_data, curfile64_info::central_header, CENTRALHEADERMAGIC, zip64_internal::ci, curfile64_info::crc32, curfile64_info::crypt_header_size, zip_fileinfo::dosDate, curfile64_info::dosDate, curfile64_info::encrypt, zip_fileinfo::external_fa, zip64_internal::filestream, curfile64_info::flag, zip64_internal::flags, zip64_internal::in_opened_file_inzip, zip_fileinfo::internal_fa, curfile64_info::keys, curfile64_info::method, curfile64_info::pcrc_32_tab, curfile64_info::pos_in_buffered_data, curfile64_info::pos_local_header, curfile64_info::pos_zip64extrainfo, curfile64_info::raw, curfile64_info::size_centralExtra, curfile64_info::size_centralExtraFree, curfile64_info::size_centralheader, SIZECENTRALHEADER, curfile64_info::stream, curfile64_info::stream_initialised, zip_fileinfo::tmz_date, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Write_LocalFileHeader(), Z_BUFSIZE, Z_BZIP2ED, zip64_internal::z_filefunc, curfile64_info::zip64, zip64local_putValue_inmemory(), zip64local_TmzDateToDosDate(), ZIP_ERRNO, ZIP_INTERNALERROR, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, ZIP_WRITE_DATA_DESCRIPTOR, zipCloseFileInZip(), ZTELL64, and ZWRITE64.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), zipOpenNewFileInZip3(), zipOpenNewFileInZip3_64(), zipOpenNewFileInZip4(), and zipOpenNewFileInZip64().

```
{
    zip64_internal* zi;
    uInt size_filename;
    uInt size_comment;
    uInt i;
    int err = ZIP_OK;
    uLong version_to_extract;

#    ifdef NOCRYPT
    if (password != NULL)
        return ZIP_PARAMERROR;
#    endif

    if (file == NULL)
        return ZIP_PARAMERROR;

#ifdef HAVE_BZIP2
    if ((method!=0) && (method!=Z_DEFLATED) && (method!=Z_BZIP2ED))
      return ZIP_PARAMERROR;
#else
    if ((method!=0) && (method!=Z_DEFLATED))
      return ZIP_PARAMERROR;
#endif
```

```

    zi = (zip64_internal*)file;

    if (zi->in_opened_file_inzip == 1)
    {
        err = zipCloseFileInZip (file);
        if (err != ZIP_OK)
            return err;
    }

    if (method == 0
            && (level == 0 || (zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0)
            && (zi->flags & ZIP_SEQUENTIAL) == 0)
    {
        version_to_extract = 10;
    }
    else
    {
        version_to_extract = 20;
    }

    if (filename==NULL)
        filename="-";

    if (comment==NULL)
        size_comment = 0;
    else
        size_comment = (uInt)strlen(comment);

    size_filename = (uInt)strlen(filename);

    if (zipfi == NULL)
        zi->ci.dosDate = 0;
    else
    {
        if (zipfi->dosDate != 0)
            zi->ci.dosDate = zipfi->dosDate;
        else
          zi->ci.dosDate = zip64local_TmzDateToDosDate(&zipfi->tmz_date);
    }

    zi->ci.flag = flagBase;
    if ((level==8) || (level==9))
      zi->ci.flag |= 2;
    if (level==2)
      zi->ci.flag |= 4;
    if (level==1)
      zi->ci.flag |= 6;
    if (password != NULL)
      zi->ci.flag |= 1;
    if (version_to_extract >= 20
            && ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) != 0
                || (zi->flags & ZIP_SEQUENTIAL) != 0))
      zi->ci.flag |= 8;

    zi->ci.crc32 = 0;
    zi->ci.method = method;
    zi->ci.encrypt = 0;
    zi->ci.stream_initialised = 0;
    zi->ci.pos_in_buffered_data = 0;
    zi->ci.raw = raw;
    zi->ci.pos_local_header = ZTELL64(zi->z_filefunc,zi->filestream);

    zi->ci.size_centralheader = SIZECENTRALHEADER + size_filename + size_extrafield_global + size_comment;
    zi->ci.size_centralExtraFree = 32; /* Extra space we have reserved in case we need to add ZIP64 extra info data */

    zi->ci.central_header = (char*)ALLOC((uInt)zi->ci.size_centralheader + zi->ci.size_centralExtraFree);

    zi->ci.size_centralExtra = size_extrafield_global;
    zip64local_putValue_inmemory(zi->ci.central_header,(uLong)CENTRALHEADERMAGIC,4);
    /* version info */
    zip64local_putValue_inmemory(zi->ci.central_header+4,(uLong)versionMadeBy,2);
    zip64local_putValue_inmemory(zi->ci.central_header+6,(uLong)version_to_extract,2);
    zip64local_putValue_inmemory(zi->ci.central_header+8,(uLong)zi->ci.flag,2);
    zip64local_putValue_inmemory(zi->ci.central_header+10,(uLong)zi->ci.method,2);
    zip64local_putValue_inmemory(zi->ci.central_header+12,(uLong)zi->ci.dosDate,4);
```

```
    zip64local_putValue_inmemory(zi->ci.central_header+16,(uLong)0,4); /*crc*/
    zip64local_putValue_inmemory(zi->ci.central_header+20,(uLong)0,4); /*compr size*/
    zip64local_putValue_inmemory(zi->ci.central_header+24,(uLong)0,4); /*uncompr size*/
    zip64local_putValue_inmemory(zi->ci.central_header+28,(uLong)size_filename,2);
    zip64local_putValue_inmemory(zi->ci.central_header+30,(uLong)size_extrafield_global,2);
    zip64local_putValue_inmemory(zi->ci.central_header+32,(uLong)size_comment,2);
    zip64local_putValue_inmemory(zi->ci.central_header+34,(uLong)0,2); /*disk nm start*/

    if (zipfi==NULL)
        zip64local_putValue_inmemory(zi->ci.central_header+36,(uLong)0,2);
    else
        zip64local_putValue_inmemory(zi->ci.central_header+36,(uLong)zipfi->internal_fa,2);

    if (zipfi==NULL)
        zip64local_putValue_inmemory(zi->ci.central_header+38,(uLong)0,4);
    else
        zip64local_putValue_inmemory(zi->ci.central_header+38,(uLong)zipfi->external_fa,4);

    if(zi->ci.pos_local_header >= 0xffffffff)
      zip64local_putValue_inmemory(zi->ci.central_header+42,(uLong)0xffffffff,4);
    else
      zip64local_putValue_inmemory(zi->ci.central_header+42,(uLong)zi->ci.pos_local_header - zi->add_position_when_writting_offset,4);

    for (i=0;i<size_filename;i++)
        *(zi->ci.central_header+SIZECENTRALHEADER+i) = *(filename+i);

    for (i=0;i<size_extrafield_global;i++)
        *(zi->ci.central_header+SIZECENTRALHEADER+size_filename+i) =
              *(((const char*)extrafield_global)+i);

    for (i=0;i<size_comment;i++)
        *(zi->ci.central_header+SIZECENTRALHEADER+size_filename+
              size_extrafield_global+i) = *(comment+i);
    if (zi->ci.central_header == NULL)
        return ZIP_INTERNALERROR;

    zi->ci.zip64 = zip64;
    zi->ci.totalCompressedData = 0;
    zi->ci.totalUncompressedData = 0;
    zi->ci.pos_zip64extrainfo = 0;

    err = Write_LocalFileHeader(zi, filename, size_extrafield_local,
                                extrafield_local, version_to_extract);

#ifdef HAVE_BZIP2
    zi->ci.bstream.avail_in = (uInt)0;
    zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
    zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
    zi->ci.bstream.total_in_hi32 = 0;
    zi->ci.bstream.total_in_lo32 = 0;
    zi->ci.bstream.total_out_hi32 = 0;
    zi->ci.bstream.total_out_lo32 = 0;
#endif

    zi->ci.stream.avail_in = (uInt)0;
    zi->ci.stream.avail_out = (uInt)Z_BUFSIZE;
    zi->ci.stream.next_out = zi->ci.buffered_data;
    zi->ci.stream.total_in = 0;
    zi->ci.stream.total_out = 0;
    zi->ci.stream.data_type = Z_BINARY;

#ifdef HAVE_BZIP2
    if ((err==ZIP_OK) && (zi->ci.method == Z_DEFLATED || zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
#else
    if ((err==ZIP_OK) && (zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
#endif
    {
        if(zi->ci.method == Z_DEFLATED)
        {
          zi->ci.stream.zalloc = (alloc_func)0;
          zi->ci.stream.zfree = (free_func)0;
```

```
            zi->ci.stream.opaque = (voidpf)0;

            if (windowBits>0)
                windowBits = -windowBits;

            err = deflateInit2(&zi->ci.stream, level, Z_DEFLATED, windowBits, memLevel, strategy);

            if (err==Z_OK)
                zi->ci.stream_initialised = Z_DEFLATED;
        }
        else if(zi->ci.method == Z_BZIP2ED)
        {
#ifdef HAVE_BZIP2
            /* Init BZip stuff here */
            zi->ci.bstream.bzalloc = 0;
            zi->ci.bstream.bzfree = 0;
            zi->ci.bstream.opaque = (voidpf)0;

            err = BZ2_bzCompressInit(&zi->ci.bstream, level, 0,35);
            if(err == BZ_OK)
              zi->ci.stream_initialised = Z_BZIP2ED;
#endif
        }

    }

#    ifndef NOCRYPT
    zi->ci.crypt_header_size = 0;
    if ((err==Z_OK) && (password != NULL))
    {
        unsigned char bufHead[RAND_HEAD_LEN];
        unsigned int sizeHead;
        zi->ci.encrypt = 1;
        zi->ci.pcrc_32_tab = get_crc_table();
        /*init_keys(password,zi->ci.keys,zi->ci.pcrc_32_tab);*/
        if (crcForCrypting == 0) {
            crcForCrypting = (uLong)zi->ci.dosDate << 16; /* ATTANTION! Without this row, you don't unpack your password protected archive in other app. */
        }
        sizeHead=crypthead(password,bufHead,RAND_HEAD_LEN,zi->ci.keys,zi->ci.pcrc_32_tab,crcForCrypting);
        zi->ci.crypt_header_size = sizeHead;

        if (ZWRITE64(zi->z_filefunc,zi->filestream,bufHead,sizeHead) != sizeHead)
                err = ZIP_ERRNO;
    }
#    endif

    if (err==Z_OK)
        zi->in_opened_file_inzip = 1;
    return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.45 int ZEXPORT zipOpenNewFileInZip64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *zip64*)

Definition at line 1377 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1381 {
1382     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1383                                     extrafield_local, size_extrafield_local,
1384                                     extrafield_global, size_extrafield_global,
1385                                     comment, method, level, 0,
1386                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1387                                     NULL, 0, VERSIONMADEBY, 0, zip64);
1388 }
```

Here is the call graph for this function:

13.162.4.46 int ZEXPORT zipRemoveExtraInfoBlock (char * *pData*, int * *dataLen*, short *sHeader*)

Definition at line 2019 of file zip.c.

References ALLOC, TRYFREE, ZIP_ERRNO, ZIP_OK, and ZIP_PARAMERROR.

```
2020 {
2021   char* p = pData;
2022   int size = 0;
```

```
  char* pNewHeader;
  char* pTmp;
  short header;
  short dataSize;

  int retVal = ZIP_OK;

  if(pData == NULL || *dataLen < 4)
    return ZIP_PARAMERROR;

  pNewHeader = (char*)ALLOC(*dataLen);
  pTmp = pNewHeader;

  while(p < (pData + *dataLen))
  {
    header = *(short*)p;
    dataSize = *(((short*)p)+1);

    if( header == sHeader ) /* Header found. */
    {
      p += dataSize + 4; /* skip it. do not copy to temp buffer */
    }
    else
    {
      /* Extra Info block should not be removed, So copy it to the temp buffer. */
      memcpy(pTmp, p, dataSize + 4);
      p += dataSize + 4;
      size += dataSize + 4;
    }

  }

  if(size < *dataLen)
  {
    /* clean old extra info block. */
    memset(pData,0, *dataLen);

    /* copy the new extra info block over the old */
    if(size > 0)
      memcpy(pData, pNewHeader, size);

    /* set the new extra info size */
    *dataLen = size;

    retVal = ZIP_OK;
  }
  else
    retVal = ZIP_ERRNO;

  TRYFREE(pNewHeader);

  return retVal;
}
```

13.162.4.47 int ZEXPORT zipSetFlags (zipFile *file*, unsigned *flags*)

Definition at line 2077 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZip::open(), and QuaZipFile::open().

```
{
    zip64_internal* zi;
    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;
    zi->flags |= flags;
    // If the output is non-seekable, the data descriptor is needed.
    if ((zi->flags & ZIP_SEQUENTIAL) != 0) {
        zi->flags |= ZIP_WRITE_DATA_DESCRIPTOR;
    }
    return ZIP_OK;
}
```

Here is the caller graph for this function:

13.162.4.48 int ZEXPORT zipWriteInFileInZip (zipFile *file*, const void * *buf*, unsigned int *len*)

Definition at line 1442 of file zip.c.

References curfile64_info::buffered_data, zip64_internal::ci, curfile64_info::crc32, zip64_internal::in_opened_file_inzip, curfile64_info::method, curfile64_info::pos_in_buffered_data, curfile64_info::raw, curfile64_info::stream, Z_BUFSIZE, Z_BZIP2ED, zip64FlushWriteBuffer(), ZIP_ERRNO, ZIP_OK, and ZIP_PARAMERROR.

Referenced by QuaZipFile::writeData().

```
{
    zip64_internal* zi;
    int err=ZIP_OK;

    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;

    if (zi->in_opened_file_inzip == 0)
        return ZIP_PARAMERROR;

    zi->ci.crc32 = crc32(zi->ci.crc32,buf,(uInt)len);

#ifdef HAVE_BZIP2
    if(zi->ci.method == Z_BZIP2ED && (!zi->ci.raw))
    {
      zi->ci.bstream.next_in = (void*)buf;
      zi->ci.bstream.avail_in = len;
      err = BZ_RUN_OK;

      while ((err==BZ_RUN_OK) && (zi->ci.bstream.avail_in>0))
      {
        if (zi->ci.bstream.avail_out == 0)
        {
          if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
            err = ZIP_ERRNO;
          zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
          zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
        }


        if(err != BZ_RUN_OK)
          break;

        if ((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
        {
          uLong uTotalOutBefore_lo = zi->ci.bstream.total_out_lo32;
/*          uLong uTotalOutBefore_hi = zi->ci.bstream.total_out_hi32; */
          err=BZ2_bzCompress(&zi->ci.bstream,  BZ_RUN);

          zi->ci.pos_in_buffered_data += (uInt)(zi->ci.bstream.total_out_lo32 - uTotalOutBefore_lo) ;
        }
      }

      if(err == BZ_RUN_OK)
        err = ZIP_OK;
    }
    else
#endif
    {
      zi->ci.stream.next_in = (Bytef*)buf;
```

```
    zi->ci.stream.avail_in = len;

    while ((err==ZIP_OK) && (zi->ci.stream.avail_in>0))
    {
        if (zi->ci.stream.avail_out == 0)
        {
            if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
                err = ZIP_ERRNO;
            zi->ci.stream.avail_out = (uInt)Z_BUFSIZE;
            zi->ci.stream.next_out = zi->ci.buffered_data;
        }


        if(err != ZIP_OK)
            break;

        if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
        {
            uLong uTotalOutBefore = zi->ci.stream.total_out;
            err=deflate(&zi->ci.stream,  Z_NO_FLUSH);
            if(uTotalOutBefore > zi->ci.stream.total_out)
            {
              int bBreak = 0;
              bBreak++;
            }

            zi->ci.pos_in_buffered_data += (uInt)(zi->ci.stream.total_out - uTotalOutBefore) ;
        }
        else
        {
            uInt copy_this,i;
            if (zi->ci.stream.avail_in < zi->ci.stream.avail_out)
                copy_this = zi->ci.stream.avail_in;
            else
                copy_this = zi->ci.stream.avail_out;

            for (i = 0; i < copy_this; i++)
                *(((char*)zi->ci.stream.next_out)+i) =
                    *(((const char*)zi->ci.stream.next_in)+i);
            {
                zi->ci.stream.avail_in -= copy_this;
                zi->ci.stream.avail_out-= copy_this;
                zi->ci.stream.next_in+= copy_this;
                zi->ci.stream.next_out+= copy_this;
                zi->ci.stream.total_in+= copy_this;
                zi->ci.stream.total_out+= copy_this;
                zi->ci.pos_in_buffered_data += copy_this;
            }
        }
    }/* while(...) */
  }

  return err;
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.5 Variable Documentation

13.162.5.1 const char zip_copyright[] =" zip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"

Definition at line 104 of file zip.c.

13.163 src/ckb/quazip/zip.h File Reference

```
#include "zlib.h"
#include "ioapi.h"
```

Include dependency graph for zip.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct tm_zip_s
- struct zip_fileinfo

Macros

- #define Z_BZIP2ED 12
- #define ZIP_OK (0)
- #define ZIP_EOF (0)
- #define ZIP_ERRNO (Z_ERRNO)
- #define ZIP_PARAMERROR (-102)
- #define ZIP_BADZIPFILE (-103)
- #define ZIP_INTERNALERROR (-104)
- #define ZIP_WRITE_DATA_DESCRIPTOR 0x8u
- #define ZIP_AUTO_CLOSE 0x1u
- #define ZIP_SEQUENTIAL 0x2u
- #define ZIP_DEFAULT_FLAGS (ZIP_AUTO_CLOSE | ZIP_WRITE_DATA_DESCRIPTOR)
- #define DEF_MEM_LEVEL MAX_MEM_LEVEL
- #define APPEND_STATUS_CREATE (0)
- #define APPEND_STATUS_CREATEAFTER (1)
- #define APPEND_STATUS_ADDINZIP (2)

Typedefs

- typedef voidp zipFile
- typedef struct tm_zip_s tm_zip
- typedef const char * zipcharpc

Functions

- zipFile ZEXPORT zipOpen _Z_OF ((voidpf file, int append))
- zipFile ZEXPORT zipOpen2 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc_def))
- zipFile ZEXPORT zipOpen2_64 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def))
- zipFile ZEXPORT zipOpen3 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, unsigned flags)

- int ZEXPORT zipOpenNewFileInZip _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level))
- int ZEXPORT zipOpenNewFileInZip64 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_-global, const char *comment, int method, int level, int zip64))
- int ZEXPORT zipOpenNewFileInZip2 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_-global, const char *comment, int method, int level, int raw))
- int ZEXPORT zipOpenNewFileInZip2_64 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_-global, const char *comment, int method, int level, int raw, int zip64))
- int ZEXPORT zipOpenNewFileInZip3 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting))
- int ZEXPORT zipOpenNewFileInZip3_64 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_-global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, int zip64))
- int ZEXPORT zipOpenNewFileInZip4 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase))
- int ZEXPORT zipOpenNewFileInZip4_64 _Z_OF ((zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_-global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64))
- int ZEXPORT zipWriteInFileInZip _Z_OF ((zipFile file, const void *buf, unsigned len))
- int ZEXPORT zipCloseFileInZip _Z_OF ((zipFile file))
- int ZEXPORT zipCloseFileInZipRaw _Z_OF ((zipFile file, uLong uncompressed_size, uLong crc32))
- int ZEXPORT zipCloseFileInZipRaw64 _Z_OF ((zipFile file, ZPOS64_T uncompressed_size, uLong crc32))
- int ZEXPORT zipClose _Z_OF ((zipFile file, const char *global_comment))
- int ZEXPORT zipRemoveExtraInfoBlock _Z_OF ((char *pData, int *dataLen, short sHeader))
- int ZEXPORT zipSetFlags (zipFile file, unsigned flags)
- int ZEXPORT zipClearFlags (zipFile file, unsigned flags)

13.163.1 Data Structure Documentation

13.163.1.1 struct tm_zip_s

Definition at line 100 of file zip.h.

Collaboration diagram for tm_zip_s:

Data Fields

uInt	tm_hour	
uInt	tm_mday	
uInt	tm_min	
uInt	tm_mon	
uInt	tm_sec	
uInt	tm_year	

13.163.1.2 struct zip_fileinfo

Definition at line 110 of file zip.h.

Collaboration diagram for zip_fileinfo:

Data Fields

uLong	dosDate	
uLong	external_fa	
uLong	internal_fa	
tm_zip	tmz_date	

13.163.2 Macro Definition Documentation

13.163.2.1 #define APPEND_STATUS_ADDINZIP (2)

Definition at line 125 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.2 #define APPEND_STATUS_CREATE (0)

Definition at line 123 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.3 #define APPEND_STATUS_CREATEAFTER (1)

Definition at line 124 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.4 #define DEF_MEM_LEVEL MAX_MEM_LEVEL

Definition at line 94 of file zip.h.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), and zipOpenNewFileInZip64().

13.163.2.5 #define Z_BZIP2ED 12

Definition at line 67 of file zip.h.

13.163.2.6 #define ZIP_AUTO_CLOSE 0x1u

Definition at line 86 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), QuaZip::open(), zipClose(), and zipOpen3().

13.163.2.7 #define ZIP_BADZIPFILE (-103)

Definition at line 82 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

13.163.2.8 #define ZIP_DEFAULT_FLAGS (ZIP_AUTO_CLOSE | ZIP_WRITE_DATA_DESCRIPTOR)

Definition at line 88 of file zip.h.

Referenced by zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

13.163.2.9 #define ZIP_EOF (0)

Definition at line 79 of file zip.h.

Referenced by zip64local_getByte().

13.163.2.10 #define ZIP_ERRNO (Z_ERRNO)

Definition at line 80 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), zip64FlushWriteBuffer(), zip64local_getByte(), zip64local_putValue(), zipClose(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), and zipWriteInFileInZip().

13.163.2.11 #define ZIP_INTERNALERROR (-104)

Definition at line 83 of file zip.h.

Referenced by add_data_in_datablock(), and zipOpenNewFileInZip4_64().

13.163.2.12 #define ZIP_OK (0)

Definition at line 78 of file zip.h.

Referenced by add_data_in_datablock(), LoadCentralDirectoryRecord(), Write_EndOfCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), QuaZipFile::writeData(), zip64FlushWriteBuffer(), zip64local_getByte(), zip64local_getLong(), zip64local_getLong64(), zip64local_getShort(), zip64local_putValue(), zip64local_SearchCentralDir64(), zipClearFlags(), zipClose(), zipCloseFileInZipRaw64(), zipOpen3(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), zipSetFlags(), and zipWriteInFileInZip().

13.163.2.13 #define ZIP_PARAMERROR (-102)

Definition at line 81 of file zip.h.

Referenced by zipClearFlags(), zipClose(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), zipSetFlags(), and zipWriteInFileInZip().

13.163.2.14 #define ZIP_SEQUENTIAL 0x2u

Definition at line 87 of file zip.h.

Referenced by QuaZip::open(), zipClearFlags(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipSetFlags().

13.163.2.15 #define ZIP_WRITE_DATA_DESCRIPTOR 0x8u

Definition at line 85 of file zip.h.

Referenced by QuaZip::open(), QuaZipFile::open(), zipClearFlags(), zipOpenNewFileInZip4_64(), and zipSetFlags().

13.163.3 Typedef Documentation

13.163.3.1 typedef struct tm_zip_s tm_zip

13.163.3.2 typedef const char* zipcharpc

Definition at line 120 of file zip.h.

13.163.3.3 typedef voidp zipFile

Definition at line 75 of file zip.h.

13.163.4 Function Documentation

13.163.4.1 zipFile ZEXPORT zipOpen _Z_OF ((voidpf file, int append))

13.163.4.2 zipFile ZEXPORT zipOpen2 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc_def))

13.163.4.3 zipFile ZEXPORT zipOpen2_64 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def))

13.163.4.4 int ZEXPORT **zipOpenNewFileInZip _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level))

13.163.4.5 int ZEXPORT **zipOpenNewFileInZip64 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int zip64))

13.163.4.6 int ZEXPORT **zipOpenNewFileInZip2 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw))

13.163.4.7 int ZEXPORT **zipOpenNewFileInZip2_64 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int zip64))

13.163.4.8 int ZEXPORT **zipOpenNewFileInZip3 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting))

13.163.4.9 int ZEXPORT **zipOpenNewFileInZip3_64 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, int zip64))

13.163.4.10 int ZEXPORT **zipOpenNewFileInZip4 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase))

13.163.4.11 int ZEXPORT **zipOpenNewFileInZip4_64 _Z_OF** ((**zipFile** file, const char *filename, const **zip_fileinfo** *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64))

13.163.4.12 int ZEXPORT **zipWriteInFileInZip _Z_OF** ((**zipFile** file, const void *buf, unsigned len))

13.163.4.13 int ZEXPORT **zipCloseFileInZip _Z_OF** ((**zipFile** file))

13.163.4.14 int ZEXPORT **zipCloseFileInZipRaw _Z_OF** ((**zipFile** file, uLong uncompressed_size, uLong crc32))

13.163.4.15 int ZEXPORT **zipCloseFileInZipRaw64 _Z_OF** ((**zipFile** file, **ZPOS64_T** uncompressed_size, uLong crc32))

13.163.4.16 int ZEXPORT **zipClose _Z_OF** ((**zipFile** file, const char *global_comment))

13.163.4.17 int ZEXPORT **zipRemoveExtraInfoBlock _Z_OF** ((char *pData, int *dataLen, short sHeader))

13.163.4.18 int ZEXPORT zipClearFlags (**zipFile** *file,* unsigned *flags*)

Definition at line 2091 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZipFile::open().

```
2092 {
2093     zip64_internal* zi;
```

```
    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;
    zi->flags &= ~flags;
    // If the data descriptor is not written, we can't use a non-seekable output.
    if ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0) {
        zi->flags &= ~ZIP_SEQUENTIAL;
    }
    return ZIP_OK;
}
```

Here is the caller graph for this function:

13.163.4.19 zipFile ZEXPORT zipOpen3 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, unsigned *flags*)

Definition at line 862 of file zip.c.

References zip64_internal::add_position_when_writting_offset, ALLOC, APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::ci, zip64_internal::filestream, fill_qiodevice64_filefunc(), zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, init_linkedlist(), LoadCentralDirectoryRecord(), zip64_internal::number_entry, SEEK_END, curfile64_info::stream_initialised, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZIP_AUTO_CLOSE, ZIP_OK, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_MODE_WRITE, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, zlib_filefunc64_32_def_s::ztell32_file, and ZTELL64.

Referenced by QuaZip::open(), zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

```
{
    zip64_internal ziinit;
    zip64_internal* zi;
    int err=ZIP_OK;

    ziinit.flags = flags;
    ziinit.z_filefunc.zseek32_file = NULL;
    ziinit.z_filefunc.ztell32_file = NULL;
    if (pzlib_filefunc64_32_def==NULL)
        fill_qiodevice64_filefunc(&ziinit.z_filefunc.zfile_func64);
    else
        ziinit.z_filefunc = *pzlib_filefunc64_32_def;

    ziinit.filestream = ZOPEN64(ziinit.z_filefunc,
                    file,
                    (append == APPEND_STATUS_CREATE) ?
                    (ZLIB_FILEFUNC_MODE_READ | ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_CREATE) :
                      (ZLIB_FILEFUNC_MODE_READ | ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_EXISTING));

    if (ziinit.filestream == NULL)
        return NULL;

    if (append == APPEND_STATUS_CREATEAFTER)
        ZSEEK64(ziinit.z_filefunc,ziinit.filestream,0,SEEK_END);

```

```
    ziinit.begin_pos = ZTELL64(ziinit.z_filefunc,ziinit.filestream);
    ziinit.in_opened_file_inzip = 0;
    ziinit.ci.stream_initialised = 0;
    ziinit.number_entry = 0;
    ziinit.add_position_when_writting_offset = 0;
    init_linkedlist(&(ziinit.central_dir));



    zi = (zip64_internal*)ALLOC(sizeof(zip64_internal));
    if (zi==NULL)
    {
        if ((ziinit.flags & ZIP_AUTO_CLOSE) != 0) {
            ZCLOSE64(ziinit.z_filefunc,ziinit.filestream);
        } else {
            ZFAKECLOSE64(ziinit.z_filefunc,ziinit.filestream);
        }
        return NULL;
    }

    /* now we add file in a zipfile */
#    ifndef NO_ADDFILEINEXISTINGZIP
    ziinit.globalcomment = NULL;
    if (append == APPEND_STATUS_ADDINZIP)
    {
      /* Read and Cache Central Directory Records */
      err = LoadCentralDirectoryRecord(&ziinit);
    }

    if (globalcomment)
    {
      *globalcomment = ziinit.globalcomment;
    }
#    endif /* !NO_ADDFILEINEXISTINGZIP*/

    if (err != ZIP_OK)
    {
#    ifndef NO_ADDFILEINEXISTINGZIP
        TRYFREE(ziinit.globalcomment);
#    endif /* !NO_ADDFILEINEXISTINGZIP*/
        TRYFREE(zi);
        return NULL;
    }
    else
    {
        *zi = ziinit;
        return (zipFile)zi;
    }
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.163.4.20 int ZEXPORT zipSetFlags (zipFile *file*, unsigned *flags*)

Definition at line 2077 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZip::open(), and QuaZipFile::open().

```
{
    zip64_internal* zi;
    if (file == NULL)
        return ZIP_PARAMERROR;
    zi = (zip64_internal*)file;
    zi->flags |= flags;
    // If the output is non-seekable, the data descriptor is needed.
    if ((zi->flags & ZIP_SEQUENTIAL) != 0) {
        zi->flags |= ZIP_WRITE_DATA_DESCRIPTOR;
    }
    return ZIP_OK;
}
```

Here is the caller graph for this function:

13.164 src/ckb/rebindwidget.cpp File Reference

```
#include <QStandardPaths>
#include "rebindwidget.h"
#include "ui_rebindwidget.h"
#include <qdebug.h>
```

Include dependency graph for rebindwidget.cpp:

Variables

- static const int DPI_OFFSET = -KeyAction::DPI_CYCLE_UP + 1
- static const int DPI_CUST_IDX = KeyAction::DPI_CUSTOM + DPI_OFFSET

13.164.1 Variable Documentation

13.164.1.1 const int DPI_CUST_IDX = KeyAction::DPI_CUSTOM + DPI_OFFSET [static]

Definition at line 7 of file rebindwidget.cpp.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged().

13.164.1.2 const int DPI_OFFSET = -KeyAction::DPI_CYCLE_UP + 1 [static]

Definition at line 6 of file rebindwidget.cpp.

Referenced by RebindWidget::applyChanges(), RebindWidget::setBind(), and RebindWidget::setSelection().

13.165 src/ckb/rebindwidget.h File Reference

```
#include <QWidget>
#include "kbbind.h"
#include "kbprofile.h"
#include "macroreader.h"
```

Include dependency graph for rebindwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class RebindWidget

Namespaces

- Ui

13.166 src/ckb/release/moc_animadddialog.cpp File Reference

```
#include "../animadddialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animadddialog.cpp:

Data Structures

- struct qt_meta_stringdata_AnimAddDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_AnimAddDialog_t qt_meta_stringdata_AnimAddDialog
- static const uint qt_meta_data_AnimAddDialog []

13.166.1 Data Structure Documentation

13.166.1.1 struct qt_meta_stringdata_AnimAddDialog_t

Definition at line 21 of file moc_animadddialog.cpp.

Collaboration diagram for qt_meta_stringdata_AnimAddDialog_t:

Data Fields

QByteArrayData	data[7]	
char	stringdata0[95]	

13.166.2 Macro Definition Documentation

13.166.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimAddDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animadddialog.cpp.

13.166.3 Variable Documentation

13.166.3.1 const uint qt_meta_data_AnimAddDialog[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        3,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,


        1,    1,   29,    2, 0x08 ,
        4,    1,   32,    2, 0x08 ,
        5,    1,   35,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Bool,    6,

        0
}
```

Definition at line 47 of file moc_animadddialog.cpp.

13.166.3.2 const qt_meta_stringdata_AnimAddDialog_t qt_meta_stringdata_AnimAddDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  14    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  35    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  36    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  42    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  65    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  87    -  6  * sizeof(
      QByteArrayData))   )

    },
    "AnimAddDialog\0on_animBox_activated\0\0"
    "index\0on_presetBox_activated\0"
    "on_previewBox_clicked\0checked"
}
```

Definition at line 30 of file moc_animadddialog.cpp.

13.167 src/ckb/release/moc_animscript.cpp File Reference

```
#include "../animscript.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animscript.cpp:

Data Structures

- struct qt_meta_stringdata_AnimScript_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_AnimScript_t qt_meta_stringdata_AnimScript
- static const uint qt_meta_data_AnimScript [ ]

13.167.1 Data Structure Documentation

13.167.1.1 struct qt_meta_stringdata_AnimScript_t

Definition at line 21 of file moc_animscript.cpp.

Collaboration diagram for qt_meta_stringdata_AnimScript_t:

Data Fields

QByteArrayData	data[3]	
char	stringdata0[24]	

13.167.2 Macro Definition Documentation

13.167.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimScript_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animscript.cpp.

13.167.3 Variable Documentation

13.167.3.1 const uint qt_meta_data_AnimScript[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        1,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
```

```
        0,

        1,    0,   19,    2, 0x08 ,

    QMetaType::Void,

        0
}
```

Definition at line 41 of file moc_animscript.cpp.

13.167.3.2 const qt_meta_stringdata_AnimScript_t qt_meta_stringdata_AnimScript [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  11    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  23    -  2  * sizeof(
      QByteArrayData))   )

    },
    "AnimScript\0readProcess\0"
}
```

Definition at line 30 of file moc_animscript.cpp.

13.168 src/ckb/release/moc_animsettingdialog.cpp File Reference

```
#include "../animsettingdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animsettingdialog.cpp:

Data Structures

- struct qt_meta_stringdata_AnimSettingDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_AnimSettingDialog_t qt_meta_stringdata_AnimSettingDialog
- static const uint qt_meta_data_AnimSettingDialog [ ]

13.168.1 Data Structure Documentation

13.168.1.1 struct qt_meta_stringdata_AnimSettingDialog_t

Definition at line 21 of file moc_animsettingdialog.cpp.

Collaboration diagram for qt_meta_stringdata_AnimSettingDialog_t:

Data Fields

QByteArrayData	data[15]	
char	stringdata0[246]	

13.168.2 Macro Definition Documentation

13.168.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimSettingDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animsettingdialog.cpp.

13.168.3 Variable Documentation

13.168.3.1 const uint qt_meta_data_AnimSettingDialog[] [static]

Definition at line 60 of file moc_animsettingdialog.cpp.

13.168.3.2 const qt_meta_stringdata_AnimSettingDialog_t qt_meta_stringdata_AnimSettingDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  30    -  2  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  31    -  3  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  40    -  4  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  52    -  5  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  69    -  6  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  74    -  7  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  94    -  8  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  106    -  9
      * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  131    -  10
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  136    -  11
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  162    -  12
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 27 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  189    -  13
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 28 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  217    -  14
       * sizeof(QByteArrayData))   )

    },
    "AnimSettingDialog\0newDuration\0\0duration\0"
    "updateStops\0angleDialChanged\0name\0"
    "angleSpinnerChanged\0updateParam\0"
    "on_delayBox_valueChanged\0arg1\0"
    "on_repeatBox_valueChanged\0"
    "on_kpDelayBox_valueChanged\0"
    "on_kpRepeatBox_valueChanged\0"
    "on_kpReleaseBox_stateChanged"
}
```

Definition at line 30 of file moc_animsettingdialog.cpp.

13.169 src/ckb/release/moc_ckbsettingswriter.cpp File Reference

```
#include "../ckbsettingswriter.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_ckbsettingswriter.cpp:

Data Structures

- struct qt_meta_stringdata_CkbSettingsWriter_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_CkbSettingsWriter_t qt_meta_stringdata_CkbSettingsWriter
- static const uint qt_meta_data_CkbSettingsWriter []

13.169.1 Data Structure Documentation

13.169.1.1 struct qt_meta_stringdata_CkbSettingsWriter_t

Definition at line 21 of file moc_ckbsettingswriter.cpp.

Collaboration diagram for qt_meta_stringdata_CkbSettingsWriter_t:

Data Fields

QByteArrayData	data[3]	
char	stringdata0[23]	

13.169.2 Macro Definition Documentation

13.169.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_CkbSettingsWriter_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_ckbsettingswriter.cpp.

13.169.3 Variable Documentation

13.169.3.1 const uint qt_meta_data_CkbSettingsWriter[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        1,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,


        1,    0,   19,    2, 0x0a ,


    QMetaType::Void,

        0
}
```

Definition at line 41 of file moc_ckbsettingswriter.cpp.

13.169.3.2 const qt_meta_stringdata_CkbSettingsWriter_t qt_meta_stringdata_CkbSettingsWriter [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  22    -  2  *
       sizeof(QByteArrayData))   )

    },
    "CkbSettingsWriter\0run\0"
}
```

Definition at line 30 of file moc_ckbsettingswriter.cpp.

13.170 src/ckb/release/moc_colorbutton.cpp File Reference

```
#include "../colorbutton.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_colorbutton.cpp:

Data Structures

- struct qt_meta_stringdata_ColorButton_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_ColorButton_t qt_meta_stringdata_ColorButton
- static const uint qt_meta_data_ColorButton []

13.170.1 Data Structure Documentation

13.170.1.1 struct qt_meta_stringdata_ColorButton_t

Definition at line 21 of file moc_colorbutton.cpp.

Collaboration diagram for qt_meta_stringdata_ColorButton_t:

Data Fields

QByteArrayData	data[5]	
char	stringdata0[45]	

13.170.2 Macro Definition Documentation

13.170.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ColorButton_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_colorbutton.cpp.

13.170.3 Variable Documentation

13.170.3.1 const uint qt_meta_data_ColorButton[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        2,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
        1,


        1,    1,   24,    2, 0x06 ,


        4,    0,   27,    2, 0x08 ,


    QMetaType::Void, QMetaType::QColor,    3,


    QMetaType::Void,

        0
}
```

Definition at line 44 of file moc_colorbutton.cpp.

13.170.3.2 const qt_meta_stringdata_ColorButton_t qt_meta_stringdata_ColorButton [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  35    -  4  * sizeof(
      QByteArrayData))   )

    },
    "ColorButton\0colorChanged\0\0newColor\0"
    "pickColor"
}
```

Definition at line 30 of file moc_colorbutton.cpp.

13.171 src/ckb/release/moc_extrasettingswidget.cpp File Reference

```
#include "../extrasettingswidget.h"
```

```
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_extrasettingswidget.cpp:

Data Structures

- struct qt_meta_stringdata_ExtraSettingsWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_ExtraSettingsWidget_t qt_meta_stringdata_ExtraSettingsWidget
- static const uint qt_meta_data_ExtraSettingsWidget []

13.171.1 Data Structure Documentation

13.171.1.1 struct qt_meta_stringdata_ExtraSettingsWidget_t

Definition at line 21 of file moc_extrasettingswidget.cpp.

Collaboration diagram for qt_meta_stringdata_ExtraSettingsWidget_t:

Data Fields

QByteArrayData	data[13]	
char	stringdata0[236]	

13.171.2 Macro Definition Documentation

13.171.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ExtraSettingsWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_extrasettingswidget.cpp.

13.171.3 Variable Documentation

13.171.3.1 const uint qt_meta_data_ExtraSettingsWidget[] [static]

Definition at line 57 of file moc_extrasettingswidget.cpp.

13.171.3.2 const qt_meta_stringdata_ExtraSettingsWidget_t qt_meta_stringdata_ExtraSettingsWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
```

```
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  0    -  0
        * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 18 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  20    -
      1  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  39    -
      2  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  40    -
      3  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  48    -
      4  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  73    -
      5  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  99    -
      6  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  122    -
       7  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  127    -
       8  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  148    -
       9  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  169    -
       10  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  190    -
       11  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  216    -
       12  * sizeof(QByteArrayData))   )

    },
    "ExtraSettingsWidget\0on_trayBox_clicked\0"
    "\0checked\0on_brightnessBox_clicked\0"
    "on_animScanButton_clicked\0"
    "on_fpsBox_valueChanged\0arg1\0"
    "on_ditherBox_clicked\0on_mAccelBox_clicked\0"
    "on_sAccelBox_clicked\0on_sSpeedBox_valueChanged\0"
    "on_delayBox_clicked"
}
```

Definition at line 30 of file moc_extrasettingswidget.cpp.

13.172 src/ckb/release/moc_fwupgradedialog.cpp File Reference

```
#include "../fwupgradedialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_fwupgradedialog.cpp:

Data Structures

- struct qt_meta_stringdata_FwUpgradeDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_FwUpgradeDialog_t qt_meta_stringdata_FwUpgradeDialog
- static const uint qt_meta_data_FwUpgradeDialog [ ]

13.172.1 Data Structure Documentation

13.172.1.1 struct qt_meta_stringdata_FwUpgradeDialog_t

Definition at line 21 of file moc_fwupgradedialog.cpp.

Collaboration diagram for qt_meta_stringdata_FwUpgradeDialog_t:

Data Fields

QByteArrayData	data[10]	
char	stringdata0[133]	

13.172.2 Macro Definition Documentation

13.172.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_FwUpgradeDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_fwupgradedialog.cpp.

13.172.3 Variable Documentation

13.172.3.1 const uint qt_meta_data_FwUpgradeDialog[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        5,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,


        1,    2,   39,    2, 0x08 ,
        5,    1,   44,    2, 0x08 ,
        7,    0,   47,    2, 0x08 ,
        8,    0,   48,    2, 0x08 ,
        9,    0,   49,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int, QMetaType::Int,    3,    4,
    QMetaType::Void, QMetaType::Bool,    6,
    QMetaType::Void,
    QMetaType::Void,
    QMetaType::Void,

        0
}
```

Definition at line 51 of file moc_fwupgradedialog.cpp.

13.172.3.2 const qt_meta_stringdata_FwUpgradeDialog_t qt_meta_stringdata_FwUpgradeDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  16    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  33    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  34    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  42    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  48    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  65    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  75    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  85    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  109    -  9  *
      sizeof(QByteArrayData))   )

    },
    "FwUpgradeDialog\0fwUpdateProgress\0\0"
    "current\0total\0fwUpdateFinished\0succeeded\0"
    "removeDev\0on_cancelButton_clicked\0"
    "on_actionButton_clicked"
}
```

Definition at line 30 of file moc_fwupgradedialog.cpp.

13.173 src/ckb/release/moc_gradientbutton.cpp File Reference

```
#include "../gradientbutton.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientbutton.cpp:

Data Structures

- struct qt_meta_stringdata_GradientButton_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_GradientButton_t qt_meta_stringdata_GradientButton
- static const uint qt_meta_data_GradientButton []

13.173.1 Data Structure Documentation

13.173.1.1 struct qt_meta_stringdata_GradientButton_t

Definition at line 21 of file moc_gradientbutton.cpp.

Collaboration diagram for qt_meta_stringdata_GradientButton_t:

Data Fields

QByteArrayData	data[4]	
char	stringdata0[45]	

13.173.2 Macro Definition Documentation

13.173.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientButton_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientbutton.cpp.

13.173.3 Variable Documentation

13.173.3.1 const uint qt_meta_data_GradientButton[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        2,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        1,

        1,    0,   24,    2, 0x06 ,

        3,    0,   25,    2, 0x08 ,

    QMetaType::Void,

    QMetaType::Void,

        0
}
```

Definition at line 43 of file moc_gradientbutton.cpp.

13.173.3.2 const qt_meta_stringdata_GradientButton_t qt_meta_stringdata_GradientButton [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  31    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  32    -  3  *
      sizeof(QByteArrayData))   )

    },
    "GradientButton\0gradientChanged\0\0"
    "pickGradient"
}
```

Definition at line 30 of file moc_gradientbutton.cpp.

13.174 src/ckb/release/moc_gradientdialog.cpp File Reference

```
#include "../gradientdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientdialog.cpp:

Data Structures

- struct qt_meta_stringdata_GradientDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_GradientDialog_t qt_meta_stringdata_GradientDialog
- static const uint qt_meta_data_GradientDialog []

13.174.1 Data Structure Documentation

13.174.1.1 struct qt_meta_stringdata_GradientDialog_t

Definition at line 21 of file moc_gradientdialog.cpp.

Collaboration diagram for qt_meta_stringdata_GradientDialog_t:

Data Fields

QByteArrayData	data[17]	
char	stringdata0[266]	

13.174.2 Macro Definition Documentation

13.174.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientDialog_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialog.cpp.

13.174.3 Variable Documentation

13.174.3.1 const uint qt_meta_data_GradientDialog[] [static]

Definition at line 62 of file moc_gradientdialog.cpp.

13.174.3.2 const qt_meta_stringdata_GradientDialog_t qt_meta_stringdata_GradientDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  30    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  31    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  37    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  49    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  58    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 32 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  71    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  104    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  121    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  129    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  138    -  11  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  163    -  12  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  168    -  13  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  190    -  14  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  214    -  15  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 27 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  238    -  16  *
      sizeof(QByteArrayData))   )

    },
    "GradientDialog\0currentChanged\0\0color\0"
    "spontaneous\0position\0colorChanged\0"
    "on_presetList_currentItemChanged\0"
    "QListWidgetItem*\0current\0previous\0"
```

```
    "on_presetName_textEdited\0arg1\0"
    "on_presetSave_clicked\0on_presetDelete_clicked\0"
    "on_stopPos_valueChanged\0"
    "on_stopOpacity_valueChanged"
}
```

Definition at line 30 of file moc_gradientdialog.cpp.

13.175 src/ckb/release/moc_gradientdialogwidget.cpp File Reference

```
#include "../gradientdialogwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientdialogwidget.cpp:

Data Structures

- struct qt_meta_stringdata_GradientDialogWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_GradientDialogWidget_t qt_meta_stringdata_GradientDialogWidget
- static const uint qt_meta_data_GradientDialogWidget []

13.175.1 Data Structure Documentation

13.175.1.1 struct qt_meta_stringdata_GradientDialogWidget_t

Definition at line 21 of file moc_gradientdialogwidget.cpp.

Collaboration diagram for qt_meta_stringdata_GradientDialogWidget_t:

Data Fields

QByteArrayData	data[6]	
char	stringdata0[64]	

13.175.2 Macro Definition Documentation

13.175.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientDialogWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialogwidget.cpp.

13.175.3 Variable Documentation

13.175.3.1 const uint qt_meta_data_GradientDialogWidget[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        1,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        1,


        1,    3,   19,    2, 0x06 ,


    QMetaType::Void, QMetaType::QColor, QMetaType::Bool, QMetaType::Int,    3,    4,    5,

        0
}
```

Definition at line 45 of file moc_gradientdialogwidget.cpp.

13.175.3.2 const qt_meta_stringdata_GradientDialogWidget_t qt_meta_stringdata_GradientDialogWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  0    -
       0  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  21    -
        1  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  36    -
        2  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  37    -
        3  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  43    -
        4  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  55    -
        5  * sizeof(QByteArrayData))   )

    },
    "GradientDialogWidget\0currentChanged\0"
    "\0color\0spontaneous\0position"
}
```

Definition at line 30 of file moc_gradientdialogwidget.cpp.

13.176 src/ckb/release/moc_kb.cpp File Reference

```
#include "../kb.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kb.cpp:

Data Structures

- struct qt_meta_stringdata_Kb_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_Kb_t qt_meta_stringdata_Kb
- static const uint qt_meta_data_Kb [ ]

13.176.1 Data Structure Documentation

13.176.1.1 struct qt_meta_stringdata_Kb_t

Definition at line 21 of file moc_kb.cpp.

Collaboration diagram for qt_meta_stringdata_Kb_t:

Data Fields

QByteArrayData	data[20]	
char	stringdata0[214]	

13.176.2 Macro Definition Documentation

13.176.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_Kb_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kb.cpp.

13.176.3 Variable Documentation

13.176.3.1 const uint qt_meta_data_Kb[] [static]

Definition at line 63 of file moc_kb.cpp.

13.176.3.2 const qt_meta_stringdata_Kb_t qt_meta_stringdata_Kb [static]

Definition at line 30 of file moc_kb.cpp.

13.177 src/ckb/release/moc_kbanim.cpp File Reference

```
#include "../kbanim.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbanim.cpp:

Data Structures

- struct qt_meta_stringdata_KbAnim_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbAnim_t qt_meta_stringdata_KbAnim
- static const uint qt_meta_data_KbAnim [ ]

13.177.1 Data Structure Documentation

13.177.1.1 struct qt_meta_stringdata_KbAnim_t

Definition at line 21 of file moc_kbanim.cpp.

Collaboration diagram for qt_meta_stringdata_KbAnim_t:

Data Fields

QByteArrayData	data[7]	
char	stringdata0[48]	

13.177.2 Macro Definition Documentation

13.177.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbAnim_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanim.cpp.

13.177.3 Variable Documentation

13.177.3.1 const uint qt_meta_data_KbAnim[] [static]

Initial value:

```
= {

        7,
        0,
        0,     0,
        0,     0,
        0,     0,
        1,    14,
        0,     0,
        0,
```

```
        0,

        1, 0x0,    5,   18,

        2, uint(KbAnim::Normal),
        3, uint(KbAnim::Add),
        4, uint(KbAnim::Subtract),
        5, uint(KbAnim::Multiply),
        6, uint(KbAnim::Divide),

        0
}
```

Definition at line 46 of file moc_kbanim.cpp.

13.177.3.2 const qt_meta_stringdata_KbAnim_t qt_meta_stringdata_KbAnim [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  12    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  19    -  3  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  23    -  4  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  32    -  5  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  41    -  6  * sizeof(QByteArrayData
      ))   )

    },
    "KbAnim\0Mode\0Normal\0Add\0Subtract\0"
    "Multiply\0Divide"
}
```

Definition at line 30 of file moc_kbanim.cpp.

13.178 src/ckb/release/moc_kbanimwidget.cpp File Reference

```
#include "../kbanimwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbanimwidget.cpp:

Data Structures

- struct qt_meta_stringdata_KbAnimWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbAnimWidget_t qt_meta_stringdata_KbAnimWidget
- static const uint qt_meta_data_KbAnimWidget []

13.178.1 Data Structure Documentation

13.178.1.1 struct qt_meta_stringdata_KbAnimWidget_t

Definition at line 21 of file moc_kbanimwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbAnimWidget_t:

Data Fields

QByteArrayData	data[25]	
char	stringdata0[383]	

13.178.2 Macro Definition Documentation

13.178.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbAnimWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanimwidget.cpp.

13.178.3 Variable Documentation

13.178.3.1 const uint qt_meta_data_KbAnimWidget[] [static]

Definition at line 74 of file moc_kbanimwidget.cpp.

13.178.3.2 const qt_meta_stringdata_KbAnimWidget_t qt_meta_stringdata_KbAnimWidget [static]

Definition at line 30 of file moc_kbanimwidget.cpp.

13.179 src/ckb/release/moc_kbbind.cpp File Reference

```
#include "../kbbind.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbbind.cpp:

Data Structures

- struct qt_meta_stringdata_KbBind_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbBind_t qt_meta_stringdata_KbBind
- static const uint qt_meta_data_KbBind []

13.179.1 Data Structure Documentation

13.179.1.1 struct qt_meta_stringdata_KbBind_t

Definition at line 21 of file moc_kbbind.cpp.

Collaboration diagram for qt_meta_stringdata_KbBind_t:

Data Fields

QByteArrayData	data[8]	
char	stringdata0[56]	

13.179.2 Macro Definition Documentation

13.179.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbBind_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbind.cpp.

13.179.3 Variable Documentation

13.179.3.1 const uint qt_meta_data_KbBind[] [static]

Definition at line 47 of file moc_kbbind.cpp.

13.179.3.2 const qt_meta_stringdata_KbBind_t qt_meta_stringdata_KbBind [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
```

```
      )    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  30    -  4  * sizeof(QByteArrayData
      ))    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  38    -  5  * sizeof(QByteArrayData
      ))    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  47    -  6  * sizeof(QByteArrayData
      ))    ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  51    -  7  * sizeof(QByteArrayData
      ))    )

    },
    "KbBind\0didLoad\0\0layoutChanged\0updated\0"
    "keyEvent\0key\0down"
}
```

Definition at line 30 of file moc_kbbind.cpp.

13.180 src/ckb/release/moc_kbbindwidget.cpp File Reference

```
#include "../kbbindwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbbindwidget.cpp:

Data Structures

- struct qt_meta_stringdata_KbBindWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbBindWidget_t qt_meta_stringdata_KbBindWidget
- static const uint qt_meta_data_KbBindWidget []

13.180.1 Data Structure Documentation

13.180.1.1 struct qt_meta_stringdata_KbBindWidget_t

Definition at line 21 of file moc_kbbindwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbBindWidget_t:

Data Fields

QByteArrayData	data[9]	
char	stringdata0[120]	

13.180.2 Macro Definition Documentation

13.180.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbBindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbindwidget.cpp.

13.180.3 Variable Documentation

13.180.3.1 const uint qt_meta_data_KbBindWidget[] [static]

Definition at line 49 of file moc_kbbindwidget.cpp.

13.180.3.2 const qt_meta_stringdata_KbBindWidget_t qt_meta_stringdata_KbBindWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  13    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  24    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  25    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  35    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  48    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  58    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  75    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  98    -  8  * sizeof(
      QByteArrayData))   )

    },
    "KbBindWidget\0updateBind\0\0newLayout\0"
    "newSelection\0selection\0updateSelDisplay\0"
    "on_resetButton_clicked\0on_copyButton_clicked"
}
```

Definition at line 30 of file moc_kbbindwidget.cpp.

13.181 src/ckb/release/moc_kbfirmware.cpp File Reference

```
#include "../kbfirmware.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbfirmware.cpp:

Data Structures

- struct qt_meta_stringdata_KbFirmware_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbFirmware_t qt_meta_stringdata_KbFirmware
- static const uint qt_meta_data_KbFirmware [ ]

13.181.1 Data Structure Documentation

13.181.1.1 struct qt_meta_stringdata_KbFirmware_t

Definition at line 21 of file moc_kbfirmware.cpp.

Collaboration diagram for qt_meta_stringdata_KbFirmware_t:

Data Fields

QByteArrayData	data[7]	
char	stringdata0[77]	

13.181.2 Macro Definition Documentation

13.181.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbFirmware_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbfirmware.cpp.

13.181.3 Variable Documentation

13.181.3.1 const uint qt_meta_data_KbFirmware[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        3,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
```

```
       1,

       1,    0,   29,    2, 0x06 ,

       3,    1,   30,    2, 0x08 ,
       6,    0,   33,    2, 0x08 ,

    QMetaType::Void,

    QMetaType::Void, 0x80000000 | 4,    5,
    QMetaType::Void,

       0
}
```

Definition at line 46 of file moc_kbfirmware.cpp.

13.181.3.2 const qt_meta_stringdata_KbFirmware_t qt_meta_stringdata_KbFirmware [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  11    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  39    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  54    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  60    -  6  * sizeof(
      QByteArrayData))   )

    },
    "KbFirmware\0downloaded\0\0processDownload\0"
    "QNetworkReply*\0reply\0downloadFinished"
}
```

Definition at line 30 of file moc_kbfirmware.cpp.

13.182 src/ckb/release/moc_kblight.cpp File Reference

```
#include "../kblight.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
#include <QtCore/QSet>
```

Include dependency graph for moc_kblight.cpp:

Data Structures

- struct qt_meta_stringdata_KbLight_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbLight_t qt_meta_stringdata_KbLight
- static const uint qt_meta_data_KbLight []

13.182.1 Data Structure Documentation

13.182.1.1 struct qt_meta_stringdata_KbLight_t

Definition at line 22 of file moc_kblight.cpp.

Collaboration diagram for qt_meta_stringdata_KbLight_t:

Data Fields

QByteArrayData	data[9]	
char	stringdata0[92]	

13.182.2 Macro Definition Documentation

13.182.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbLight_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_kblight.cpp.

13.182.3 Variable Documentation

13.182.3.1 const uint qt_meta_data_KbLight[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        3,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
```

```
        3,


        1,    0,   29,    2, 0x06 ,
        3,    0,   30,    2, 0x06 ,
        4,    2,   31,    2, 0x06 ,


    QMetaType::Void,
    QMetaType::Void,
    QMetaType::Void, 0x80000000 | 5, 0x80000000 | 7,    6,    8,

        0
}
```

Definition at line 50 of file moc_kblight.cpp.

13.182.3.2 const qt_meta_stringdata_KbLight_t qt_meta_stringdata_KbLight [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  8    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  16    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  17    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  25    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  40    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  49    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  78    -  8  * sizeof(
      QByteArrayData))   )

    },
    "KbLight\0didLoad\0\0updated\0frameDisplayed\0"
    "ColorMap\0animatedColors\0QSet<QString>\0"
    "indicatorList"
}
```

Definition at line 31 of file moc_kblight.cpp.

13.183 src/ckb/release/moc_kblightwidget.cpp File Reference

```
#include "../kblightwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kblightwidget.cpp:

Data Structures

- struct qt_meta_stringdata_KbLightWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbLightWidget_t qt_meta_stringdata_KbLightWidget
- static const uint qt_meta_data_KbLightWidget [ ]

13.183.1 Data Structure Documentation

13.183.1.1 struct qt_meta_stringdata_KbLightWidget_t

Definition at line 21 of file moc_kblightwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbLightWidget_t:

Data Fields

QByteArrayData	data[19]	
char	stringdata0[240]	

13.183.2 Macro Definition Documentation

13.183.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbLightWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kblightwidget.cpp.

13.183.3 Variable Documentation

13.183.3.1 const uint qt_meta_data_KbLightWidget[] [static]

Definition at line 63 of file moc_kblightwidget.cpp.

13.183.3.2 const qt_meta_stringdata_KbLightWidget_t qt_meta_stringdata_KbLightWidget [static]

Definition at line 30 of file moc_kblightwidget.cpp.

13.184 src/ckb/release/moc_kbmanager.cpp File Reference

```
#include "../kbmanager.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbmanager.cpp:

Data Structures

- struct qt_meta_stringdata_KbManager_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbManager_t qt_meta_stringdata_KbManager
- static const uint qt_meta_data_KbManager []

13.184.1 Data Structure Documentation

13.184.1.1 struct qt_meta_stringdata_KbManager_t

Definition at line 21 of file moc_kbmanager.cpp.

Collaboration diagram for qt_meta_stringdata_KbManager_t:

Data Fields

QByteArrayData	data[8]	
char	stringdata0[78]	

13.184.2 Macro Definition Documentation

13.184.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbManager_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmanager.cpp.

13.184.3 Variable Documentation

13.184.3.1 const uint qt_meta_data_KbManager[] [static]

Definition at line 48 of file moc_kbmanager.cpp.

13.184.3.2 const qt_meta_stringdata_KbManager_t qt_meta_stringdata_KbManager [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  0    -  0  * sizeof(
```

```
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  10    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  27    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  34    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  49    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   )

    },
    "KbManager\0kbConnected\0\0Kb*\0device\0"
    "kbDisconnected\0versionUpdated\0"
    "scanKeyboards"
}
```

Definition at line 30 of file moc_kbmanager.cpp.

13.185 src/ckb/release/moc_kbmode.cpp File Reference

```
#include "../kbmode.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbmode.cpp:

Data Structures

- struct qt_meta_stringdata_KbMode_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbMode_t qt_meta_stringdata_KbMode
- static const uint qt_meta_data_KbMode []

13.185.1 Data Structure Documentation

13.185.1.1 struct qt_meta_stringdata_KbMode_t

Definition at line 21 of file moc_kbmode.cpp.

Collaboration diagram for qt_meta_stringdata_KbMode_t:

Data Fields

QByteArrayData	data[4]	
char	stringdata0[25]	

13.185.2 Macro Definition Documentation

13.185.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbMode_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmode.cpp.

13.185.3 Variable Documentation

13.185.3.1 const uint qt_meta_data_KbMode[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        2,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
        1,


        1,    0,   24,    2, 0x06 ,


        3,    0,   25,    2, 0x08 ,


    QMetaType::Void,


    QMetaType::Void,

        0
}
```

Definition at line 42 of file moc_kbmode.cpp.

13.185.3.2 const qt_meta_stringdata_KbMode_t qt_meta_stringdata_KbMode [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))   )

    },
    "KbMode\0updated\0\0doUpdate"
}
```

Definition at line 30 of file moc_kbmode.cpp.

13.186 src/ckb/release/moc_kbperf.cpp File Reference

```
#include "../kbperf.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbperf.cpp:

Data Structures

- struct qt_meta_stringdata_KbPerf_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbPerf_t qt_meta_stringdata_KbPerf
- static const uint qt_meta_data_KbPerf [ ]

13.186.1 Data Structure Documentation

13.186.1.1 struct qt_meta_stringdata_KbPerf_t

Definition at line 21 of file moc_kbperf.cpp.

Collaboration diagram for qt_meta_stringdata_KbPerf_t:

Data Fields

QByteArrayData	data[4]	
char	stringdata0[32]	

13.186.2 Macro Definition Documentation

13.186.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbPerf_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbperf.cpp.

13.186.3 Variable Documentation

13.186.3.1 const uint qt_meta_data_KbPerf[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        2,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
```

```
        2,


        1,    0,   24,    2, 0x06 ,
        3,    0,   25,    2, 0x06 ,


    QMetaType::Void,
    QMetaType::Void,

        0
}
```

Definition at line 42 of file moc_kbperf.cpp.

13.186.3.2 const qt_meta_stringdata_KbPerf_t qt_meta_stringdata_KbPerf [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))   )

    },
    "KbPerf\0didLoad\0\0settingsUpdated"
}
```

Definition at line 30 of file moc_kbperf.cpp.

13.187 src/ckb/release/moc_kbprofile.cpp File Reference

```
#include "../kbprofile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbprofile.cpp:

Data Structures

- struct qt_meta_stringdata_KbProfile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbProfile_t qt_meta_stringdata_KbProfile
- static const uint qt_meta_data_KbProfile [ ]

13.187.1 Data Structure Documentation

13.187.1.1 struct qt_meta_stringdata_KbProfile_t

Definition at line 21 of file moc_kbprofile.cpp.

Collaboration diagram for qt_meta_stringdata_KbProfile_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[10]	

13.187.2 Macro Definition Documentation

13.187.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbProfile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofile.cpp.

13.187.3 Variable Documentation

13.187.3.1 const uint qt_meta_data_KbProfile[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,
        0,

        0
}
```

Definition at line 39 of file moc_kbprofile.cpp.

13.187.3.2 const qt_meta_stringdata_KbProfile_t qt_meta_stringdata_KbProfile [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "KbProfile"
}
```

Definition at line 30 of file moc_kbprofile.cpp.

13.188 src/ckb/release/moc_kbprofiledialog.cpp File Reference

```
#include "../kbprofiledialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbprofiledialog.cpp:

Data Structures

- struct qt_meta_stringdata_KbProfileDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbProfileDialog_t qt_meta_stringdata_KbProfileDialog
- static const uint qt_meta_data_KbProfileDialog []

13.188.1 Data Structure Documentation

13.188.1.1 struct qt_meta_stringdata_KbProfileDialog_t

Definition at line 21 of file moc_kbprofiledialog.cpp.

Collaboration diagram for qt_meta_stringdata_KbProfileDialog_t:

Data Fields

QByteArrayData	data[12]	
char	stringdata0[212]	

13.188.2 Macro Definition Documentation

13.188.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbProfileDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofiledialog.cpp.

13.188.3 Variable Documentation

13.188.3.1 const uint qt_meta_data_KbProfileDialog[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        5,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,


        1,    0,   39,    2, 0x08 ,
        3,    2,   40,    2, 0x08 ,
        7,    1,   45,    2, 0x08 ,
        9,    1,   48,    2, 0x08 ,
       10,    1,   51,    2, 0x08 ,


    QMetaType::Void,
    QMetaType::Void, 0x80000000 | 4, 0x80000000 | 4,    5,    6,
    QMetaType::Void, 0x80000000 | 4,    8,
    QMetaType::Void, 0x80000000 | 4,    8,
    QMetaType::Void, QMetaType::QPoint,   11,

        0
}
```

Definition at line 56 of file moc_kbprofiledialog.cpp.

13.188.3.2 const qt_meta_stringdata_KbProfileDialog_t qt_meta_stringdata_KbProfileDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  16    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  38    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 33 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  39    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  73    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  90    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  98    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  107    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  134    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  139    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 41 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  166    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  208    -  11  *
      sizeof(QByteArrayData))   )

    },
    "KbProfileDialog\0profileList_reordered\0"
    "\0on_profileList_currentItemChanged\0"
    "QListWidgetItem*\0current\0previous\0"
    "on_profileList_itemClicked\0item\0"
    "on_profileList_itemChanged\0"
    "on_profileList_customContextMenuRequested\0"
    "pos"
}
```

Definition at line 30 of file moc_kbprofiledialog.cpp.

13.189 src/ckb/release/moc_kbwidget.cpp File Reference

```
#include "../kbwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbwidget.cpp:

Data Structures

- struct qt_meta_stringdata_KbWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KbWidget_t qt_meta_stringdata_KbWidget
- static const uint qt_meta_data_KbWidget []

13.189.1 Data Structure Documentation

13.189.1.1 struct qt_meta_stringdata_KbWidget_t

Definition at line 21 of file moc_kbwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbWidget_t:

Data Fields

QByteArrayData	data[29]	
char	stringdata0[442]	

13.189.2 Macro Definition Documentation

13.189.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbwidget.cpp.

13.189.3 Variable Documentation

13.189.3.1 const uint qt_meta_data_KbWidget[] [static]

Definition at line 80 of file moc_kbwidget.cpp.

13.189.3.2 const qt_meta_stringdata_KbWidget_t qt_meta_stringdata_KbWidget [static]

Definition at line 30 of file moc_kbwidget.cpp.

13.190 src/ckb/release/moc_keyaction.cpp File Reference

```
#include "../keyaction.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_keyaction.cpp:

Data Structures

- struct qt_meta_stringdata_KeyAction_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KeyAction_t qt_meta_stringdata_KeyAction
- static const uint qt_meta_data_KeyAction [ ]

13.190.1 Data Structure Documentation

13.190.1.1 struct qt_meta_stringdata_KeyAction_t

Definition at line 21 of file moc_keyaction.cpp.

Collaboration diagram for qt_meta_stringdata_KeyAction_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[10]	

13.190.2 Macro Definition Documentation

13.190.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KeyAction_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_keyaction.cpp.

13.190.3 Variable Documentation

13.190.3.1 const uint qt_meta_data_KeyAction[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,
```

```
        0,

        0
}
```

Definition at line 39 of file moc_keyaction.cpp.

13.190.3.2 const qt_meta_stringdata_KeyAction_t qt_meta_stringdata_KeyAction [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyAction_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "KeyAction"
}
```

Definition at line 30 of file moc_keyaction.cpp.

13.191 src/ckb/release/moc_keywidget.cpp File Reference

```
#include "../keywidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
#include <QtCore/QSet>
```

Include dependency graph for moc_keywidget.cpp:

Data Structures

- struct qt_meta_stringdata_KeyWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KeyWidget_t qt_meta_stringdata_KeyWidget
- static const uint qt_meta_data_KeyWidget []

13.191.1 Data Structure Documentation

13.191.1.1 struct qt_meta_stringdata_KeyWidget_t

Definition at line 22 of file moc_keywidget.cpp.

Collaboration diagram for qt_meta_stringdata_KeyWidget_t:

Data Fields

QByteArrayData	data[10]	
char	stringdata0[118]	

13.191.2 Macro Definition Documentation

13.191.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KeyWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_keywidget.cpp.

13.191.3 Variable Documentation

13.191.3.1 const uint qt_meta_data_KeyWidget[] [static]

Definition at line 52 of file moc_keywidget.cpp.

13.191.3.2 const qt_meta_stringdata_KeyWidget_t qt_meta_stringdata_KeyWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  10    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  27    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  28    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  37    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  54    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  70    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  79    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  93    -  8  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  107    -  9  * sizeof(
      QByteArrayData))   )

    },
    "KeyWidget\0selectionChanged\0\0selected\0"
    "sidelightToggled\0displayColorMap\0"
    "ColorMap\0newDisplayMap\0QSet<QString>\0"
    "indicators"
}
```

Definition at line 31 of file moc_keywidget.cpp.

13.192 src/ckb/release/moc_kperfwidget.cpp File Reference

```
#include "../kperfwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kperfwidget.cpp:

Data Structures

- struct qt_meta_stringdata_KPerfWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_KPerfWidget_t qt_meta_stringdata_KPerfWidget
- static const uint qt_meta_data_KPerfWidget []

13.192.1 Data Structure Documentation

13.192.1.1 struct qt_meta_stringdata_KPerfWidget_t

Definition at line 21 of file moc_kperfwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KPerfWidget_t:

Data Fields

QByteArrayData	data[7]	
char	stringdata0[85]	

13.192.2 Macro Definition Documentation

13.192.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kperfwidget.cpp.

13.192.3 Variable Documentation

13.192.3.1 const uint qt_meta_data_KPerfWidget[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        3,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
       0,
       0,


       1,    1,   29,    2, 0x08 ,
       4,    1,   32,    2, 0x08 ,
       6,    0,   35,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Int,    5,
    QMetaType::Void,

       0
}
```

Definition at line 47 of file moc_kperfwidget.cpp.

13.192.3.2 const qt_meta_stringdata_KPerfWidget_t qt_meta_stringdata_KPerfWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 28 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  29    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  58    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  63    -  6  * sizeof(
      QByteArrayData))   )

    },
    "KPerfWidget\0uiUpdated\0\0index\0"
    "on_intensityBox_valueChanged\0arg1\0"
    "on_copyButton_clicked"
}
```

Definition at line 30 of file moc_kperfwidget.cpp.

13.193 src/ckb/release/moc_layoutdialog.cpp File Reference

```
#include "../layoutdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_layoutdialog.cpp:

Data Structures

- struct qt_meta_stringdata_LayoutDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_LayoutDialog_t qt_meta_stringdata_LayoutDialog
- static const uint qt_meta_data_LayoutDialog [ ]

13.193.1 Data Structure Documentation

13.193.1.1 struct qt_meta_stringdata_LayoutDialog_t

Definition at line 21 of file moc_layoutdialog.cpp.

Collaboration diagram for qt_meta_stringdata_LayoutDialog_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[13]	

13.193.2 Macro Definition Documentation

13.193.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_LayoutDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_layoutdialog.cpp.

13.193.3 Variable Documentation

13.193.3.1 const uint qt_meta_data_LayoutDialog[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,

        0
}
```

Definition at line 39 of file moc_layoutdialog.cpp.

13.193.3.2 const qt_meta_stringdata_LayoutDialog_t qt_meta_stringdata_LayoutDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_LayoutDialog_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "LayoutDialog"
}
```

Definition at line 30 of file moc_layoutdialog.cpp.

13.194 src/ckb/release/moc_macroreader.cpp File Reference

```
#include "../macroreader.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_macroreader.cpp:

Data Structures

- struct qt_meta_stringdata_MacroReaderThread_t
- struct qt_meta_stringdata_MacroReader_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)
- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_MacroReaderThread_t qt_meta_stringdata_MacroReaderThread
- static const uint qt_meta_data_MacroReaderThread []
- static const qt_meta_stringdata_MacroReader_t qt_meta_stringdata_MacroReader
- static const uint qt_meta_data_MacroReader []

13.194.1 Data Structure Documentation

13.194.1.1 struct qt_meta_stringdata_MacroReaderThread_t

Definition at line 21 of file moc_macroreader.cpp.

Collaboration diagram for qt_meta_stringdata_MacroReaderThread_t:

Data Fields

QByteArrayData	data[4]	
char	stringdata0[34]	

13.194.1.2 struct qt_meta_stringdata_MacroReader_t

Definition at line 111 of file moc_macroreader.cpp.

Collaboration diagram for qt_meta_stringdata_MacroReader_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[12]	

13.194.2 Macro Definition Documentation

13.194.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MacroReaderThread_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 115 of file moc_macroreader.cpp.

13.194.2.2 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MacroReader_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 115 of file moc_macroreader.cpp.

13.194.3 Variable Documentation

13.194.3.1 const uint qt_meta_data_MacroReader[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,
        0,

        0
}
```

Definition at line 129 of file moc_macroreader.cpp.

13.194.3.2 const uint qt_meta_data_MacroReaderThread[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        1,   14,
        0,    0,
        0,    0,
        0,    0,
        0,
        0,


        1,    1,   19,    2, 0x08 ,


    QMetaType::Void, QMetaType::QString,    3,

        0
}
```

Definition at line 42 of file moc_macroreader.cpp.

13.194.3.3 const qt_meta_stringdata_MacroReader_t qt_meta_stringdata_MacroReader [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReader_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "MacroReader"
}
```

Definition at line 120 of file moc_macroreader.cpp.

13.194.3.4 const qt_meta_stringdata_MacroReaderThread_t qt_meta_stringdata_MacroReaderThread [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  28    -  2  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  29    -  3  *
       sizeof(QByteArrayData))   )

    },
    "MacroReaderThread\0readMacro\0\0line"
}
```

Definition at line 30 of file moc_macroreader.cpp.

13.195 src/ckb/release/moc_mainwindow.cpp File Reference

```
#include "../mainwindow.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_mainwindow.cpp:

Data Structures

- struct qt_meta_stringdata_MainWindow_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_MainWindow_t qt_meta_stringdata_MainWindow
- static const uint qt_meta_data_MainWindow []

13.195.1 Data Structure Documentation

13.195.1.1 struct qt_meta_stringdata_MainWindow_t

Definition at line 21 of file moc_mainwindow.cpp.

Collaboration diagram for qt_meta_stringdata_MainWindow_t:

Data Fields

QByteArrayData	data[22]	
char	stringdata0[253]	

13.195.2 Macro Definition Documentation

13.195.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MainWindow_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mainwindow.cpp.

13.195.3 Variable Documentation

13.195.3.1 const uint qt_meta_data_MainWindow[] [static]

Definition at line 66 of file moc_mainwindow.cpp.

13.195.3.2 const qt_meta_stringdata_MainWindow_t qt_meta_stringdata_MainWindow [static]

Definition at line 30 of file moc_mainwindow.cpp.

13.196 src/ckb/release/moc_modeselectdialog.cpp File Reference

```
#include "../modeselectdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_modeselectdialog.cpp:

Data Structures

- struct qt_meta_stringdata_ModeSelectDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_ModeSelectDialog_t qt_meta_stringdata_ModeSelectDialog
- static const uint qt_meta_data_ModeSelectDialog [ ]

13.196.1 Data Structure Documentation

13.196.1.1 struct qt_meta_stringdata_ModeSelectDialog_t

Definition at line 21 of file moc_modeselectdialog.cpp.

Collaboration diagram for qt_meta_stringdata_ModeSelectDialog_t:

Data Fields

QByteArrayData	data[4]	
char	stringdata0[67]	

13.196.2 Macro Definition Documentation

13.196.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ModeSelectDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_modeselectdialog.cpp.

13.196.3 Variable Documentation

13.196.3.1 const uint qt_meta_data_ModeSelectDialog[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        2,   14,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,


        1,    0,   24,    2, 0x08 ,
        3,    0,   25,    2, 0x08 ,


    QMetaType::Void,
    QMetaType::Void,

        0
}
```

Definition at line 43 of file moc_modeselectdialog.cpp.

13.196.3.2 const qt_meta_stringdata_ModeSelectDialog_t qt_meta_stringdata_ModeSelectDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  17    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  41    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  42    -  3  *
      sizeof(QByteArrayData))   )

    },
    "ModeSelectDialog\0on_selAllButton_clicked\0"
    "\0on_selNoneButton_clicked"
}
```

Definition at line 30 of file moc_modeselectdialog.cpp.

13.197 src/ckb/release/moc_mperfwidget.cpp File Reference

```
#include "../mperfwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_mperfwidget.cpp:

Data Structures

- struct qt_meta_stringdata_MPerfWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_MPerfWidget_t qt_meta_stringdata_MPerfWidget
- static const uint qt_meta_data_MPerfWidget []

13.197.1 Data Structure Documentation

13.197.1.1 struct qt_meta_stringdata_MPerfWidget_t

Definition at line 21 of file moc_mperfwidget.cpp.

Collaboration diagram for qt_meta_stringdata_MPerfWidget_t:

Data Fields

QByteArrayData	data[18]	
char	stringdata0[249]	

13.197.2 Macro Definition Documentation

13.197.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mperfwidget.cpp.

13.197.3 Variable Documentation

13.197.3.1 const uint qt_meta_data_MPerfWidget[] [static]

Definition at line 62 of file moc_mperfwidget.cpp.

13.197.3.2 const qt_meta_stringdata_MPerfWidget_t qt_meta_stringdata_MPerfWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  32    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  45    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  58    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  71    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  83    -  8  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  95    -  9  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  109    -  10  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  126    -  11  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  134    -  12  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  154    -  13  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  174    -  14  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  198    -  15  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  220    -  16  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  244    -  17  * sizeof(
      QByteArrayData))   )

    },
    "MPerfWidget\0colorClicked\0\0index\0"
    "colorChanged\0sliderXMoved\0sliderYMoved\0"
    "boxXChanged\0boxYChanged\0enableChanged\0"
    "on_xyBox_clicked\0checked\0on_indicBox_clicked\0"
    "on_aSnapBox_clicked\0on_lHeightBox_activated\0"
    "on_copyButton_clicked\0on_spinBox_valueChanged\0"
    "arg1"
}
```

Definition at line 30 of file moc_mperfwidget.cpp.

13.198 src/ckb/release/moc_quagzipfile.cpp File Reference

```
#include "../quazip/quagzipfile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quagzipfile.cpp:

Data Structures

- struct qt_meta_stringdata_QuaGzipFile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_QuaGzipFile_t qt_meta_stringdata_QuaGzipFile
- static const uint qt_meta_data_QuaGzipFile []

13.198.1 Data Structure Documentation

13.198.1.1 struct qt_meta_stringdata_QuaGzipFile_t

Definition at line 21 of file moc_quagzipfile.cpp.

Collaboration diagram for qt_meta_stringdata_QuaGzipFile_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[12]	

13.198.2 Macro Definition Documentation

13.198.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaGzipFile_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quagzipfile.cpp.

13.198.3 Variable Documentation

13.198.3.1 const uint qt_meta_data_QuaGzipFile[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
```

```
        0,
        0,

        0
}
```

Definition at line 39 of file moc_quagzipfile.cpp.

13.198.3.2 const qt_meta_stringdata_QuaGzipFile_t qt_meta_stringdata_QuaGzipFile [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaGzipFile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaGzipFile"
}
```

Definition at line 30 of file moc_quagzipfile.cpp.

13.199 src/ckb/release/moc_quaziodevice.cpp File Reference

```
#include "../quazip/quaziodevice.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quaziodevice.cpp:

Data Structures

- struct qt_meta_stringdata_QuaZIODevice_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_QuaZIODevice_t qt_meta_stringdata_QuaZIODevice
- static const uint qt_meta_data_QuaZIODevice []

13.199.1 Data Structure Documentation

13.199.1.1 struct qt_meta_stringdata_QuaZIODevice_t

Definition at line 21 of file moc_quaziodevice.cpp.

Collaboration diagram for qt_meta_stringdata_QuaZIODevice_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[13]	

13.199.2 Macro Definition Documentation

13.199.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaZIODevice_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quaziodevice.cpp.

13.199.3 Variable Documentation

13.199.3.1 const uint qt_meta_data_QuaZIODevice[] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,
        0,

        0
}
```

Definition at line 39 of file moc_quaziodevice.cpp.

13.199.3.2 const qt_meta_stringdata_QuaZIODevice_t qt_meta_stringdata_QuaZIODevice [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaZIODevice_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaZIODevice"
}
```

Definition at line 30 of file moc_quaziodevice.cpp.

13.200 src/ckb/release/moc_quazipfile.cpp File Reference

```
#include "../quazip/quazipfile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quazipfile.cpp:

Data Structures

- struct qt_meta_stringdata_QuaZipFile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_QuaZipFile_t qt_meta_stringdata_QuaZipFile
- static const uint qt_meta_data_QuaZipFile []

13.200.1 Data Structure Documentation

13.200.1.1 struct qt_meta_stringdata_QuaZipFile_t

Definition at line 21 of file moc_quazipfile.cpp.

Collaboration diagram for qt_meta_stringdata_QuaZipFile_t:

Data Fields

QByteArrayData	data[1]	
char	stringdata0[11]	

13.200.2 Macro Definition Documentation

13.200.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaZipFile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quazipfile.cpp.

13.200.3 Variable Documentation

13.200.3.1 const uint qt_meta_data_QuaZipFile[ ] [static]

Initial value:

```
= {

        7,
        0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,    0,
        0,
        0,

        0
}
```

Definition at line 39 of file moc_quazipfile.cpp.

13.200.3.2 const qt_meta_stringdata_QuaZipFile_t qt_meta_stringdata_QuaZipFile [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaZipFile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaZipFile"
}
```

Definition at line 30 of file moc_quazipfile.cpp.

13.201 src/ckb/release/moc_rebindwidget.cpp File Reference

```
#include "../rebindwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_rebindwidget.cpp:

Data Structures

- struct qt_meta_stringdata_RebindWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_RebindWidget_t qt_meta_stringdata_RebindWidget
- static const uint qt_meta_data_RebindWidget []

13.201.1 Data Structure Documentation

13.201.1.1 struct qt_meta_stringdata_RebindWidget_t

Definition at line 21 of file moc_rebindwidget.cpp.

Collaboration diagram for qt_meta_stringdata_RebindWidget_t:

Data Fields

QByteArrayData	data[51]	
char	stringdata0[1179]	

13.201.2 Macro Definition Documentation

13.201.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_RebindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rebindwidget.cpp.

13.201.3 Variable Documentation

13.201.3.1 const uint qt_meta_data_RebindWidget[] [static]

Definition at line 124 of file moc_rebindwidget.cpp.

13.201.3.2 const qt_meta_stringdata_RebindWidget_t qt_meta_stringdata_RebindWidget [static]

Definition at line 30 of file moc_rebindwidget.cpp.

13.202 src/ckb/release/moc_rlistwidget.cpp File Reference

```
#include "../rlistwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_rlistwidget.cpp:

Data Structures

- struct qt_meta_stringdata_RListWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_RListWidget_t qt_meta_stringdata_RListWidget
- static const uint qt_meta_data_RListWidget []

13.202.1 Data Structure Documentation

13.202.1.1 struct qt_meta_stringdata_RListWidget_t

Definition at line 21 of file moc_rlistwidget.cpp.

Collaboration diagram for qt_meta_stringdata_RListWidget_t:

Data Fields

QByteArrayData	data[8]	
char	stringdata0[71]	

13.202.2 Macro Definition Documentation

13.202.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_RListWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rlistwidget.cpp.

13.202.3 Variable Documentation

13.202.3.1 const uint qt_meta_data_RListWidget[] [static]

Definition at line 47 of file moc_rlistwidget.cpp.

13.202.3.2 const qt_meta_stringdata_RListWidget_t qt_meta_stringdata_RListWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
```

```
      qt_meta_stringdata_RListWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  36    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  42    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  59    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   )

    },
    "RListWidget\0orderChanged\0\0timerTick\0"
    "enter\0QListWidgetItem*\0item\0change"
}
```

Definition at line 30 of file moc_rlistwidget.cpp.

13.203 src/ckb/release/moc_settingswidget.cpp File Reference

```
#include "../settingswidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_settingswidget.cpp:

Data Structures

- struct qt_meta_stringdata_SettingsWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

- static const qt_meta_stringdata_SettingsWidget_t qt_meta_stringdata_SettingsWidget
- static const uint qt_meta_data_SettingsWidget []

13.203.1 Data Structure Documentation

13.203.1.1 struct qt_meta_stringdata_SettingsWidget_t

Definition at line 21 of file moc_settingswidget.cpp.

Collaboration diagram for qt_meta_stringdata_SettingsWidget_t:

Data Fields

QByteArrayData	data[15]	
char	stringdata0[264]	

13.203.2 Macro Definition Documentation

13.203.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_SettingsWidget_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_settingswidget.cpp.

13.203.3 Variable Documentation

13.203.3.1 const uint qt_meta_data_SettingsWidget[] [static]

Definition at line 59 of file moc_settingswidget.cpp.

13.203.3.2 const qt_meta_stringdata_SettingsWidget_t qt_meta_stringdata_SettingsWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  37    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  38    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  59    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  65    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  87    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  108    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  128    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  148    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  169    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  177    -  11  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  201    -  12  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  224    -  13  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  241    -  14  *
      sizeof(QByteArrayData))   )

    },
    "SettingsWidget\0on_pushButton_clicked\0"
    "\0on_capsBox_activated\0index\0"
    "on_shiftBox_activated\0on_ctrlBox_activated\0"
    "on_altBox_activated\0on_winBox_activated\0"
    "on_autoFWBox_clicked\0checked\0"
    "on_loginItemBox_clicked\0on_layoutBox_activated\0"
    "showLayoutDialog\0on_extraButton_clicked"
}
```

Definition at line 30 of file moc_settingswidget.cpp.

13.204 src/ckb/release/qrc_binary.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- bool qUnregisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- int qInitResources_binary ()
- int qCleanupResources_binary ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.204.1 Macro Definition Documentation

13.204.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 147 of file qrc_binary.cpp.

13.204.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 146 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.2 Function Documentation

13.204.2.1 int qCleanupResources_binary ( )

Definition at line 171 of file qrc_binary.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
{
    QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
        (0x01, qt_resource_struct, qt_resource_name,
    qt_resource_data);
    return 1;
}
```

Here is the call graph for this function:

13.204.2.2 int qInitResources_binary ( )

Definition at line 163 of file qrc_binary.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
164 {
165     QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
166         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
167     return 1;
168 }
```

Here is the call graph for this function:

13.204.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_binary().

Here is the caller graph for this function:

13.204.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_binary().

Here is the caller graph for this function:

13.204.3 Variable Documentation

13.204.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.3.2 const unsigned char qt_resource_name[] [static]

Initial value:

```
= {

  0x0,0x3,
  0x0,0x0,0x68,0xfe,
  0x0,0x62,
  0x0,0x69,0x0,0x6e,

  0x0,0x10,
  0x9,0x4b,0x25,0x27,
  0x0,0x63,
  0x0,0x6b,0x0,0x62,0x0,0x2d,0x0,0x6e,0x0,0x65,0x0,0x78,0x0,0x74,0x0,0x2d,0x0,0x6b,0x0,0x65,0x0,0x79,0x0,
      0x2e,0x0,0x67,0x0,0x70,0x0,0x67,

}
```

Definition at line 114 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.3.3 const unsigned char qt_resource_struct[] [static]

Initial value:

```
= {

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x1,

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x2,

  0x0,0x0,0x0,0xc,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x0,

}
```

Definition at line 128 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.205 src/ckb/release/qrc_image.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- bool qUnregisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- int qInitResources_image ()
- int qCleanupResources_image ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.205.1 Macro Definition Documentation

13.205.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 14160 of file qrc_image.cpp.

13.205.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 14159 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.2 Function Documentation

13.205.2.1 int qCleanupResources_image ( )

Definition at line 14184 of file qrc_image.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
{
    QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
        (0x01, qt_resource_struct, qt_resource_name,
qt_resource_data);
    return 1;
}
```

Here is the call graph for this function:

13.205.2.2 int qInitResources_image ( )

Definition at line 14176 of file qrc_image.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
{
    QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
        (0x01, qt_resource_struct, qt_resource_name,
qt_resource_data);
    return 1;
}
```

Here is the call graph for this function:

13.205.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_image().

Here is the caller graph for this function:

13.205.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_image().

Here is the caller graph for this function:

13.205.3 Variable Documentation

13.205.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.3.2 const unsigned char qt_resource_name[] [static]

Definition at line 14007 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.3.3 const unsigned char qt_resource_struct[] [static]

Definition at line 14109 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.206 src/ckb/release/qrc_text.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- bool qUnregisterResourceData (int, const unsigned char ∗, const unsigned char ∗, const unsigned char ∗)
- int qInitResources_text ()
- int qCleanupResources_text ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.206.1 Macro Definition Documentation

13.206.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 350 of file qrc_text.cpp.

13.206.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 349 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.2 Function Documentation

13.206.2.1 int qCleanupResources_text ( )

Definition at line 374 of file qrc_text.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
{
    QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
        (0x01, qt_resource_struct, qt_resource_name,
    qt_resource_data);
    return 1;
}
```

Here is the call graph for this function:

13.206.2.2 int qInitResources_text ( )

Definition at line 366 of file qrc_text.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
{
    QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
        (0x01, qt_resource_struct, qt_resource_name, qt_resource_data);
    return 1;
}
```

Here is the call graph for this function:

13.206.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_text().

Here is the caller graph for this function:

13.206.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_text().

Here is the caller graph for this function:

13.206.3 Variable Documentation

13.206.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.3.2 const unsigned char qt_resource_name[] [static]

Initial value:

```
= {

  0x0,0x3,
  0x0,0x0,0x7b,0xf4,
  0x0,0x74,
  0x0,0x78,0x0,0x74,

  0x0,0xb,
  0xa,0x1e,0x1,0xe0,
  0x0,0x63,
  0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,0x64,0x0,0x65,0x0,0x73,0x0,0x6b,0x0,0x74,0x0,0x6f,0x0,0x70,

  0x0,0x10,
  0xe,0xac,0xaf,0x46,
  0x0,0x64,
  0x0,0x65,0x0,0x6d,0x0,0x6f,0x0,0x70,0x0,0x72,0x0,0x6f,0x0,0x66,0x0,0x69,0x0,0x6c,0x0,0x65,0x0,0x2e,0x0,
      0x63,0x0,0x6f,0x0,0x6e,0x0,0x66,

  0x0,0x11,
  0x0,0xd4,0x25,0xa4,
  0x0,0x63,
  0x0,0x6f,0x0,0x6d,0x0,0x2e,0x0,0x63,0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,0x63,0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,
      0x70,0x0,0x6c,0x0,0x69,0x0,0x73,0x0,0x74,


}
```

Definition at line 302 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.3.3 const unsigned char qt_resource_struct[] [static]

Initial value:

```
= {

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x1,
```

```
  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x3,0x0,0x0,0x0,0x2,
  0x0,0x0,0x0,0x4e,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0xf,0x74,
  0x0,0x0,0x0,0xc,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x0,
  0x0,0x0,0x0,0x28,0x0,0x1,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0xc6,
}
```

Definition at line 327 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.207 src/ckb/rlistwidget.cpp File Reference

```
#include <QUuid>
#include "rlistwidget.h"
```

Include dependency graph for rlistwidget.cpp:

13.208 src/ckb/rlistwidget.h File Reference

```
#include <QListWidget>
#include <QTimer>
```

Include dependency graph for rlistwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class RListWidget

13.209 src/ckb/settingswidget.cpp File Reference

```
#include <QTimer>
#include "animscript.h"
#include "autorun.h"
#include "ckbsettings.h"
#include "kb.h"
#include "layoutdialog.h"
#include "settingswidget.h"
#include "ui_settingswidget.h"
```

Include dependency graph for settingswidget.cpp:

Functions

- static QString right (const QString &left)

Variables

- QString devpath

  Device path base ("/dev/input/ckb" or "/var/run/ckb")
- static QStringList modKeys
- static QStringList modNames

13.209.1 Function Documentation

13.209.1.1 static QString right (const QString & *left*) [inline],[static]

Definition at line 118 of file settingswidget.cpp.

References left.

Referenced by _cmd_macro(), GradientDialogWidget::mouseMoveEvent(), readcmd(), and SettingsWidget::updateModifiers().

```
118                                                 {
119     if(left[0] != 'l')
120         return left;
121     return "r" + left.mid(1);
122 }
```

Here is the caller graph for this function:

13.209.2 Variable Documentation

13.209.2.1 QString devpath

Definition at line 4 of file kbmanager.cpp.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_inputmain(), os_setupusb(), rmdevpath(), and KbManager::scanKeyboards().

13.209.2.2 QStringList modKeys [static]

Definition at line 13 of file settingswidget.cpp.

Referenced by SettingsWidget::SettingsWidget(), and SettingsWidget::updateModifiers().

13.209.2.3 QStringList modNames [static]

Definition at line 13 of file settingswidget.cpp.

Referenced by SettingsWidget::SettingsWidget().

13.210 src/ckb/settingswidget.h File Reference

```
#include <QWidget>
#include "extrasettingswidget.h"
```

Include dependency graph for settingswidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class SettingsWidget

Namespaces

- Ui

13.211 src/ckb/ui_animadddialog.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_animadddialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_AnimAddDialog
- class Ui::AnimAddDialog

Namespaces

- Ui

13.212 src/ckb/ui_animsettingdialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QDoubleSpinBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_animsettingdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_AnimSettingDialog
- class Ui::AnimSettingDialog

Namespaces

- Ui

13.213 src/ckb/ui_extrasettingswidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_extrasettingswidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_ExtraSettingsWidget
- class Ui::ExtraSettingsWidget

Namespaces

- Ui

13.214 src/ckb/ui_fwupgradedialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QProgressBar>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_fwupgradedialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_FwUpgradeDialog
- class Ui::FwUpgradeDialog

Namespaces

- Ui

13.215 src/ckb/ui_gradientdialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QGroupBox>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QListWidget>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include "colorbutton.h"
#include "gradientdialogwidget.h"
```

Include dependency graph for ui_gradientdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_GradientDialog
- class Ui::GradientDialog

Namespaces

- Ui

13.216 src/ckb/ui_kbanimwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDoubleSpinBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QStackedWidget>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "rlistwidget.h"
```

Include dependency graph for ui_kbanimwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KbAnimWidget
- class Ui::KbAnimWidget

Namespaces

- Ui

13.217 src/ckb/ui_kbbindwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "keywidget.h"
#include "rebindwidget.h"
```

Include dependency graph for ui_kbbindwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KbBindWidget
- class Ui::KbBindWidget

Namespaces

- Ui

13.218 src/ckb/ui_kblightwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "colorbutton.h"
#include "kbanimwidget.h"
#include "keywidget.h"
```

Include dependency graph for ui_kblightwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KbLightWidget
- class Ui::KbLightWidget

Namespaces

- Ui

13.219 src/ckb/ui_kbprofiledialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QSpacerItem>
#include "rlistwidget.h"
```

Include dependency graph for ui_kbprofiledialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KbProfileDialog
- class Ui::KbProfileDialog

Namespaces

- Ui

13.220 src/ckb/ui_kbwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
#include <kblightwidget.h>
#include "kbbindwidget.h"
#include "kperfwidget.h"
#include "mperfwidget.h"
#include "rlistwidget.h"
```

Include dependency graph for ui_kbwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KbWidget
- class Ui::KbWidget

Namespaces

- Ui

13.221 src/ckb/ui_kperfwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QWidget>
#include <colorbutton.h>
```

Include dependency graph for ui_kperfwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_KPerfWidget
- class Ui::KPerfWidget

Namespaces

- Ui

13.222 src/ckb/ui_layoutdialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_layoutdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_LayoutDialog
- class Ui::LayoutDialog

Namespaces

- Ui

13.223 src/ckb/ui_mainwindow.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QMainWindow>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_mainwindow.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_MainWindow
- class Ui::MainWindow

Namespaces

- Ui

13.224 src/ckb/ui_modeselectdialog.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QListWidget>
#include <QtWidgets/QPushButton>
```

Include dependency graph for ui_modeselectdialog.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_ModeSelectDialog
- class Ui::ModeSelectDialog

Namespaces

- Ui

13.225 src/ckb/ui_mperfwidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSlider>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include <colorbutton.h>
```

Include dependency graph for ui_mperfwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_MPerfWidget
- class Ui::MPerfWidget

Namespaces

- Ui

13.226 src/ckb/ui_rebindwidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QGroupBox>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QPlainTextEdit>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QRadioButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_rebindwidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_RebindWidget
- class Ui::RebindWidget

Namespaces

- Ui

13.227 src/ckb/ui_settingswidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_settingswidget.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- class Ui_SettingsWidget
- class Ui::SettingsWidget

Namespaces

- Ui

Index

~AnimAddDialog
AnimAddDialog, 50
~AnimScript
AnimScript, 59
~AnimSettingDialog
AnimSettingDialog, 107
~CkbSettings
CkbSettings, 127
~CkbSettingsWriter
CkbSettingsWriter, 140
~ColorMap
ColorMap, 152
~ExtraSettingsWidget
ExtraSettingsWidget, 178
~FwUpgradeDialog
FwUpgradeDialog, 187
~GradientDialog
GradientDialog, 218
~KPerfWidget
KPerfWidget, 711
~Kb
Kb, 266
~KbAnimWidget
KbAnimWidget, 351
~KbBindWidget
KbBindWidget, 406
~KbFirmware
KbFirmware, 417
~KbLight
KbLight, 431
~KbLightWidget
KbLightWidget, 467
~KbMode
KbMode, 495
~KbProfileDialog
KbProfileDialog, 559
~KbWidget
KbWidget, 575
~KeyAction
KeyAction, 611
~LayoutDialog
LayoutDialog, 724
~MPerfWidget
MPerfWidget, 786
~MacroReader
MacroReader, 728
~MainWindow
MainWindow, 741
~ModeSelectDialog
ModeSelectDialog, 758
~QuaGzipFile
QuaGzipFile, 821
~QuaZIODevice
QuaZIODevice, 827
~QuaZip
QuaZip, 836
~QuaZipDir
QuaZipDir, 867
~QuaZipFile
QuaZipFile, 887
~QuaZipFilePrivate
QuaZipFilePrivate, 918
~RebindWidget
RebindWidget, 975
~SGroup
SGroup, 1037
~SettingsWidget
SettingsWidget, 1015
_LAYOUT_MAX
KeyMap, 639
_MODEL_MAX
KeyMap, 640
_model, 1581
_readlines_ctx, 1257
_DEFAULT_SOURCE
os.h, 1463
_FILE_OFFSET_BIT
ioapi.h, 1777
_GNU_SOURCE
os.h, 1463
_LARGEFILE64_SOURCE
ioapi.h, 1778
_Z_OF
ioapi.h, 1780
unzip.c, 1828
unzip.h, 1882, 1883
zip.c, 1901
zip.h, 1954, 1955
__FILE_NOPATH__
includes.h, 1298
__USE_FILE_OFFSET64
ioapi.h, 1777
__USE_LARGEFILE64
ioapi.h, 1777
_alpha
ColorButton, 150
GradientButton, 206
_angleSnap

KbPerf, 536
_anim
AnimSettingDialog, 118
_animList
KbLight, 454
_animMap
KbLight, 454
_backing
CkbSettingsWriter, 141
_bigIcons
ColorButton, 150
_bind
KbBind, 395
KbMode, 504
_bindMap
KeyWidget, 682
_checkUpdates
KbFirmware, 417
_cmd_get
notify.c, 1451
_cmd_macro
input.c, 1302
_color
ColorButton, 150
_colorBuffer
AnimScript, 83
_colorMap
KbLight, 455
KeyWidget, 682
_colors
AnimScript, 83
ColorMap, 159
GradientDialogWidget, 242
_count
ColorMap, 159
_curDpi
KbPerf, 511
_current
GradientDialogWidget, 242
_currentMode
Kb, 307
KbProfile, 556
_currentProfile
Kb, 307
_daemonVersion
KbManager, 489
_delay
Kb, 307
_devParent
KbBind, 395
_devices
KbManager, 489
_dimming
KbLight, 455
_displayColorMap
KeyWidget, 683
_dither
Kb, 307
_dpiIndicator
KbPerf, 536
_eventTimer
KbManager, 489
_fileForBoard
KbFirmware, 418
_frameRate
Kb, 307
_freeprofile
profile.c, 1465
_friendlyName
Key, 605
_globalRemap
KbBind, 395
_globalSettings
ckbsettings.cpp, 1672
_guiVersion
KbManager, 489
_guid
KbAnim, 336
_hwProfile
Kb, 307
_iOpacity
KbPerf, 536
_id
KbMode, 504
KbProfile, 556
_indicatorList
KbLight, 455
_indicatorMap
KbLight, 455
_indicators
KeyWidget, 683
_info
AnimScript, 83
_isActive
KbAnim, 336
_isActiveKp
KbAnim, 336
_kbManager
KbManager, 490
_keyMap
KbProfile, 556
_keyNames
ColorMap, 159
_keys
AnimAddDialog, 53
AnimScript, 83
KbAnim, 336
KeyMap, 660
_kiss_fft_guts.h
C_ADD, 1608
C_ADDTO, 1608
C_FIXDIV, 1608
C_MUL, 1608
C_MULBYSCALAR, 1608
C_SUB, 1609
C_SUBFROM, 1609

HALF_OF, 1609
KISS_FFT_COS, 1609
KISS_FFT_SIN, 1609
kf_cexp, 1609
MAXFACTORS, 1610
pcpx, 1610
S_MUL, 1610
_lastFrameAnimMap
KbLight, 455
_lastFrameDimming
KbLight, 455
_lastFrameIndicatorMap
KbLight, 455
_latestForBoard
KbFirmware, 419
_layout
Kb, 308
_ledthread
input_linux.c, 1327
_liftHeight
KbPerf, 537
_light
AnimAddDialog, 53
KbMode, 504
_map
AnimScript, 83
KbAnim, 336
KbBind, 395
KbLight, 455
_mapCount
ColorMap, 159
_mkdevpath
devnode.c, 1257
_mknotifynode
devnode.c, 1260
_mode
KbAnim, 336
_modeList
ModeSelectDialog, 760
_model
Kb, 308
_modes
KbProfile, 556
_monochrome
KeyWidget, 683
_mouseAccel
Kb, 308
_name
KbAnim, 336
KbMode, 504
KbProfile, 556
_needsMapRefresh
KbLight, 455
_needsSave
Kb, 308
KbAnim, 336
KbBind, 395
KbLight, 455
KbMode, 504
KbPerf, 537
KbProfile, 557
_needsUpdate
KbBind, 396
KbPerf, 537
_nk95cmd
usb.h, 1551
usb_linux.c, 1582
_opacity
KbAnim, 337
_paramValues
AnimScript, 83
_parameters
KbAnim, 337
_patch
keymap.cpp, 1720
_path
AnimScript, 83
_perf
KbMode, 504
_presetValues
AnimScript, 84
_presets
AnimScript, 83
_previewAnim
KbLight, 456
_profiles
Kb, 308
_qColorMap
KbLight, 456
_removals
CkbSettingsWriter, 141
_resetusb
usb.c, 1521
usb.h, 1553
_rgbMode
KeyWidget, 683
_rmnotifynode
devnode.c, 1261
_scanTimer
KbManager, 490
_script
KbAnim, 337
_scriptGuid
KbAnim, 337
_scriptName
KbAnim, 337
_scrollSpeed
Kb, 308
_setLabel
ColorButton, 150
_settings
SGroup, 1037
_setupusb
usb.c, 1521
_shareDimming
kblight.cpp, 1702

_start
KbLight, 456
_start_dev
device.c, 1232
_stops
GradientButton, 206
GradientDialogWidget, 242
_storageName
Key, 605
_tempParameters
KbAnim, 337
_updateconnected
devnode.c, 1261
_updates
CkbSettingsWriter, 141
_usbrecv
usb.c, 1525
usb.h, 1553
_usbsend
usb.c, 1527
usb.h, 1555
_value
KeyAction, 633
_winLock
KbBind, 396
_xyLink
MPerfWidget, 796

ACCEL
command.h, 1225
ACTIVE
command.h, 1225
ADD
KeyWidget, 665
ALWAYS_OFF
KPerfWidget, 709
ALWAYS_ON
KPerfWidget, 709
ACT_LIGHT
device.h, 1236
ACT_LOCK
device.h, 1236
ACT_M1
device.h, 1236
ACT_M2
device.h, 1236
ACT_M3
device.h, 1237
ACT_MR_RING
device.h, 1237
ACT_NEXT
device.h, 1237
ACT_NEXT_NOWRAP
device.h, 1237
aCopyLabel
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1086
ALLOC
unzip.c, 1826
zip.c, 1898
aMissingLabel
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1086
aMissingPage
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1086
ANGLE
ckb-pinwheel/main.c, 1420
ANIM_KRSTOP
keyaction.cpp, 1713
ANIM_MAX
ckb-ripple/main.c, 1437
ckb-wave/main.c, 1443
ANIM_ONCE
keyaction.cpp, 1713
ANSI_ENTER_H
keymap.cpp, 1716
ANSI_ENTER_W
keymap.cpp, 1716
ANSI_ENTER_X
keymap.cpp, 1716
ANSI_ENTER_Y
keymap.cpp, 1716
ANSI_LSHIFT_W
keymap.cpp, 1717
ANSI_LSHIFT_X
keymap.cpp, 1717
aNameLabel
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1086
APPEND_STATUS_CREATE
zip.h, 1952
aSnapBox
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1161
AUTO_CHECK_TIME
kbfirmware.cpp, 1698
aVerLabel
Ui::KbAnimWidget, 345
Ui_KbAnimWidget, 1087
aa
ckb-rain/main.c, 1429
ab
ckb-rain/main.c, 1429
action
KbBind, 370
actionAbout
Ui::MainWindow, 736
Ui_MainWindow, 1145
actionButton
Ui::FwUpgradeDialog, 198
Ui_FwUpgradeDialog, 1071
actionExit
Ui::MainWindow, 736
Ui_MainWindow, 1145
actionTab
Ui::RebindWidget, 955

Ui_RebindWidget, 1185
active
devcmd.__unnamed__, 161
activeDevices
kb.cpp, 1689
activeLights
kblight.cpp, 1702
Add
KbAnim, 314
add_data_in_datablock
zip.c, 1901
addAnim
KbAnimWidget, 351
KbLight, 431
addCurrentFileToDirectoryMap
QuaZipPrivate, 932
addDevice
MainWindow, 742
addNewModeItem
KbWidget, 575
addNewProfileItem
KbProfileDialog, 559
addPreset
GradientDialog, 218
adjustDisplay
KeyAction, 611
advance
AnimScript, 60
ag
ckb-rain/main.c, 1429
alloc
ColorMap, 153
allocate_new_datablock
zip.c, 1902
allocprofile
devcmd.__unnamed__, 161
profile.c, 1466
profile.h, 1482
allowAlpha
ColorButton, 144, 145
altBox
Ui::SettingsWidget, 1030
Ui_SettingsWidget, 1207
altLabel
Ui::SettingsWidget, 1030
Ui_SettingsWidget, 1207
angle
ckb-wave/main.c, 1449
angleDialChanged
AnimSettingDialog, 107
angleDialMapper
AnimSettingDialog, 118
angleFlip
animsettingdialog.cpp, 1643
angleSnap
KbPerf, 511, 512
angleSpinnerChanged
AnimSettingDialog, 108
angleSpinnerMapper
AnimSettingDialog, 118
angleSpinners
AnimSettingDialog, 118
anim
ckb-gradient/main.c, 1407
ckb-ripple/main.c, 1440
ckb-wave/main.c, 1449
AnimScript::Param, 58, 1641
anim_add
ckb-heat/main.c, 1409
ckb-mviz/main.c, 1414
ckb-ripple/main.c, 1437
ckb-wave/main.c, 1443
anim_remove
ckb-heat/main.c, 1410
ckb-mviz/main.c, 1414
ckb-ripple/main.c, 1437
ckb-wave/main.c, 1443
animAction
KeyAction, 612
AnimAddDialog, 48
~AnimAddDialog, 50
_keys, 53
_light, 53
AnimAddDialog, 49
AnimAddDialog, 49
chosenPreset, 50
chosenScript, 51
on_animBox_activated, 51
on_presetBox_activated, 52
on_previewBox_clicked, 53
scripts, 53
showPreview, 53
ui, 54
animBox
Ui::AnimAddDialog, 46
Ui::RebindWidget, 955
Ui_AnimAddDialog, 1041
Ui_RebindWidget, 1185
animButton
Ui::KbLightWidget, 462
Ui::RebindWidget, 955
Ui_KbLightWidget, 1101
Ui_RebindWidget, 1185
animChanged
KbAnimWidget, 352
animCountLabel
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1062
animInfo
KeyAction, 613
animKeypress
KbLight, 432
animKrBox
Ui::RebindWidget, 955
Ui_RebindWidget, 1185
AnimList

KbLight, 430
animList
KbLight, 433
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1086
animName
Ui::AnimSettingDialog, 93
Ui_AnimSettingDialog, 1049
animOnceBox
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
animPage
Ui::KbAnimWidget, 344
Ui_KbAnimWidget, 1087
animPathLabel
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1062
animScanButton
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1063
AnimScript, 54
~AnimScript, 59
_colorBuffer, 83
_colors, 83
_info, 83
_keys, 83
_map, 83
_paramValues, 83
_path, 83
_presetValues, 84
_presets, 83
advance, 60
AnimScript, 59
AnimScript, 59
author, 60
begin, 61
colors, 62
copy, 62
copyright, 63
count, 63
description, 64
durationMsec, 84
end, 64
firstFrame, 84
frame, 65
guid, 66
hasFrame, 66
hasKeypress, 67
hasParam, 67
inFrame, 84
init, 68
initialized, 84
KP_NAME, 84
KP_NONE, 84
KP_POSITION, 84
keypress, 69
lastFrame, 84
license, 70
list, 70
load, 71
minX, 85
minY, 85
name, 74
param, 74
paramIterator, 76
parameters, 75
path, 76
preset, 76
PresetValue, 59
presets, 77
printParams, 77
process, 85
readAnyFrame, 85
readFrame, 85
readProcess, 78
repeatMsec, 85
retrigger, 79
scan, 80
scripts, 85
setDuration, 80
stop, 81
stopped, 85
version, 82
year, 82
AnimSettingDialog, 99
~AnimSettingDialog, 107
_anim, 118
angleDialChanged, 107
angleDialMapper, 118
angleSpinnerChanged, 108
angleSpinnerMapper, 118
angleSpinners, 118
AnimSettingDialog, 102
AnimSettingDialog, 102
hLine, 109
hasRepeat, 119
kpStopCheck, 119
lastDuration, 119
name, 110
newDuration, 110
on_delayBox_valueChanged, 111
on_kpDelayBox_valueChanged, 112
on_kpReleaseBox_stateChanged, 112
on_kpRepeatBox_valueChanged, 113
on_repeatBox_valueChanged, 113
settingWidgets, 119
stopCheck, 119
ui, 119
updateMapper, 119
updateParam, 114
updateStops, 117
animTab
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
animWidget
Ui::KbLightWidget, 462

Ui_KbLightWidget, 1102
animation
KeyWidget, 683
animations
KbAnimWidget, 365
animcolor
ckb-gradient/main.c, 1407
ckb-heat/main.c, 1413
ckb-mviz/main.c, 1419
ckb-pinwheel/main.c, 1423
ckb-ripple/main.c, 1441
ckb-wave/main.c, 1449
animlength
ckb-pinwheel/main.c, 1423
ckb-ripple/main.c, 1441
ckb-wave/main.c, 1449
anims
ckb-heat/main.c, 1413
animscript.cpp
ONE_DAY, 1640
urlParam, 1640
animsettingdialog.cpp
angleFlip, 1643
appShare
main.cpp, 1753
mainwindow.cpp, 1758
append
KbProfile, 544
appendProfile
Kb, 269
applyButton
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
applyChanges
RebindWidget, 975
applyIndicators
KbPerf, 512
ar
ckb-rain/main.c, 1429
atEnd
QuaZipFile, 887
author
AnimScript, 60
autoClose
QuaZipPrivate, 936
autoFWBox
Ui::SettingsWidget, 1030
Ui_SettingsWidget, 1207
AutoRun, 120
available, 120
disable, 121
enable, 121
isEnabled, 122
once, 123
autoSave
Kb, 269
autorun.cpp
settingPath, 1645
available
AutoRun, 120

BIND
command.h, 1226
BOTH
KPerfWidget, 709
BR1
led_keyboard.c, 1379
BR2
led_keyboard.c, 1379
BR4
led_keyboard.c, 1379
BTN_WHEELDOWN
daemon/keymap.h, 1736
BTN_WHEELUP
daemon/keymap.h, 1736
BUFREADCOMMENT
unzip.c, 1827
zip.c, 1899
BUILD.md, 1217
BUTTON_HID_COUNT
keymap.c, 1334
backing
CkbSettings, 138
base
KbLight, 433
baseDpiIdx
KbPerf, 513, 514
begin
AnimScript, 61
beginGroup
CkbSettings, 127
bgButton
Ui::KbLightWidget, 462
Ui_KbLightWidget, 1102
bigIcons
ColorButton, 145, 146
bind
devcmd.__unnamed__, 161
KbBindWidget, 414
KbMode, 495
KbPerf, 514
RebindWidget, 1003
bindAction
KbBind, 371
BindMap
KeyWidget, 664
bindMap
KeyWidget, 665
bindTab
Ui::KbWidget, 599
Ui_KbWidget, 1114
bindWidget
Ui::KbWidget, 599
Ui_KbWidget, 1114
binding, 1506
bit_reverse_table
led_keyboard.c, 1387

blend
KbAnim, 317
blendAdd
kbanim.cpp, 1691
blendBox
Ui::KbAnimWidget, 345
Ui_KbAnimWidget, 1087
blendDivide
kbanim.cpp, 1691
blendFunc
kbanim.cpp, 1691
blendMultiply
kbanim.cpp, 1691
blendNormal
kbanim.cpp, 1691
blendSubtract
kbanim.cpp, 1692
blob
FwUpgradeDialog, 192
boxXChanged
MPerfWidget, 786
boxXMapper
MPerfWidget, 796
boxYChanged
MPerfWidget, 787
boxYMapper
MPerfWidget, 796
brightnessBox
Ui::ExtraSettingsWidget, 170
Ui::KbLightWidget, 462
Ui_ExtraSettingsWidget, 1063
Ui_KbLightWidget, 1102
btnClearMacro
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
btnStartMacro
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
btnStopMacro
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
builtIn
GradientDialog::Preset, 799
buttonBox
Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 93
Ui::ExtraSettingsWidget, 170
Ui::GradientDialog, 211
Ui::KbProfileDialog, 570
Ui::LayoutDialog, 721
Ui::ModeSelectDialog, 755
Ui_AnimAddDialog, 1041
Ui_AnimSettingDialog, 1049
Ui_ExtraSettingsWidget, 1063
Ui_GradientDialog, 1078
Ui_KbProfileDialog, 1107
Ui_LayoutDialog, 1141
Ui_ModeSelectDialog, 1149
buttonMapper1
MPerfWidget, 796
buttonMapper2
MPerfWidget, 796
byPosition
KeyMap, 641
bytesAvailable
QuaZipFile, 888

CAPS
KbPerf, 509
CMD_FIRST
command.h, 1225
CMD_LAST
command.h, 1226
CMD_VT_FIRST
command.h, 1225
C_ADD
_kiss_fft_guts.h, 1608
C_ADDTO
_kiss_fft_guts.h, 1608
C_FIXDIV
_kiss_fft_guts.h, 1608
C_MUL
_kiss_fft_guts.h, 1608
C_MULBYSCALAR
_kiss_fft_guts.h, 1608
C_SUB
_kiss_fft_guts.h, 1609
C_SUBFROM
_kiss_fft_guts.h, 1609
CENTRALHEADERMAGIC
zip.c, 1899
CKB_CONTAINER
ckb-anim.h, 1651
CKB_COPYRIGHT
ckb-anim.h, 1651
CKB_DESCRIPTION
ckb-anim.h, 1651
CKB_DOWN
ckb-anim.h, 1652
CKB_GRAD_MAX
ckb-anim.h, 1652
CKB_GUID
ckb-anim.h, 1652
CKB_KEYCLEAR
ckb-anim.h, 1652
CKB_KEYNAME_MAX
ckb-anim.h, 1652
CKB_KP_NAME
ckb-anim.h, 1652
CKB_KP_NONE
ckb-anim.h, 1652
CKB_KP_POSITION
ckb-anim.h, 1652
CKB_KPMODE
ckb-anim.h, 1652
CKB_LICENSE
ckb-anim.h, 1653

CKB_LIVEPARAMS
ckb-anim.h, 1653
CKB_MAX_WORD
ckb-anim.h, 1653
CKB_NAME
ckb-anim.h, 1653
CKB_PARAM
ckb-anim.h, 1653
CKB_PARAM_AGRADIENT
ckb-anim.h, 1653
CKB_PARAM_ANGLE
ckb-anim.h, 1653
CKB_PARAM_ARGB
ckb-anim.h, 1653
CKB_PARAM_BOOL
ckb-anim.h, 1653
CKB_PARAM_DOUBLE
ckb-anim.h, 1654
CKB_PARAM_GRADIENT
ckb-anim.h, 1654
CKB_PARAM_LABEL
ckb-anim.h, 1654
CKB_PARAM_LONG
ckb-anim.h, 1654
CKB_PARAM_RGB
ckb-anim.h, 1654
CKB_PARAM_STRING
ckb-anim.h, 1654
CKB_PARSE_AGRADIENT
ckb-anim.h, 1654
CKB_PARSE_ANGLE
ckb-anim.h, 1654
CKB_PARSE_ARGB
ckb-anim.h, 1654
CKB_PARSE_BOOL
ckb-anim.h, 1655
CKB_PARSE_DOUBLE
ckb-anim.h, 1655
CKB_PARSE_GRADIENT
ckb-anim.h, 1655
CKB_PARSE_LONG
ckb-anim.h, 1655
CKB_PARSE_RGB
ckb-anim.h, 1655
CKB_PARSE_STRING
ckb-anim.h, 1655
CKB_PREEMPT
ckb-anim.h, 1655
CKB_PRESET_END
ckb-anim.h, 1655
CKB_PRESET_PARAM
ckb-anim.h, 1655
CKB_PRESET_START
ckb-anim.h, 1656
CKB_REAL_ANGLE
ckb-anim.h, 1656
CKB_REPEAT
ckb-anim.h, 1656
CKB_TIME_ABSOLUTE
ckb-anim.h, 1656
CKB_TIME_DURATION
ckb-anim.h, 1656
CKB_TIMEMODE
ckb-anim.h, 1656
CKB_UP
ckb-anim.h, 1656
CKB_VERSION
ckb-anim.h, 1656
CLEAR_KEYBIT
structures.h, 1515
CMD_COUNT
command.h, 1224
CMD_DEV_COUNT
command.h, 1224
CRC32
crypt.h, 1771
cacheWritesInProgress
ckbsettings.cpp, 1671
ckbsettingswriter.cpp, 1675
calculate
QuaAdler32, 810
QuaChecksum32, 813
QuaCrc32, 816
call_zopen64
qioapi.cpp, 1785
call_zseek64
qioapi.cpp, 1785
call_ztell64
qioapi.cpp, 1785
cancelButton
Ui::FwUpgradeDialog, 198
Ui::RebindWidget, 956
Ui_FwUpgradeDialog, 1072
Ui_RebindWidget, 1186
capsBox
Ui::KPerfWidget, 696
Ui::SettingsWidget, 1030
Ui_KPerfWidget, 1128
Ui_SettingsWidget, 1207
capsColorOff
Ui::KPerfWidget, 696
Ui_KPerfWidget, 1128
capsColorOn
Ui::KPerfWidget, 696
Ui_KPerfWidget, 1129
capsLabel
Ui::SettingsWidget, 1030
Ui_SettingsWidget, 1207
CaseSensitivity
QuaZip, 835
caseSensitivity
QuaZipDir, 868
QuaZipFilePrivate, 919
catchUp
KbAnim, 318
cd

QuaZipDir, 868
cdUp
QuaZipDir, 870
centralWidget
Ui::MainWindow, 736
Ui_MainWindow, 1145
change
RListWidget, 1008
changeAnim
KbLightWidget, 468
changeAnimKeys
KbLightWidget, 468
changeColor
KbLightWidget, 469
checkFwUpdates
MainWindow, 742
checkUpdates
KbFirmware, 420
checksum
QuaAdler32, 811
QuaCrc32, 817
childGroups
CkbSettings, 127
childKeys
CkbSettings, 128
chosenPreset
AnimAddDialog, 50
chosenScript
AnimAddDialog, 51
ckb-anim.h
CKB_CONTAINER, 1651
CKB_COPYRIGHT, 1651
CKB_DESCRIPTION, 1651
CKB_DOWN, 1652
CKB_GRAD_MAX, 1652
CKB_GUID, 1652
CKB_KEYCLEAR, 1652
CKB_KEYNAME_MAX, 1652
CKB_KP_NAME, 1652
CKB_KP_NONE, 1652
CKB_KP_POSITION, 1652
CKB_KPMODE, 1652
CKB_LICENSE, 1653
CKB_LIVEPARAMS, 1653
CKB_MAX_WORD, 1653
CKB_NAME, 1653
CKB_PARAM, 1653
CKB_PARAM_AGRADIENT, 1653
CKB_PARAM_ANGLE, 1653
CKB_PARAM_ARGB, 1653
CKB_PARAM_BOOL, 1653
CKB_PARAM_DOUBLE, 1654
CKB_PARAM_GRADIENT, 1654
CKB_PARAM_LABEL, 1654
CKB_PARAM_LONG, 1654
CKB_PARAM_RGB, 1654
CKB_PARAM_STRING, 1654
CKB_PARSE_AGRADIENT, 1654
CKB_PARSE_ANGLE, 1654
CKB_PARSE_ARGB, 1654
CKB_PARSE_BOOL, 1655
CKB_PARSE_DOUBLE, 1655
CKB_PARSE_GRADIENT, 1655
CKB_PARSE_LONG, 1655
CKB_PARSE_RGB, 1655
CKB_PARSE_STRING, 1655
CKB_PREEMPT, 1655
CKB_PRESET_END, 1655
CKB_PRESET_PARAM, 1655
CKB_PRESET_START, 1656
CKB_REAL_ANGLE, 1656
CKB_REPEAT, 1656
CKB_TIME_ABSOLUTE, 1656
CKB_TIME_DURATION, 1656
CKB_TIMEMODE, 1656
CKB_UP, 1656
CKB_VERSION, 1656
ckb_alpha_blend, 1657
ckb_frame, 1657
ckb_getline, 1658
ckb_grad_color, 1659
ckb_info, 1660
ckb_init, 1661
ckb_keypress, 1661
ckb_parameter, 1663
ckb_read_params, 1663
ckb_scan_grad, 1664
ckb_start, 1665
ckb_time, 1666
FALSE, 1656
M_PI, 1657
main, 1666
printurl, 1668
TRUE, 1657
urldecode, 1669
ckb-daemon/main.c
features_mask, 1401
hwload_mode, 1401
localecase, 1393
main, 1394
main_ac, 1401
main_av, 1401
quit, 1396
quitWithLock, 1397
reset_stop, 1401
restart, 1398
sighandler, 1399
sighandler2, 1400
timespec_add, 1400
ckb-gradient/main.c
anim, 1407
animcolor, 1407
ckb_frame, 1403
ckb_info, 1404
ckb_init, 1405
ckb_keypress, 1405

ckb_parameter, 1406
ckb_start, 1406
ckb_time, 1407
HOLD, 1403
kphold, 1407
kprelease, 1407
NONE, 1403
randomize, 1407
ckb-heat/main.c
anim_add, 1409
anim_remove, 1410
animcolor, 1413
anims, 1413
ckb_frame, 1410
ckb_info, 1411
ckb_init, 1411
ckb_keypress, 1412
ckb_parameter, 1412
ckb_start, 1412
ckb_time, 1412
ffade, 1413
pressestofull, 1413
randomBright, 1413
ckb-mviz/main.c
anim_add, 1414
anim_remove, 1414
animcolor, 1419
ckb_frame, 1415
ckb_info, 1415
ckb_init, 1416
ckb_keypress, 1416
ckb_parameter, 1416
ckb_start, 1416
ckb_time, 1417
gcounter, 1419
getFreqDec, 1417
inbuf, 1419
max, 1418
min, 1418
outbuf, 1419
pas, 1419
power, 1419
powers, 1419
ckb-pinwheel/main.c
ANGLE, 1420
animcolor, 1423
animlength, 1423
ckb_frame, 1421
ckb_info, 1421
ckb_init, 1422
ckb_keypress, 1422
ckb_parameter, 1422
ckb_start, 1422
ckb_time, 1423
counter_clock, 1423
frame, 1423
symmetric, 1423
x, 1423
x_offset, 1424
y, 1424
y_offset, 1424
ckb-rain/main.c
aa, 1429
ab, 1429
ag, 1429
ar, 1429
ckb_frame, 1425
ckb_info, 1426
ckb_init, 1427
ckb_keypress, 1427
ckb_parameter, 1427
ckb_start, 1428
ckb_time, 1428
DROP_MAX, 1425
drop, 1429
drop_add, 1428
maxsize, 1429
period, 1430
spawn, 1430
speed, 1430
tick, 1430
ckb-random/main.c
ckb_frame, 1432
ckb_info, 1432
ckb_init, 1432
ckb_keypress, 1433
ckb_parameter, 1433
ckb_start, 1433
ckb_time, 1434
current, 1435
fadein, 1435
newtarget, 1434
phase, 1435
target, 1435
useopacity, 1435
ckb-ripple/main.c
ANIM_MAX, 1437
anim, 1440
anim_add, 1437
anim_remove, 1437
animcolor, 1441
animlength, 1441
ckb_frame, 1437
ckb_info, 1438
ckb_init, 1439
ckb_keypress, 1439
ckb_parameter, 1439
ckb_start, 1440
ckb_time, 1440
kbsize, 1441
kprelease, 1441
randomize, 1441
symmetric, 1441
x_offset, 1441
y_offset, 1441
ckb-wave/main.c

ANIM_MAX, 1443
angle, 1449
anim, 1449
anim_add, 1443
anim_remove, 1443
animcolor, 1449
animlength, 1449
ckb_frame, 1443
ckb_info, 1444
ckb_init, 1445
ckb_keypress, 1445
ckb_parameter, 1446
ckb_start, 1447
ckb_time, 1448
kprelease, 1449
left, 1449
symmetric, 1449
top, 1449
width, 1449
ckb_gradient, 1651
ckb_key, 1649
ckb_runctx, 1650
ckb_alpha_blend
ckb-anim.h, 1657
ckb_err
includes.h, 1298
ckb_err_fn
includes.h, 1298
ckb_err_nofile
includes.h, 1299
ckb_fatal
includes.h, 1299
ckb_fatal_fn
includes.h, 1299
ckb_fatal_nofile
includes.h, 1299
ckb_frame
ckb-anim.h, 1657
ckb-gradient/main.c, 1403
ckb-heat/main.c, 1410
ckb-mviz/main.c, 1415
ckb-pinwheel/main.c, 1421
ckb-rain/main.c, 1425
ckb-random/main.c, 1432
ckb-ripple/main.c, 1437
ckb-wave/main.c, 1443
ckb_getline
ckb-anim.h, 1658
ckb_grad_color
ckb-anim.h, 1659
ckb_info
ckb-anim.h, 1660
ckb-gradient/main.c, 1404
ckb-heat/main.c, 1411
ckb-mviz/main.c, 1415
ckb-pinwheel/main.c, 1421
ckb-rain/main.c, 1426
ckb-random/main.c, 1432
ckb-ripple/main.c, 1438
ckb-wave/main.c, 1444
includes.h, 1299
ckb_info_fn
includes.h, 1299
ckb_info_nofile
includes.h, 1299
ckb_init
ckb-anim.h, 1661
ckb-gradient/main.c, 1405
ckb-heat/main.c, 1411
ckb-mviz/main.c, 1416
ckb-pinwheel/main.c, 1422
ckb-rain/main.c, 1427
ckb-random/main.c, 1432
ckb-ripple/main.c, 1439
ckb-wave/main.c, 1445
ckb_keypress
ckb-anim.h, 1661
ckb-gradient/main.c, 1405
ckb-heat/main.c, 1412
ckb-mviz/main.c, 1416
ckb-pinwheel/main.c, 1422
ckb-rain/main.c, 1427
ckb-random/main.c, 1433
ckb-ripple/main.c, 1439
ckb-wave/main.c, 1445
ckb_parameter
ckb-anim.h, 1663
ckb-gradient/main.c, 1406
ckb-heat/main.c, 1412
ckb-mviz/main.c, 1416
ckb-pinwheel/main.c, 1422
ckb-rain/main.c, 1427
ckb-random/main.c, 1433
ckb-ripple/main.c, 1439
ckb-wave/main.c, 1446
ckb_read_params
ckb-anim.h, 1663
ckb_s_err
includes.h, 1299
ckb_s_out
includes.h, 1299
ckb_scan_grad
ckb-anim.h, 1664
ckb_start
ckb-anim.h, 1665
ckb-gradient/main.c, 1406
ckb-heat/main.c, 1412
ckb-mviz/main.c, 1416
ckb-pinwheel/main.c, 1422
ckb-rain/main.c, 1428
ckb-random/main.c, 1433
ckb-ripple/main.c, 1440
ckb-wave/main.c, 1447
ckb_time
ckb-anim.h, 1666
ckb-gradient/main.c, 1407

ckb-heat/main.c, 1412
ckb-mviz/main.c, 1417
ckb-pinwheel/main.c, 1423
ckb-rain/main.c, 1428
ckb-random/main.c, 1434
ckb-ripple/main.c, 1440
ckb-wave/main.c, 1448
ckb_warn
includes.h, 1299
ckb_warn_fn
includes.h, 1300
ckb_warn_nofile
includes.h, 1300
ckbDaemonVersion
KbManager, 481
ckbDaemonVersionF
KbManager, 481
ckbGuiVersion
KbManager, 482
ckbGuiVersionF
KbManager, 482
CkbSettings, 124
~CkbSettings, 127
backing, 138
beginGroup, 127
childGroups, 127
childKeys, 128
CkbSettings, 126, 127
CkbSettings, 126, 127
cleanUp, 129
contains, 130
containsGroup, 130
endGroup, 131
get, 131
groups, 138
isBusy, 132
pwd, 133, 134
remove, 135
removeCache, 139
set, 135
setValue, 136
value, 137
writeCache, 139
CkbSettingsWriter, 139
~CkbSettingsWriter, 140
_backing, 141
_removals, 141
_updates, 141
CkbSettingsWriter, 140
CkbSettingsWriter, 140
run, 141
ckbVersion
KbFirmware::FW, 184
ckbsettings.cpp
_globalSettings, 1672
cacheWritesInProgress, 1671
globalCache, 1672
globalSettings, 1671
globalThread, 1672
lockMutex, 1671
lockMutexCache, 1671
lockMutexStatic, 1671
lockMutexStatic2, 1671
settingsCacheMutex, 1672
settingsMutex, 1672
ckbsettingswriter.cpp
cacheWritesInProgress, 1675
lockMutex, 1674
lockMutexCache, 1674
lockMutexStatic, 1674
lockMutexStatic2, 1674
settingsCacheMutex, 1675
settingsMutex, 1675
cleanBlob
FwUpgradeDialog, 187
cleanUp
CkbSettings, 129
cleanup
MainWindow, 743
clear
ColorMap, 153
clearAnimation
KeyWidget, 666
clearDirectoryMap
QuaZipPrivate, 933
clearSelection
KbAnimWidget, 353
KeyWidget, 666
close
KbLight, 434
QuaGzipFile, 821
QuaZIODevice, 827
QuaZip, 837
QuaZipFile, 888
closeAction
MainWindow, 751
closeEvent
FwUpgradeDialog, 187
MainWindow, 744
closeusb
usb.c, 1528
usb.h, 1557
cmd
command.h, 1225
Kb, 308
cmd_active_kb
device.h, 1238
device_keyboard.c, 1246
cmd_active_mouse
device.h, 1239
device_mouse.c, 1250
cmd_bind
input.c, 1304
input.h, 1318
cmd_dpi
dpi.c, 1278

dpi.h, 1284
cmd_dpisel
dpi.c, 1279
dpi.h, 1285
cmd_erase
profile.c, 1466
profile.h, 1483
cmd_eraseprofile
profile.c, 1467
profile.h, 1483
cmd_fwupdate
firmware.c, 1291
firmware.h, 1295
cmd_get
notify.c, 1453
notify.h, 1459
cmd_hwload_kb
profile.h, 1484
profile_keyboard.c, 1496
cmd_hwload_mouse
profile.h, 1485
profile_mouse.c, 1499
cmd_hwsave_kb
profile.h, 1486
profile_keyboard.c, 1497
cmd_hwsave_mouse
profile.h, 1487
profile_mouse.c, 1500
cmd_iauto
led.c, 1339
led.h, 1345
cmd_id
profile.c, 1467
profile.h, 1488
cmd_idle_kb
device.h, 1239
device_keyboard.c, 1246
cmd_idle_mouse
device.h, 1240
device_mouse.c, 1251
cmd_inotify
led.c, 1340
led.h, 1346
cmd_io_none
device_vtable.c, 1254
cmd_ioff
led.c, 1340
led.h, 1346
cmd_ion
led.c, 1341
led.h, 1347
cmd_lift
dpi.c, 1279
dpi.h, 1285
cmd_macro
input.c, 1305
input.h, 1319
cmd_macro_none
device_vtable.c, 1254
cmd_name
profile.c, 1468
profile.h, 1488
cmd_none
device_vtable.c, 1254
cmd_notify
notify.c, 1454
notify.h, 1459
cmd_pollrate
device.h, 1240
device_mouse.c, 1251
cmd_profileid
profile.c, 1468
profile.h, 1489
cmd_profilename
profile.c, 1469
profile.h, 1489
cmd_rebind
input.c, 1305
input.h, 1319
cmd_restart
notify.c, 1454
notify.h, 1460
cmd_rgb
led.c, 1341
led.h, 1347
cmd_snap
dpi.c, 1279
dpi.h, 1285
cmd_strings
command.c, 1222
cmd_unbind
input.c, 1305
input.h, 1319
cmdhandler
command.h, 1225
cmdhandler_io
command.h, 1225
cmdhandler_mac
command.h, 1225
cmdpath
Kb, 308
color
ColorButton, 146, 147
KbLight, 435, 436
colorAt
GradientDialogWidget, 230
ColorButton, 141
_alpha, 150
_bigIcons, 150
_color, 150
_setLabel, 150
allowAlpha, 144, 145
bigIcons, 145, 146
color, 146, 147
ColorButton, 144
colorChanged, 148

ColorButton, 144
pickColor, 148
setLabel, 148, 149
updateImage, 149
colorChanged
ColorButton, 148
GradientDialog, 219
MPerfWidget, 788
colorClicked
MPerfWidget, 789
colorForName
ColorMap, 154, 155
colorLink
MPerfWidget, 797
ColorMap, 151
~ColorMap, 152
_colors, 159
_count, 159
_keyNames, 159
_mapCount, 159
alloc, 153
clear, 153
colorForName, 154, 155
ColorMap, 152
ColorMap, 152
colors, 155, 156
count, 156
deAlloc, 156
init, 157
keyNames, 158
operator=, 158
operator==, 159
colorMap
KbLight, 436
KeyWidget, 666, 667
colormap.cpp
qs_strcmp, 1677
colormap.h
QColorMap, 1679
QColorMapIterator, 1679
QMutableColorMapIterator, 1679
colors
AnimScript, 62
ColorMap, 155, 156
comboBox
Ui::LayoutDialog, 721
Ui_LayoutDialog, 1141
command.h
ACCEL, 1225
ACTIVE, 1225
BIND, 1226
CMD_FIRST, 1225
CMD_LAST, 1226
CMD_VT_FIRST, 1225
DELAY, 1225
DITHER, 1225
DPI, 1226
DPISEL, 1226
ERASE, 1225
ERASEPROFILE, 1225
FPS, 1225
FWUPDATE, 1225
GET, 1226
HWLOAD, 1225
HWSAVE, 1225
IAUTO, 1226
ID, 1226
IDLE, 1225
INOTIFY, 1226
IOFF, 1226
ION, 1226
LAYOUT, 1225
LIFT, 1226
MACRO, 1226
MODE, 1225
NAME, 1226
NONE, 1225
NOTIFY, 1226
NOTIFYOFF, 1225
NOTIFYON, 1225
POLLRATE, 1225
PROFILEID, 1226
PROFILENAME, 1226
REBIND, 1226
RESTART, 1226
RGB, 1226
SCROLLSPEED, 1225
SNAP, 1226
SWITCH, 1225
UNBIND, 1226
command.c
cmd_strings, 1222
readcmd, 1218
TRY_WITH_RESET, 1218
command.h
CMD_COUNT, 1224
CMD_DEV_COUNT, 1224
cmd, 1225
cmdhandler, 1225
cmdhandler_io, 1225
cmdhandler_mac, 1225
devcmd, 1225
readcmd, 1227
CommandLineBackground
main.cpp, 1752
CommandLineClose
main.cpp, 1752
CommandLineError
main.cpp, 1752
CommandLineHelpRequested
main.cpp, 1752
CommandLineOK
main.cpp, 1752
CommandLineVersionRequested
main.cpp, 1752
CommandLineParseResults

main.cpp, 1752
comment
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
QuaZipPrivate, 936
commentCodec
QuaZipPrivate, 936
commitParams
KbAnim, 320
compressDir
JlCompress, 244
compressFile
JlCompress, 245, 246
compressFiles
JlCompress, 247
compressSubDir
JlCompress, 249
compressedSize
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
configLabel
mainwindow.cpp, 1758
Constants
QuaZip, 835
contains
CkbSettings, 130
KeyMap, 641
containsGroup
CkbSettings, 130
convertCaseSensitivity
QuaZip, 838
convertMacroBox
RebindWidget, 977
copy
AnimScript, 62
copyButton
Ui::KbBindWidget, 401
Ui::KPerfWidget, 696
Ui::MPerfWidget, 772
Ui_KbBindWidget, 1094
Ui_KPerfWidget, 1129
Ui_MPerfWidget, 1161
copyData
JlCompress.cpp, 1782
copyright
AnimScript, 63
corsair_kbcopy
daemon/keymap.h, 1739
keymap.c, 1334
corsair_mousecopy
daemon/keymap.h, 1739
keymap.c, 1335
count
AnimScript, 63
ColorMap, 156
KeyMap, 642
QuaZipDir, 870
counter_clock
ckb-pinwheel/main.c, 1423
crc
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipFilePrivate, 919
crypt.h
CRC32, 1771
decrypt_byte, 1772
init_keys, 1772
update_keys, 1773
zdecode, 1772
zencode, 1772
csDefault
QuaZip, 835
csInsensitive
QuaZip, 835
csSensitive
QuaZip, 835
csize
QuaZipFile, 889
ctrlBox
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
ctrlLabel
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
curLabel
Ui::FwUpgradeDialog, 198
Ui_FwUpgradeDialog, 1072
curfile64_info, 1897
current
ckb-random/main.c, 1435
GradientDialogWidget, 231
KbAnimWidget, 365
currentBind
Kb, 269
currentChanged
GradientDialog, 219
GradientDialogWidget, 231
currentData
RListWidget, 1011
currentLight
Kb, 270
currentMode
Kb, 271
KbProfile, 544, 545
KbWidget, 592
currentPerf
Kb, 271
currentPreset
GradientDialog, 226
currentProfile
Kb, 272
currentSelection
KbBindWidget, 414
KbLightWidget, 477

d

QuaGzipFile, 824
QuaZIODevice, 831
QuaZipDir, 881
DE
KeyMap, 639
DELAY
command.h, 1225
DITHER
command.h, 1225
DK
KeyMap, 639
DPI
command.h, 1226
DPISEL
command.h, 1226
DAEMON.md, 1217
DATA_ROLE
RListWidget, 1011
DEBUG
usb_linux.c, 1581
DEF_MEM_LEVEL
zip.h, 1953
DELAY_LONG
usb.h, 1542
DELAY_MEDIUM
usb.h, 1542
DELAY_SHORT
usb.h, 1542
DESCRIPTORHEADERMAGIC
zip.c, 1899
DEV_MAX
device.h, 1237
DIALOG_HEIGHT_MAX
fwupgradedialog.cpp, 1682
DIALOG_HEIGHT_MIN
fwupgradedialog.cpp, 1683
DIALOG_WIDTH
fwupgradedialog.cpp, 1683
DPI_BASE
mperfwidget.cpp, 1768
DPI_COUNT
KbPerf, 537
MPerfWidget, 797
structures.h, 1515
DPI_CUST_IDX
rebindwidget.cpp, 1959
DPI_CUSTOM
KeyAction, 633
DPI_CYCLE_DOWN
KeyAction, 634
DPI_CYCLE_UP
KeyAction, 634
DPI_DOWN
KeyAction, 634
DPI_MAX
KbPerf, 537
MPerfWidget, 797
DPI_MIN
KbPerf, 537
MPerfWidget, 797
DPI_OFFSET
rebindwidget.cpp, 1959
DPI_SNIPER
KeyAction, 634
DPI_UP
KeyAction, 634
DROP_MAX
ckb-rain/main.c, 1425
daemon/keymap.h
BTN_WHEELDOWN, 1736
BTN_WHEELUP, 1736
corsair_kbcopy, 1739
corsair_mousecopy, 1739
hid_kb_translate, 1739
hid_mouse_translate, 1741
KEY_BACKSLASH_ISO, 1736
KEY_CORSAIR, 1736
KEY_NONE, 1736
KEY_UNBOUND, 1737
keymap, 1742
LED_DPI, 1737
LED_MOUSE, 1737
MOUSE_BUTTON_FIRST, 1737
MOUSE_EXTRA_FIRST, 1737
N_BUTTONS_EXTENDED, 1737
N_BUTTONS_HW, 1737
N_KEY_ZONES, 1737
N_KEYBYTES_EXTENDED, 1737
N_KEYBYTES_HW, 1737
N_KEYBYTES_INPUT, 1738
N_KEYS_EXTENDED, 1738
N_KEYS_EXTRA, 1738
N_KEYS_HW, 1738
N_KEYS_INPUT, 1738
N_MOUSE_ZONES, 1738
SCAN_KBD, 1738
SCAN_MOUSE, 1738
SCAN_SILENT, 1738
dataDescriptorWritingEnabled
QuaZipPrivate, 936
dataForBoard
KbFirmware, 420
dateTime
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
deAlloc
ColorMap, 156
decrypt_byte
crypt.h, 1772
defaultAction
KbBind, 371, 372
KeyAction, 613
defaultFileNameCodec
QuaZipPrivate, 937
delayBox

Ui::AnimSettingDialog, 93
Ui::ExtraSettingsWidget, 170
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1063
delayButtons
Ui::RebindWidget, 956
Ui_RebindWidget, 1186
deleteButton
Ui::KbAnimWidget, 345
Ui_KbAnimWidget, 1087
deleteHw
Kb, 272
deletePrevious
Kb, 273
description
AnimScript, 64
devLabel
Ui::FwUpgradeDialog, 198
Ui_FwUpgradeDialog, 1072
devParent
KbBind, 372
devTab
Ui::KbWidget, 599
Ui_KbWidget, 1114
devUpdate
KbWidget, 576
devcmd, 1224
command.h, 1225
devcmd.__unnamed__, 160
active, 161
allocprofile, 161
bind, 161
dpi, 161
dpisel, 161
erase, 161
eraseprofile, 161
freeprofile, 161
fwupdate, 161
get, 161
hwload, 161
hwsave, 161
iauto, 161
id, 161
idle, 161
inotify, 161
ioff, 161
ion, 162
lift, 162
loadprofile, 162
macro, 162
name, 162
notify, 162
pollrate, 162
profileid, 162
profilename, 162
rebind, 162
restart, 162
rgb, 162
setmodeindex, 162
snap, 162
start, 162
unbind, 162
updatedpi, 162
updateindicators, 162
updatergb, 162
device
KbProfileDialog, 565
KbWidget, 592
device.c
_start_dev, 1232
devlistmutex, 1234
devmutex, 1234
hwload_mode, 1234
inputmutex, 1234
keyboard, 1234
macromutex, 1234
macromutex2, 1234
macrovar, 1235
start_dev, 1233
device.h
ACT_LIGHT, 1236
ACT_LOCK, 1236
ACT_M1, 1236
ACT_M2, 1236
ACT_M3, 1237
ACT_MR_RING, 1237
ACT_NEXT, 1237
ACT_NEXT_NOWRAP, 1237
cmd_active_kb, 1238
cmd_active_mouse, 1239
cmd_idle_kb, 1239
cmd_idle_mouse, 1240
cmd_pollrate, 1240
DEV_MAX, 1237
devmutex, 1245
dmutex, 1237
IN_CORSAIR, 1237
IN_HID, 1237
IS_CONNECTED, 1237
imutex, 1237
inputmutex, 1245
keyboard, 1245
macromutex, 1245
macromutex2, 1245
macrovar, 1245
mmutex, 1238
mmutex2, 1238
mvar, 1238
setactive, 1238
setactive_kb, 1240
setactive_mouse, 1242
setmodeindex_nrgb, 1243
start_dev, 1244
start_kb_nrgb, 1244
device_keyboard.c
cmd_active_kb, 1246

cmd_idle_kb, 1246
setactive_kb, 1247
setmodeindex_nrgb, 1249
start_kb_nrgb, 1249
device_mouse.c
cmd_active_mouse, 1250
cmd_idle_mouse, 1251
cmd_pollrate, 1251
setactive_mouse, 1251
device_vtable.c
cmd_io_none, 1254
cmd_macro_none, 1254
cmd_none, 1254
int1_int_none, 1254
int1_void_none, 1254
loadprofile_none, 1255
vtable_keyboard, 1255
vtable_keyboard_nonrgb, 1255
vtable_mouse, 1255
devices
KbManager, 483
devicesLabel
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
devlistmutex
device.c, 1234
devmain
usb.c, 1530
devmutex
device.c, 1234
device.h, 1245
devnode.c
_mkdevpath, 1257
_mknotifynode, 1260
_rmnotifynode, 1261
_updateconnected, 1261
devpath, 1269
gid, 1269
MAX_BUFFER, 1257
mkdevpath, 1262
mkfwnode, 1263
mknotifynode, 1264
readlines, 1264
readlines_ctx_free, 1265
readlines_ctx_init, 1266
rm_recursive, 1266
rmdevpath, 1267
rmnotifynode, 1268
S_GID_READ, 1257
updateconnected, 1268
devnode.h
devpath, 1277
gid, 1277
mkdevpath, 1271
mkfwnode, 1272
mknotifynode, 1273
readlines, 1273
readlines_ctx, 1271
readlines_ctx_free, 1274
readlines_ctx_init, 1275
rmdevpath, 1275
rmnotifynode, 1276
S_CUSTOM, 1271
S_CUSTOM_R, 1271
S_READ, 1271
S_READDIR, 1271
S_READWRITE, 1271
updateconnected, 1277
devpath
devnode.c, 1269
devnode.h, 1277
Kb, 308
kbmanager.cpp, 1705
settingswidget.cpp, 2068
didLoad
KbBind, 373
KbLight, 437
KbPerf, 515
didUpdateSelection
KbAnimWidget, 353
dimming
KbLight, 437, 438
dirName
QuaZipDir, 871
directoryCaseInsensitive
QuaZipPrivate, 937
directoryCaseSensitive
QuaZipPrivate, 937
disable
AutoRun, 121
disableAppNap
media_mac.m, 1763
diskNumberStart
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
displayColorMap
KeyWidget, 667
dither
Kb, 273, 274
ditherBox
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1063
Divide
KbAnim, 315
dmutex
device.h, 1237
doUpdate
KbMode, 496
downloadFinished
KbFirmware, 421
downloaded
KbFirmware, 421
dpi
devcmd.__unnamed__, 161
KbPerf, 515, 516
dpi.c

cmd_dpi, 1278
cmd_dpisel, 1279
cmd_lift, 1279
cmd_snap, 1279
loaddpi, 1279
printdpi, 1280
savedpi, 1281
updatedpi, 1282
dpi.h
cmd_dpi, 1284
cmd_dpisel, 1285
cmd_lift, 1285
cmd_snap, 1285
loaddpi, 1285
printdpi, 1286
savedpi, 1287
updatedpi, 1288
dpiAction
KeyAction, 614
dpiBaseIdx
KbPerf, 537
dpiBox
Ui::RebindWidget, 957
Ui_RebindWidget, 1186
dpiButton
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
dpiClr
KbPerf, 537
dpiColor
KbPerf, 517, 518
dpiCurX
KbPerf, 537
dpiCurY
KbPerf, 538
dpiCustLabel
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
dpiCustXBox
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
dpiCustYBox
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
dpiCycleDown
KbPerf, 518
dpiCycleUp
KbPerf, 519
dpiDown
KbPerf, 519
dpiEnabled
KbPerf, 520
dpiExp
mperfwidget.cpp, 1766
dpiIndicator
KbPerf, 521
dpiInfo
KeyAction, 615
dpiLog
mperfwidget.cpp, 1767
dpiOn
KbPerf, 538
dpiRound
mperfwidget.cpp, 1767
dpiUp
KbPerf, 521
dpiWarning
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
dpiX
KbPerf, 538
dpiY
KbPerf, 538
dpisel
devcmd.__unnamed__, 161
dpiset, 1507
dragged
RListWidget, 1011
drawInfo
KeyWidget, 667
driverName
KeyAction, 615
drop
ckb-rain/main.c, 1429
drop_add
ckb-rain/main.c, 1428
duplicateAnim
KbAnimWidget, 354
KbLight, 438
durationMsec
AnimScript, 84

ERASE
command.h, 1225
ERASEPROFILE
command.h, 1225
ES
KeyMap, 639
EU
KeyMap, 639
EU_DVORAK
KeyMap, 639
eBox1
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1161
eBox2
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1161
eBox3
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1161
eBox4
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1161
eBox5
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162

ENDHEADERMAGIC
zip.c, 1899
ENUM_C
media.h, 1760
ENUM_END_C
media.h, 1760
EXTERN_C
media.h, 1760
effectiveParams
KbAnim, 320
enable
AutoRun, 121
enableChanged
MPerfWidget, 789
enableMapper
MPerfWidget, 797
end
AnimScript, 64
endGroup
CkbSettings, 131
enter
RListWidget, 1008
entryInfoList
QuaZipDir, 871, 872
entryInfoList64
QuaZipDir, 872, 873
entryList
QuaZipDir, 873, 874
erase
devcmd.__unnamed__, 161
eraseprofile
devcmd.__unnamed__, 161
euid_guard_start
os.h, 1464
euid_guard_stop
os.h, 1464
evLoop
FwUpgradeDialog, 193
eventTimer
KbManager, 483
exec
FwUpgradeDialog, 188
exists
QuaZipDir, 874, 875
exitSuccess
FwUpgradeDialog, 193
externalAttr
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
extra
QuaZipFileInfo, 907
QuaZipFileInfo64, 915
SettingsWidget, 1022
extraButton
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1208
extraGlobal
QuaZipNewInfo, 929
extraLocal
QuaZipNewInfo, 929
ExtraSettingsWidget, 175
~ExtraSettingsWidget, 178
ExtraSettingsWidget, 177
ExtraSettingsWidget, 177
on_animScanButton_clicked, 178
on_brightnessBox_clicked, 179
on_delayBox_clicked, 179
on_ditherBox_clicked, 179
on_fpsBox_valueChanged, 180
on_mAccelBox_clicked, 180
on_sAccelBox_clicked, 181
on_sSpeedBox_valueChanged, 181
on_trayBox_clicked, 182
pollUpdates, 182
ui, 183
extractDir
JlCompress, 252
extractFile
JlCompress, 254, 256
extractFiles
JlCompress, 257
extrasettingswidget.cpp
lastSharedDimming, 1679

FPS
command.h, 1225
FR
KeyMap, 639
FWUPDATE
command.h, 1225
FALSE
ckb-anim.h, 1656
FEAT_ADJRATE
structures.h, 1515
FEAT_ANSI
structures.h, 1515
FEAT_BIND
structures.h, 1515
FEAT_COMMON
structures.h, 1515
FEAT_FWUPDATE
structures.h, 1515
FEAT_FWVERSION
structures.h, 1515
FEAT_HWLOAD
structures.h, 1516
FEAT_ISO
structures.h, 1516
FEAT_LMASK
structures.h, 1516
FEAT_MONOCHROME
structures.h, 1516
FEAT_MOUSEACCEL
structures.h, 1516
FEAT_NOTIFY
structures.h, 1516

FEAT_POLLRATE
structures.h, 1516
FEAT_RGB
structures.h, 1516
FEAT_STD_NRGB
structures.h, 1516
FEAT_STD_RGB
structures.h, 1517
FW
KbFirmware::FW, 184
FW_MAXSIZE
firmware.c, 1290
FW_NOFILE
firmware.c, 1290
FW_OK
firmware.c, 1290
FW_USBFAIL
firmware.c, 1290
FW_WRONGDEV
firmware.c, 1290
fadein
ckb-random/main.c, 1435
features
Kb, 309
features_mask
ckb-daemon/main.c, 1401
usb.c, 1537
ffade
ckb-heat/main.c, 1413
file_in_zip64_read_info_s, 1824
fileName
KbFirmware::FW, 184
QuaZipFilePrivate, 919
fileNameCodec
QuaZipPrivate, 937
filePath
QuaZipDir, 876
fill_qiodevice64_filefunc
qioapi.cpp, 1786
fill_qiodevice_filefunc
qioapi.cpp, 1787
fill_zlib_filefunc64_32_def_from_filefunc32
ioapi.h, 1780
qioapi.cpp, 1788
fillRect
GradientDialogWidget, 231
filter
QuaZipDir, 876
find
Kb, 274
KbProfile, 545
findAnim
KbLight, 439
findAnimIdx
KbLight, 440
firmware
Kb, 309
firmware.c
cmd_fwupdate, 1291
FW_MAXSIZE, 1290
FW_NOFILE, 1290
FW_OK, 1290
FW_USBFAIL, 1290
FW_WRONGDEV, 1290
fwupdate, 1291
getfwversion, 1293
firmware.h
cmd_fwupdate, 1295
getfwversion, 1296
firstFrame
AnimScript, 84
flags
QuaZipFileInfo, 907
QuaZipFileInfo64, 915
flush
QuaGzipFile, 822
QuaZIODevice, 828
fnBox
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
fnButton
Ui::RebindWidget, 957
Ui_RebindWidget, 1187
fnKeys
RebindWidget, 1004
fps
KbManager, 483
fpsBox
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1063
fpsWarnLabel
Ui::ExtraSettingsWidget, 170
Ui_ExtraSettingsWidget, 1063
frame
AnimScript, 65
ckb-pinwheel/main.c, 1423
frameDisplayed
KbLight, 440
frameRate
Kb, 275
frameUpdate
Kb, 276
KbLight, 441
free_datablock
zip.c, 1903
free_linkedlist
zip.c, 1903
freebind
input.c, 1306
input.h, 1320
freemode
profile.c, 1469
freeprofile
devcmd.__unnamed__, 161
profile.c, 1470
profile.h, 1490

friendlyActionName
KbBind, 373
friendlyName
KbBind, 374
Key, 604
KeyAction, 616
KeyMap, 642
fromName
KeyMap, 643
fromStorage
KeyMap, 644
fromString
GradientButton, 202
functions
kbanim.cpp, 1692
fwLabel
Ui::KbWidget, 599
Ui_KbWidget, 1114
fwTable
KbFirmware, 425
fwTableHash
KbFirmware, 425
fwUpdButton
Ui::KbWidget, 599
Ui_KbWidget, 1114
fwUpdLabel
Ui::KbWidget, 600
Ui_KbWidget, 1114
fwUpdLayout
Ui::KbWidget, 600
Ui_KbWidget, 1115
fwUpdPath
Kb, 309
fwUpdate
Kb, 277
fwUpdateFinished
FwUpgradeDialog, 189
Kb, 278
fwUpdateProgress
FwUpgradeDialog, 190
Kb, 278
FwUpgradeDialog, 184
~FwUpgradeDialog, 187
blob, 192
cleanBlob, 187
closeEvent, 187
evLoop, 193
exec, 188
exitSuccess, 193
fwUpdateFinished, 189
fwUpdateProgress, 190
FwUpgradeDialog, 186
FwUpgradeDialog, 186
kb, 193
on_actionButton_clicked, 190
on_cancelButton_clicked, 191
removeDev, 191
saveBlob, 192
savePath, 193
ui, 193
fwVersion
KbFirmware::FW, 184
fwupdate
devcmd.__unnamed__, 161
firmware.c, 1291
fwupgradedialog.cpp
DIALOG_HEIGHT_MAX, 1682
DIALOG_HEIGHT_MIN, 1683
DIALOG_WIDTH, 1683
ids, 1683
verifyFw, 1682

GB
KeyMap, 639
GB_DVORAK
KeyMap, 639
GET
command.h, 1226
GLAIVE
KeyMap, 640
GLAIVE_HEIGHT
keymap.cpp, 1717
GLAIVE_WIDTH
keymap.cpp, 1717
GUID
KbProfileDialog, 566
KbWidget, 593
gcounter
ckb-mviz/main.c, 1419
get
CkbSettings, 131
devcmd.__unnamed__, 161
get_vtable
usb.c, 1532
getActualFileName
QuaZipFile, 890
getCaseSensitivity
QuaZipFile, 891
getComment
QuaZip, 839
getCommentCodec
QuaZip, 839
getCurrentFileInfo
QuaZip, 840, 841
getCurrentFileName
QuaZip, 842
getDefaultFileNameCodec
QuaZipPrivate, 934
getEntriesCount
QuaZip, 843
getFileInfo
QuaZipFile, 891, 892
getFileInfoList
QuaZip, 844
QuaZipPrivate, 934
getFileInfoList64
QuaZip, 844

getFileList
JlCompress, 258
getFileName
QuaGzipFile, 822
QuaZipFile, 893
getFileNameCodec
QuaZip, 845
getFileNameList
QuaZip, 845
getFreqDec
ckb-mviz/main.c, 1417
getGradient
GradientDialog, 220
getIndicator
KbPerf, 522
getIoDevice
QuaZIODevice, 829
QuaZip, 846
getKeyMap
Kb, 279
getLayout
KeyMap, 645, 646
getMacroNumber
Kb, 279
KbBind, 374
getMacroPath
Kb, 279
KbBind, 375
getMap
keymap.cpp, 1721
getMode
QuaZip, 846
getModel
KeyMap, 646, 647
getMuteState
media.h, 1760
media_linux.cpp, 1762
media_mac.m, 1763
getNTFSTime
quazipfileinfo.cpp, 1813
getNTFSaTime
QuaZipFileInfo64, 910
getNTFScTime
QuaZipFileInfo64, 911
getNTFSmTime
QuaZipFileInfo64, 911
getPermissions
QuaZipFileInfo, 906
QuaZipFileInfo64, 912
getUnzFile
QuaZip, 847
getZip
QuaZipFile, 893
getZipError
QuaZip, 848
QuaZipFile, 893
getZipFile
QuaZip, 849
getZipName
QuaZip, 849
QuaZipFile, 894
getfwversion
firmware.c, 1293
firmware.h, 1296
gethwmodename
profile.c, 1471
profile.h, 1490
gethwprofilename
profile.c, 1471
profile.h, 1491
getid
profile.c, 1472
profile.h, 1492
getmodename
profile.c, 1473
profile.h, 1492
getprofilename
profile.c, 1473
profile.h, 1493
gid
devnode.c, 1269
devnode.h, 1277
GlaiveKeys
keymap.cpp, 1727
glaiveOverlay
keywidget.cpp, 1744
globalCache
ckbsettings.cpp, 1672
globalRemap
KbBind, 376
globalRemapTime
KbBind, 396
globalSettings
ckbsettings.cpp, 1671
globalThread
ckbsettings.cpp, 1672
goToFirstFile
QuaZip, 850
goToFirstUnmappedFile
QuaZipPrivate, 935
goToNextFile
QuaZip, 851
gradient
GradientDialog::Preset, 799
GradientButton, 200
_alpha, 206
_stops, 206
fromString, 202
GradientButton, 202
gradientChanged, 203
GradientButton, 202
pickGradient, 203
toString, 204
updateImage, 205
gradientChanged
GradientButton, 203

GradientDialog, 214
~GradientDialog, 218
addPreset, 218
colorChanged, 219
currentChanged, 219
currentPreset, 226
getGradient, 220
GradientDialog, 217
GradientDialog, 217
makeIcon, 221
on_presetDelete_clicked, 222
on_presetList_currentItemChanged, 222
on_presetName_textEdited, 223
on_presetSave_clicked, 223
on_stopOpacity_valueChanged, 224
on_stopPos_valueChanged, 224
presets, 226
setPreset, 224
ui, 227
updatePresets, 225
GradientDialog::Preset, 798
builtIn, 799
gradient, 799
name, 799
Preset, 799
GradientDialogWidget, 227
_colors, 242
_current, 242
_stops, 242
colorAt, 230
current, 231
currentChanged, 231
fillRect, 231
GradientDialogWidget, 230
GradientDialogWidget, 230
makeStops, 232
mouseMoveEvent, 233
mousePressEvent, 234
mouseReleaseEvent, 234
moveCurrent, 235
paintEvent, 236
selected, 242
selectedOffset, 242
selectedPos, 242
selectedStop, 237
selectionColors, 238
setCurrentColor, 238
setStops, 239
stopCount, 240
stopRect, 240
stops, 241
gradientdialog.cpp
prefsPath, 1686
gridLayout
Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 93
Ui::ExtraSettingsWidget, 171
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 211
Ui::KbAnimWidget, 345
Ui::KbBindWidget, 401
Ui::KbLightWidget, 462
Ui::KbProfileDialog, 570
Ui::KbWidget, 600
Ui::KPerfWidget, 696
Ui::LayoutDialog, 721
Ui::MainWindow, 737
Ui::ModeSelectDialog, 756
Ui::MPerfWidget, 772
Ui::RebindWidget, 958
Ui::SettingsWidget, 1031
Ui_AnimAddDialog, 1041
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1063
Ui_FwUpgradeDialog, 1072
Ui_GradientDialog, 1078
Ui_KbAnimWidget, 1087
Ui_KbBindWidget, 1094
Ui_KbLightWidget, 1102
Ui_KbProfileDialog, 1107
Ui_KbWidget, 1115
Ui_KPerfWidget, 1129
Ui_LayoutDialog, 1141
Ui_MainWindow, 1145
Ui_ModeSelectDialog, 1149
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1187
Ui_SettingsWidget, 1208
gridLayout_10
Ui::RebindWidget, 958
Ui_RebindWidget, 1188
gridLayout_2
Ui::AnimSettingDialog, 94
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 211
Ui::KbAnimWidget, 345
Ui::KbBindWidget, 401
Ui::KbLightWidget, 462
Ui::KbWidget, 600
Ui::RebindWidget, 958
Ui_AnimSettingDialog, 1050
Ui_FwUpgradeDialog, 1072
Ui_GradientDialog, 1078
Ui_KbAnimWidget, 1087
Ui_KbBindWidget, 1094
Ui_KbLightWidget, 1102
Ui_KbWidget, 1115
Ui_RebindWidget, 1188
gridLayout_3
Ui::GradientDialog, 211
Ui::KbAnimWidget, 345
Ui::KbWidget, 600
Ui::RebindWidget, 958
Ui::SettingsWidget, 1031
Ui_GradientDialog, 1078
Ui_KbAnimWidget, 1087

Ui_KbWidget, 1115
Ui_RebindWidget, 1188
Ui_SettingsWidget, 1208
gridLayout_4
Ui::KbAnimWidget, 345
Ui::KbLightWidget, 462
Ui::KbWidget, 600
Ui::RebindWidget, 958
Ui_KbAnimWidget, 1087
Ui_KbLightWidget, 1102
Ui_KbWidget, 1115
Ui_RebindWidget, 1188
gridLayout_5
Ui::KbWidget, 600
Ui::RebindWidget, 958
Ui::SettingsWidget, 1031
Ui_KbWidget, 1115
Ui_RebindWidget, 1188
Ui_SettingsWidget, 1208
gridLayout_7
Ui::KbWidget, 600
Ui_KbWidget, 1115
gridLayout_8
Ui::RebindWidget, 958
Ui_RebindWidget, 1188
groupBox_2
Ui::GradientDialog, 212
Ui::RebindWidget, 958
Ui_GradientDialog, 1079
Ui_RebindWidget, 1188
groupBox_3
Ui::RebindWidget, 958
Ui_RebindWidget, 1188
groupBox_4
Ui::RebindWidget, 958
Ui_RebindWidget, 1188
groups
CkbSettings, 138
guid
AnimScript, 66
KbAnim, 321
UsbId, 1216
guidString
UsbId, 1213, 1214

HARPOON
KeyMap, 640
HIGH
KbPerf, 508
HW_IMAX
KbPerf, 509
HWLOAD
command.h, 1225
HWSAVE
command.h, 1225
HALF_OF
_kiss_fft_guts.h, 1609
HARPOON_HEIGHT
keymap.cpp, 1717
HARPOON_WIDTH
keymap.cpp, 1717
HAS_ANY_FEATURE
structures.h, 1517
HAS_FEATURES
structures.h, 1517
hLine
AnimSettingDialog, 109
HOLD
ckb-gradient/main.c, 1403
HW_I_COUNT
KbPerf, 538
KPerfWidget, 716
HW_STANDARD
notify.c, 1450
HWMODE_K70
structures.h, 1517
HWMODE_K95
structures.h, 1517
HWMODE_MAX
Kb, 309
structures.h, 1517
HWMODE_OR_RETURN
notify.c, 1450
handleNotificationChannel
KbBind, 376
harpOverlay
keywidget.cpp, 1744
HarpoonKeys
keymap.cpp, 1728
has_key
led.c, 1342
hasCurrentFile
QuaZip, 852
hasCurrentFile_f
QuaZipPrivate, 937
hasDownloaded
KbFirmware, 422
hasFrame
AnimScript, 66
hasGPG
KbFirmware, 425
hasKeypress
AnimScript, 67
hasLed
Key, 605
hasParam
AnimScript, 67
hasParameter
KbAnim, 321
hasRepeat
AnimSettingDialog, 119
hasScan
Key, 605
hasShownNewFW
KbWidget, 593
hash
KbFirmware::FW, 184

height
KbPerf, 508
Key, 605
KeyMap, 647
helpStatus
RebindWidget, 978
hid_kb_translate
daemon/keymap.h, 1739
keymap.c, 1335
hid_mouse_translate
daemon/keymap.h, 1741
keymap.c, 1337
horizontalLayout
Ui::AnimAddDialog, 47
Ui::ExtraSettingsWidget, 171
Ui::GradientDialog, 212
Ui::KbAnimWidget, 345
Ui::KbLightWidget, 462
Ui::KPerfWidget, 696
Ui::MPerfWidget, 773
Ui::RebindWidget, 959
Ui::SettingsWidget, 1031
Ui_AnimAddDialog, 1041
Ui_ExtraSettingsWidget, 1063
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1087
Ui_KbLightWidget, 1102
Ui_KPerfWidget, 1129
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
horizontalLayout_2
Ui::ExtraSettingsWidget, 171
Ui::GradientDialog, 212
Ui::KbBindWidget, 401
Ui::KbLightWidget, 462
Ui::KPerfWidget, 696
Ui::MPerfWidget, 773
Ui::RebindWidget, 959
Ui::SettingsWidget, 1031
Ui_ExtraSettingsWidget, 1064
Ui_GradientDialog, 1079
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1102
Ui_KPerfWidget, 1129
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
horizontalLayout_3
Ui::KbLightWidget, 463
Ui::RebindWidget, 959
Ui_KbLightWidget, 1102
Ui_RebindWidget, 1189
horizontalLayout_4
Ui::MPerfWidget, 773
Ui_MPerfWidget, 1162
horizontalSpacer
Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 171
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 212
Ui::KbAnimWidget, 345
Ui::KbBindWidget, 401
Ui::KbProfileDialog, 570
Ui::KPerfWidget, 696
Ui::LayoutDialog, 721
Ui::MPerfWidget, 773
Ui::RebindWidget, 959
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1041
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1064
Ui_FwUpgradeDialog, 1072
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbBindWidget, 1095
Ui_KbProfileDialog, 1108
Ui_KPerfWidget, 1129
Ui_LayoutDialog, 1141
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
horizontalSpacer_10
Ui::RebindWidget, 959
Ui::SettingsWidget, 1032
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
horizontalSpacer_11
Ui::RebindWidget, 959
Ui_RebindWidget, 1189
horizontalSpacer_12
Ui::RebindWidget, 959
Ui_RebindWidget, 1189
horizontalSpacer_13
Ui::RebindWidget, 959
Ui_RebindWidget, 1189
horizontalSpacer_14
Ui::RebindWidget, 959
Ui_RebindWidget, 1189
horizontalSpacer_15
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_16
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_17
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_18
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_19
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_2

Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 171
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 212
Ui::KbAnimWidget, 346
Ui::KbBindWidget, 401
Ui::KbProfileDialog, 570
Ui::KbWidget, 600
Ui::KPerfWidget, 697
Ui::LayoutDialog, 721
Ui::MPerfWidget, 773
Ui::RebindWidget, 960
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1041
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1064
Ui_FwUpgradeDialog, 1072
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbBindWidget, 1095
Ui_KbProfileDialog, 1108
Ui_KbWidget, 1115
Ui_KPerfWidget, 1129
Ui_LayoutDialog, 1141
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1190
Ui_SettingsWidget, 1208
horizontalSpacer_20
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_21
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_22
Ui::RebindWidget, 960
Ui_RebindWidget, 1190
horizontalSpacer_23
Ui::RebindWidget, 961
Ui_RebindWidget, 1191
horizontalSpacer_24
Ui::RebindWidget, 961
Ui_RebindWidget, 1191
horizontalSpacer_25
Ui::RebindWidget, 961
Ui_RebindWidget, 1191
horizontalSpacer_26
Ui::RebindWidget, 961
Ui_RebindWidget, 1191
horizontalSpacer_3
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 171
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 212
Ui::KbAnimWidget, 346
Ui::KbLightWidget, 463
Ui::KbWidget, 601
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 961
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1064
Ui_FwUpgradeDialog, 1072
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbLightWidget, 1102
Ui_KbWidget, 1115
Ui_KPerfWidget, 1129
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1191
horizontalSpacer_4
Ui::AnimSettingDialog, 94
Ui::FwUpgradeDialog, 199
Ui::KbAnimWidget, 346
Ui::KbLightWidget, 463
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 961
Ui_AnimSettingDialog, 1050
Ui_FwUpgradeDialog, 1072
Ui_KbAnimWidget, 1088
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1129
Ui_MPerfWidget, 1162
Ui_RebindWidget, 1191
horizontalSpacer_5
Ui::AnimSettingDialog, 94
Ui::KbAnimWidget, 346
Ui::KbLightWidget, 463
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 961
Ui_AnimSettingDialog, 1050
Ui_KbAnimWidget, 1088
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1191
horizontalSpacer_6
Ui::AnimSettingDialog, 94
Ui::KbLightWidget, 463
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 961
Ui_AnimSettingDialog, 1050
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1191
horizontalSpacer_7
Ui::KPerfWidget, 697
Ui::MPerfWidget, 774
Ui::RebindWidget, 961
Ui::SettingsWidget, 1032
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163

Ui_RebindWidget, 1191
Ui_SettingsWidget, 1209
horizontalSpacer_8
Ui::KPerfWidget, 697
Ui::RebindWidget, 962
Ui_KPerfWidget, 1130
Ui_RebindWidget, 1192
horizontalSpacer_9
Ui::RebindWidget, 962
Ui::SettingsWidget, 1032
Ui_RebindWidget, 1192
Ui_SettingsWidget, 1209
hwlType
KbPerf, 538
hwLoading
Kb, 309
HwMode
KPerfWidget, 709
hwModeCount
Kb, 309
hwModified
UsbId, 1216
hwModifiedString
UsbId, 1214
hwProfile
Kb, 280
hwSave
Kb, 281
hwSaveButton
Ui::KbWidget, 601
Ui_KbWidget, 1116
hwload
devcmd.__unnamed__, 161
hwload_mode
ckb-daemon/main.c, 1401
device.c, 1234
usb.c, 1537
hwloadmode
profile_keyboard.c, 1498
hwloadprofile
profile.h, 1482
hwprofile, 1511
hwsave
devcmd.__unnamed__, 161
hwtonative
profile.c, 1474
profile.h, 1494

IAUTO
command.h, 1226
ID
command.h, 1226
IDLE
command.h, 1225
INOTIFY
command.h, 1226
IOFF
command.h, 1226
ION
command.h, 1226
IT
KeyMap, 639
I_CAPS
structures.h, 1517
I_COUNT
KbPerf, 538
KPerfWidget, 717
I_NUM
structures.h, 1517
I_SCROLL
structures.h, 1517
i_hw
KbPerf, 508
KPerfWidget, 708
iButton0
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButton1
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButton2
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButton3
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButton4
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButton5
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1163
iButtonO
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iColor
KbPerf, 538
iEnable
KbPerf, 538
IFACE_MAX
structures.h, 1517
IN_CORSAIR
device.h, 1237
IN_HID
device.h, 1237
INDEX_OF
includes.h, 1300
iOpacity
KbPerf, 522, 523
IS_CONNECTED
device.h, 1237
IS_FULLRANGE
usb.h, 1542
IS_GLAIVE
usb.h, 1543
IS_HARPOON
usb.h, 1543

IS_K63
usb.h, 1543
IS_K65
usb.h, 1543
IS_K70
usb.h, 1543
IS_K95
usb.h, 1543
IS_M65
usb.h, 1543
IS_MOD
input.h, 1318
IS_MONOCHROME
usb.h, 1543
IS_MONOCHROME_DEV
usb.h, 1543
IS_MOUSE
usb.h, 1544
IS_MOUSE_DEV
usb.h, 1544
IS_NEW_PROTOCOL
usb.h, 1544
IS_PLATINUM
usb.h, 1544
IS_RGB
usb.h, 1544
IS_RGB_DEV
usb.h, 1544
IS_SABRE
usb.h, 1544
IS_SCIMITAR
usb.h, 1544
IS_STRAFE
usb.h, 1544
IS_WHEEL
input.c, 1302
iState
Kb, 309
iauto
devcmd.__unnamed__, 161
iconClicked
MainWindow, 744
id
devcmd.__unnamed__, 161
KbMode, 496, 497
KbProfile, 546
idle
devcmd.__unnamed__, 161
ids
fwupgradedialog.cpp, 1683
imutex
device.h, 1237
inFrame
AnimScript, 84
inbuf
ckb-mviz/main.c, 1419
includes.h
__FILE_NOPATH__, 1298
ckb_err, 1298
ckb_err_fn, 1298
ckb_err_nofile, 1299
ckb_fatal, 1299
ckb_fatal_fn, 1299
ckb_fatal_nofile, 1299
ckb_info, 1299
ckb_info_fn, 1299
ckb_info_nofile, 1299
ckb_s_err, 1299
ckb_s_out, 1299
ckb_warn, 1299
ckb_warn_fn, 1300
ckb_warn_nofile, 1300
INDEX_OF, 1300
timespec_add, 1301
timespec_eq, 1300
timespec_ge, 1300
timespec_gt, 1300
timespec_le, 1300
timespec_lt, 1300
uchar, 1301
ushort, 1301
indexOf
Kb, 282
KbProfile, 547
indicBox
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
indicator
KbPerf, 509
KPerfWidget, 709
indicators
KPerfWidget, 717
infoTab
Ui::AnimSettingDialog, 94
Ui_AnimSettingDialog, 1050
infoUpdated
Kb, 283
init
AnimScript, 68
ColorMap, 157
KbManager, 484
init_keys
crypt.h, 1772
init_linkedlist
zip.c, 1904
initbind
input.c, 1306
input.h, 1320
initialized
AnimScript, 84
initmode
profile.c, 1475
inotify
devcmd.__unnamed__, 161
input.c
_cmd_macro, 1302

cmd_bind, 1304
cmd_macro, 1305
cmd_rebind, 1305
cmd_unbind, 1305
freebind, 1306
IS_WHEEL, 1302
initbind, 1306
inputupdate, 1307
inputupdate_keys, 1308
macro_pt_dequeue, 1310
macro_pt_enqueue, 1311
macro_pt_first, 1311
macromask, 1312
play_macro, 1312
pt_head, 1315
pt_tail, 1315
updateindicators_kb, 1314
input.h
cmd_bind, 1318
cmd_macro, 1319
cmd_rebind, 1319
cmd_unbind, 1319
freebind, 1320
IS_MOD, 1318
initbind, 1320
inputupdate, 1321
os_inputclose, 1322
os_inputopen, 1322
os_keypress, 1323
os_mousemove, 1324
os_setupindicators, 1325
parameter_t, 1318
ptlist_t, 1318
updateindicators_kb, 1326
input_linux.c
_ledthread, 1327
isync, 1328
os_inputclose, 1328
os_inputopen, 1329
os_keypress, 1330
os_mousemove, 1330
os_setupindicators, 1331
uinputopen, 1332
inputmutex
device.c, 1234
device.h, 1245
inputupdate
input.c, 1307
input.h, 1321
inputupdate_keys
input.c, 1308
insert
KbProfile, 547
instance
KbFirmware, 425
int1_int_none
device_vtable.c, 1254
int1_void_none
device_vtable.c, 1254
intensityBox
Ui::KPerfWidget, 697
Ui_KPerfWidget, 1130
internal
QuaZipFilePrivate, 919
internalAttr
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipNewInfo, 929
ioDevice
QuaZipPrivate, 937
ioapi.h
_FILE_OFFSET_BIT, 1777
_LARGEFILE64_SOURCE, 1778
_Z_OF, 1780
__USE_LARGEFILE64, 1777
fill_zlib_filefunc64_32_def_from_filefunc32, 1780
OF, 1778
ZCALLBACK, 1778
ZCLOSE64, 1778
ZERROR64, 1778
ZFAKECLOSE64, 1778
ZOPEN64, 1779
ZPOS64_T, 1780
ZREAD64, 1779
ZSEEK64, 1779
ZTELL64, 1780
ZWRITE64, 1780
zlib_filefunc64_32_def, 1780
zlib_filefunc64_def, 1780
zlib_filefunc_def, 1780
ioff
devcmd.__unnamed__, 161
ion
devcmd.__unnamed__, 162
isActive
KbAnim, 322
isAnim
KeyAction, 617
isAutoClose
QuaZip, 852
isBusy
CkbSettings, 132
isDPI
KeyAction, 618
isDataDescriptorWritingEnabled
QuaZip, 852
isEnabled
AutoRun, 122
isEncrypted
QuaZipFileInfo64, 913
isISO
KbBind, 377
KeyMap, 648
isJP
KeyMap, 649
isKeyboard

Kb, 283
KbBind, 378
KeyMap, 650
isMacro
KeyAction, 618
isMedia
KeyAction, 618
isMouse
Kb, 284
KbBind, 378
KeyAction, 619
KeyMap, 651
isNormal
KeyAction, 619
isOpen
Kb, 285
QuaZip, 853
isProgram
KeyAction, 620
isRaw
QuaZipFile, 894
isRoot
QuaZipDir, 877
isRunning
KbAnim, 322
main.cpp, 1753
isSequential
QuaGzipFile, 822
QuaZIODevice, 829
QuaZipFile, 895
isSetting
MPerfWidget, 797
isSpecial
KeyAction, 620
isStarted
KbLight, 442
isUnbound
KeyAction, 621
isValidMacro
KeyAction, 621
isZip64Enabled
QuaZip, 853
isblack
led_mouse.c, 1389
iselect
led.c, 1342
isync
input_linux.c, 1328

JP
KeyMap, 639
JlCompress, 243
compressDir, 244
compressFile, 245, 246
compressFiles, 247
compressSubDir, 249
extractDir, 252
extractFile, 254, 256
extractFiles, 257
getFileList, 258
removeFile, 259
JlCompress.cpp
copyData, 1782

K63
KeyMap, 640
K63_HEIGHT
keymap.cpp, 1717
K63_TOP_COUNT
keymap.cpp, 1717
K63_WIDTH
keymap.cpp, 1717
K63TopRow
keymap.cpp, 1728
K65
KeyMap, 640
K65_HEIGHT
keymap.cpp, 1717
K65_TOP_COUNT
keymap.cpp, 1717
K65_WIDTH
keymap.cpp, 1718
K65TopRow
keymap.cpp, 1728
K70
KeyMap, 640
K70_HEIGHT
keymap.cpp, 1718
K70_WIDTH
keymap.cpp, 1718
K70_X_START
keymap.cpp, 1718
K95
KeyMap, 640
K95_HEIGHT
keymap.cpp, 1718
K95_WIDTH
keymap.cpp, 1718
K95BaseMap
keymap.cpp, 1728
K95Keys
keymap.cpp, 1728
k95Label1
Ui::KPerfWidget, 697
Ui_KPerfWidget, 1130
k95Label2
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1130
k95Label3
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1130
k95Label4
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1130
k95Label5
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Label6

Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Line
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Spacer
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Widgets
KPerfWidget, 717
KPerfWidget
ALWAYS_OFF, 709
ALWAYS_ON, 709
BOTH, 709
NORMAL, 709
RGB, 709
KPerfWidget::IndicatorUi, 707, 1747
KB_NAME_LEN
structures.h, 1518
KEY_BACKSLASH_ISO
daemon/keymap.h, 1736
KEY_CORSAIR
daemon/keymap.h, 1736
KEY_NONE
daemon/keymap.h, 1736
KEY_SIZE
keywidget.cpp, 1744
KEY_UNBOUND
daemon/keymap.h, 1737
KEYCOUNT_GLAIVE
keymap.cpp, 1718
KEYCOUNT_HARPOON
keymap.cpp, 1718
KEYCOUNT_K95
keymap.cpp, 1718
KEYCOUNT_M65
keymap.cpp, 1719
KEYCOUNT_SABRE
keymap.cpp, 1719
KEYCOUNT_SCIM
keymap.cpp, 1719
KISS_FFT_COS
_kiss_fft_guts.h, 1609
KISS_FFT_FREE
kiss_fft.h, 1624
KISS_FFT_MALLOC
kiss_fft.h, 1624
KISS_FFT_SIN
_kiss_fft_guts.h, 1609
KP_NAME
AnimScript, 84
KP_NONE
AnimScript, 84
KP_POSITION
AnimScript, 84
kPerfTab
Ui::KbWidget, 601
Ui_KbWidget, 1116
KPerfWidget, 704
~KPerfWidget, 711
HW_I_COUNT, 716
HwMode, 709
I_COUNT, 717
i_hw, 708
indicator, 709
indicators, 717
k95Widgets, 717
KPerfWidget, 709
KPerfWidget, 709
mode2Raw, 711
on_copyButton_clicked, 712
on_intensityBox_valueChanged, 713
perf, 717
profile, 717
raw2Mode, 713
setPerf, 714
ui, 717
uiUpdated, 715
updateMapper, 717
kPerfWidget
Ui::KbWidget, 601
Ui_KbWidget, 1116
KSTRAFE_HEIGHT
keymap.cpp, 1719
KSTRAFE_WIDTH
keymap.cpp, 1719
KSTRAFE_X_START
keymap.cpp, 1719
KStrafeKeys
keymap.cpp, 1729
Kb, 261
~Kb, 266
_currentMode, 307
_currentProfile, 307
_delay, 307
_dither, 307
_frameRate, 307
_hwProfile, 307
_layout, 308
_model, 308
_mouseAccel, 308
_needsSave, 308
_profiles, 308
_scrollSpeed, 308
appendProfile, 269
autoSave, 269
cmd, 308
cmdpath, 308
currentBind, 269
currentLight, 270
currentMode, 271
currentPerf, 271
currentProfile, 272
deleteHw, 272
deletePrevious, 273
devpath, 308

dither, 273, 274
features, 309
find, 274
firmware, 309
frameRate, 275
frameUpdate, 276
fwUpdPath, 309
fwUpdate, 277
fwUpdateFinished, 278
fwUpdateProgress, 278
getKeyMap, 279
getMacroNumber, 279
getMacroPath, 279
HWMODE_MAX, 309
hwLoading, 309
hwModeCount, 309
hwProfile, 280
hwSave, 281
iState, 309
indexOf, 282
infoUpdated, 283
isKeyboard, 283
isMouse, 284
isOpen, 285
Kb, 266
KbManager, 307
lastAutoSave, 309
layout, 285
load, 286
macroDelay, 287
macroNumber, 309
macroPath, 310
matches, 288
modeChanged, 288
modeRenamed, 289
model, 288
monochrome, 310
mouseAccel, 289
needsSave, 290
newMode, 290, 291
newProfile, 291, 292
notifyNumber, 310
notifyPath, 310
pollrate, 310
prefsPath, 310
prevMode, 310
prevProfile, 310
profileAdded, 293
profileChanged, 293
profileRenamed, 293
profiles, 294
readNotify, 295
run, 299
save, 300
scrollSpeed, 301
setCurrentMode, 302, 303
setCurrentProfile, 304
updateLayout, 305
usbModel, 310
usbSerial, 311
writeProfileHeader, 306
kb
FwUpgradeDialog, 193
kb.cpp
activeDevices, 1689
notifyPathMutex, 1689
notifyPaths, 1689
KbAnim
Add, 314
Divide, 315
Multiply, 314
Normal, 314
Subtract, 314
KbFirmware
NO, 417
UNKNOWN, 417
YES, 417
KbId, 1681
KbPerf
CAPS, 509
HIGH, 508
HW_IMAX, 509
LIGHT, 509
LOCK, 509
LOW, 508
LOWMED, 508
MACRO, 509
MEDHIGH, 508
MEDIUM, 508
MODE, 509
MUTE, 509
NONE, 509
NORMAL, 509
NUM, 509
OFF, 509
ON, 509
SCROLL, 509
KbAnim, 311
_guid, 336
_isActive, 336
_isActiveKp, 336
_keys, 336
_map, 336
_mode, 336
_name, 336
_needsSave, 336
_opacity, 337
_parameters, 337
_script, 337
_scriptGuid, 337
_scriptName, 337
_tempParameters, 337
blend, 317
catchUp, 318
commitParams, 320
effectiveParams, 320

guid, 321
hasParameter, 321
isActive, 322
isRunning, 322
KbAnim, 315–317
KbAnim, 315–317
keypress, 323
keys, 324, 325
kpRepeatMsec, 337
kpRepeatTime, 337
kpStopTime, 337
map, 325, 326
Mode, 314
mode, 326
name, 326, 327
needsSave, 327
newId, 328
opacity, 328
parameter, 328, 329
reInit, 330
repeatKey, 338
repeatMsec, 338
repeatTime, 338
resetParams, 330
save, 331
script, 332
scriptName, 332
stop, 333
stopTime, 338
trigger, 334
updateParams, 335
KbAnimWidget, 348
~KbAnimWidget, 351
addAnim, 351
animChanged, 352
animations, 365
clearSelection, 353
current, 365
didUpdateSelection, 353
duplicateAnim, 354
KbAnimWidget, 350
KbAnimWidget, 350
light, 365
noReorder, 365
on_animList_currentItemChanged, 354
on_animList_customContextMenuRequested, 355
on_animList_itemChanged, 356
on_blendBox_activated, 356
on_deleteButton_clicked, 357
on_keyButton_clicked, 357
on_nameBox_textEdited, 358
on_opacityBox_valueChanged, 359
on_propertyButton_clicked, 359
refreshList, 360
reorderAnims, 361
selectedKeys, 365
setCurrent, 362
setLight, 363
setSelectedKeys, 364
ui, 365
KbBind, 366
_bind, 395
_devParent, 395
_globalRemap, 395
_map, 395
_needsSave, 395
_needsUpdate, 396
_winLock, 396
action, 370
bindAction, 371
defaultAction, 371, 372
devParent, 372
didLoad, 373
friendlyActionName, 373
friendlyName, 374
getMacroNumber, 374
getMacroPath, 375
globalRemap, 376
globalRemapTime, 396
handleNotificationChannel, 376
isISO, 377
isKeyboard, 378
isMouse, 378
KbBind, 369
KbBind, 369
KeyAction, 395
keyEvent, 379
lastCmd, 396
lastGlobalRemapTime, 396
layoutChanged, 380
light, 381
load, 381
loadGlobalRemap, 383
map, 383, 384
modeParent, 384
needsSave, 384
noAction, 385
perf, 386
resetAction, 387
save, 388
saveGlobalRemap, 389
setAction, 390
setGlobalRemap, 391
setNeedsUpdate, 392
update, 392
updated, 394
winLock, 394, 395
KbBindWidget, 403
~KbBindWidget, 406
bind, 414
currentSelection, 414
KbBindWidget, 406
KbBindWidget, 406
newLayout, 407
newSelection, 407
on_copyButton_clicked, 409

on_resetButton_clicked, 409
profile, 414
setBind, 410
ui, 414
updateBind, 411
updateSelDisplay, 413
kbConnected
KbManager, 485
kbDisconnected
KbManager, 485
KbFirmware, 414
~KbFirmware, 417
_checkUpdates, 417
_fileForBoard, 418
_latestForBoard, 419
checkUpdates, 420
dataForBoard, 420
downloadFinished, 421
downloaded, 421
fwTable, 425
fwTableHash, 425
hasDownloaded, 422
hasGPG, 425
instance, 425
KbFirmware, 417
KbFirmware, 417
lastCheck, 425
lastFinished, 425
networkManager, 425
processDownload, 422
tableDownload, 425
versionForBoard, 424
KbFirmware::FW, 183
ckbVersion, 184
FW, 184
fileName, 184
fwVersion, 184
hash, 184
url, 184
KbLight, 426
~KbLight, 431
_animList, 454
_animMap, 454
_colorMap, 455
_dimming, 455
_indicatorList, 455
_indicatorMap, 455
_lastFrameAnimMap, 455
_lastFrameDimming, 455
_lastFrameIndicatorMap, 455
_map, 455
_needsMapRefresh, 455
_needsSave, 455
_previewAnim, 456
_qColorMap, 456
_start, 456
addAnim, 431
animKeypress, 432
AnimList, 430
animList, 433
base, 433
close, 434
color, 435, 436
colorMap, 436
didLoad, 437
dimming, 437, 438
duplicateAnim, 438
findAnim, 439
findAnimIdx, 440
frameDisplayed, 440
frameUpdate, 441
isStarted, 442
KbLight, 430
KbLight, 430
lastFrameSignal, 456
load, 443
MAX_DIM, 456
map, 444, 445
needsSave, 445
open, 446
previewAnim, 447
printRGB, 448
rebuildBaseMap, 449
resetIndicators, 449
restartAnimation, 450
save, 451
setIndicator, 452
shareDimming, 452, 453
stopPreview, 453
updated, 454
KbLightWidget, 465
~KbLightWidget, 467
changeAnim, 468
changeAnimKeys, 468
changeColor, 469
currentSelection, 477
KbLightWidget, 467
KbLightWidget, 467
light, 477
newSelection, 470
on_animButton_clicked, 471
on_bgButton_clicked, 472
on_brightnessBox_activated, 472
on_showAnimBox_clicked, 473
setLight, 473
setMonochrome, 474
toggleSidelight, 475
ui, 477
updateLight, 476
KbManager, 478
_daemonVersion, 489
_devices, 489
_eventTimer, 489
_guiVersion, 489
_kbManager, 490
_scanTimer, 490

ckbDaemonVersion, 481
ckbDaemonVersionF, 481
ckbGuiVersion, 482
ckbGuiVersionF, 482
devices, 483
eventTimer, 483
fps, 483
init, 484
Kb, 307
kbConnected, 485
kbDisconnected, 485
KbManager, 480
kbManager, 485
KbManager, 480
parseVersionString, 486
scanKeyboards, 486
scanTimer, 488
stop, 488
versionUpdated, 489
kbManager
KbManager, 485
KbMode, 490
~KbMode, 495
_bind, 504
_id, 504
_light, 504
_name, 504
_needsSave, 504
_perf, 504
bind, 495
doUpdate, 496
id, 496, 497
KbMode, 493, 494
KbMode, 493, 494
keyMap, 497
light, 498
name, 498, 499
needsSave, 499
newId, 500
perf, 501
save, 501
setNeedsSave, 502
setNeedsUpdate, 502
updated, 503
KbPerf, 504
_angleSnap, 536
_curDpi, 511
_dpiIndicator, 536
_iOpacity, 536
_liftHeight, 537
_needsSave, 537
_needsUpdate, 537
angleSnap, 511, 512
applyIndicators, 512
baseDpiIdx, 513, 514
bind, 514
DPI_COUNT, 537
DPI_MAX, 537
DPI_MIN, 537
didLoad, 515
dpi, 515, 516
dpiBaseIdx, 537
dpiClr, 537
dpiColor, 517, 518
dpiCurX, 537
dpiCurY, 538
dpiCycleDown, 518
dpiCycleUp, 519
dpiDown, 519
dpiEnabled, 520
dpiIndicator, 521
dpiOn, 538
dpiUp, 521
dpiX, 538
dpiY, 538
getIndicator, 522
HW_I_COUNT, 538
height, 508
hwIType, 538
I_COUNT, 538
i_hw, 508
iColor, 538
iEnable, 538
iOpacity, 522, 523
indicator, 509
KbPerf, 509, 510
KbPerf, 509, 510
liftHeight, 523
light, 523
light100Color, 539
lightIndicator, 524
load, 525
modeParent, 527
muteNAColor, 539
needsSave, 527
OTHER, 539
operator=, 528
popDpi, 528
pushDpi, 529, 530
pushSniper, 531
pushedDpis, 539
runningPushIdx, 539
SNIPER, 539
save, 531
setIndicator, 532
setNeedsUpdate, 533
settingsUpdated, 533
sniperDpi, 533, 534
update, 535
KbProfile, 539
_currentMode, 556
_id, 556
_keyMap, 556
_modes, 556
_name, 556
_needsSave, 557

append, 544
currentMode, 544, 545
find, 545
id, 546
indexOf, 547
insert, 547
KbProfile, 542, 543
KbProfile, 542, 543
keyMap, 548
modeCount, 549
ModeList, 542
modes, 549, 550
move, 550
name, 551
needsSave, 551
newId, 552
removeAll, 553
save, 554
setNeedsSave, 555
setNeedsUpdate, 555
KbProfileDialog, 557
~KbProfileDialog, 559
addNewProfileItem, 559
device, 565
GUID, 566
KbProfileDialog, 559
KbProfileDialog, 559
NEW_FLAG, 566
on_profileList_currentItemChanged, 560
on_profileList_customContextMenuRequested, 560
on_profileList_itemChanged, 562
on_profileList_itemClicked, 563
profileList_reordered, 563
repopulate, 564
ui, 566
KbWidget, 571
~KbWidget, 575
addNewModeItem, 575
currentMode, 592
devUpdate, 576
device, 592
GUID, 593
hasShownNewFW, 593
KbWidget, 573
KbWidget, 573
lastAutoSave, 593
modeChanged, 576
modeIcon, 578
modeUpdate, 580
modesList_reordered, 579
NEW_FLAG, 593
name, 580
on_fwUpdButton_clicked, 580
on_hwSaveButton_clicked, 582
on_modesList_currentItemChanged, 583
on_modesList_customContextMenuRequested, 584
on_modesList_itemChanged, 585
on_modesList_itemClicked, 586
on_profileBox_activated, 587
on_tabWidget_currentChanged, 587
profileChanged, 588
showFirstTab, 589
showFwUpdate, 589
showLastTab, 590
ui, 593
updateFwButton, 590
updateProfileList, 591
kbWidgets
MainWindow, 751
kbanim.cpp
blendAdd, 1691
blendDivide, 1691
blendFunc, 1691
blendMultiply, 1691
blendNormal, 1691
blendSubtract, 1692
functions, 1692
kbfirmware.cpp
AUTO_CHECK_TIME, 1698
tableName, 1698
kblight.cpp
_shareDimming, 1702
activeLights, 1702
lToS, 1700
monoRgb, 1700
sToL, 1701
kbmanager.cpp
devpath, 1705
kbperf.cpp
map_last, 1707
kbsize
ckb-ripple/main.c, 1441
kbsyspath
usb_linux.c, 1604
Key, 603
_friendlyName, 605
_storageName, 605
friendlyName, 604
hasLed, 605
hasScan, 605
height, 605
name, 606
operator bool, 604
storageName, 605
width, 606
x, 606
y, 606
key, 1735
KeyMap, 652
KeyAction
NORMAL, 610
SPECIAL, 610
UNBOUND, 610
keyAnim, 1402

KeyMap
_LAYOUT_MAX, 639
_MODEL_MAX, 640
DE, 639
DK, 639
ES, 639
EU, 639
EU_DVORAK, 639
FR, 639
GB, 639
GB_DVORAK, 639
GLAIVE, 640
HARPOON, 640
IT, 639
JP, 639
K63, 640
K65, 640
K70, 640
K95, 640
M65, 640
MX, 639
NO, 639
NO_LAYOUT, 639
NO_MODEL, 640
PL, 639
SABRE, 640
SCIMITAR, 640
SE, 639
STRAFE, 640
US, 639
US_DVORAK, 639
KeyPatch, 1716
KeyWidget
ADD, 665
NONE, 665
SET, 665
SUBTRACT, 665
TOGGLE, 665
KeyAction, 606
~KeyAction, 611
_value, 633
adjustDisplay, 611
animAction, 612
animInfo, 613
DPI_CUSTOM, 633
DPI_CYCLE_DOWN, 634
DPI_CYCLE_UP, 634
DPI_DOWN, 634
DPI_SNIPER, 634
DPI_UP, 634
defaultAction, 613
dpiAction, 614
dpiInfo, 615
driverName, 615
friendlyName, 616
isAnim, 617
isDPI, 618
isMacro, 618
isMedia, 618
isMouse, 619
isNormal, 619
isProgram, 620
isSpecial, 620
isUnbound, 621
isValidMacro, 621
KbBind, 395
KeyAction, 611
keyEvent, 622
keyRelease, 625
KeyAction, 611
LIGHT_DOWN, 634
LIGHT_DOWN_WRAP, 634
LIGHT_UP, 634
LIGHT_UP_WRAP, 634
LOCK_OFF, 635
LOCK_ON, 635
LOCK_TOGGLE, 635
lightAction, 626
lockAction, 626
MODE_NEXT, 635
MODE_NEXT_WRAP, 635
MODE_PREV, 635
MODE_PREV_WRAP, 635
macroAction, 626
macroContent, 627
macroDisplay, 627
macroFullLine, 628
macroLine, 629
macroTiming, 629
modeAction, 630
noAction, 630
operator QString, 631
operator=, 631
PROGRAM_PR_INDEF, 635
PROGRAM_PR_KPSTOP, 636
PROGRAM_PR_KRSTOP, 636
PROGRAM_PR_MULTI, 636
PROGRAM_RE_INDEF, 636
PROGRAM_RE_KPSTOP, 636
PROGRAM_RE_MULTI, 636
preProgram, 635
programAction, 631
programInfo, 631
relProgram, 636
sniperValue, 636
specialInfo, 632
Type, 610
type, 632
value, 633
keyButton
Ui::KbAnimWidget, 346
Ui_KbAnimWidget, 1088
keyEvent
KbBind, 379
KeyAction, 622
keyHeight

KeyMap, 660
keyLayout
KeyMap, 660
KeyMap, 637
_keys, 660
byPosition, 641
contains, 641
count, 642
friendlyName, 642
fromName, 643
fromStorage, 644
getLayout, 645, 646
getModel, 646, 647
height, 647
isISO, 648
isJP, 649
isKeyboard, 650
isMouse, 651
key, 652
keyHeight, 660
keyLayout, 660
KeyMap, 640
keyModel, 660
keyWidth, 661
KeyMap, 640
keys, 653
Layout, 639
layout, 653
layoutNames, 654
locale, 654
map, 655
Model, 639
model, 655
modelHeight, 656
modelWidth, 656
name, 657
operator const QHash< QString, Key > &, 657
positions, 658
strLayout, 658
strModel, 659
toStorage, 659
width, 660
keyMap
KbMode, 497
KbProfile, 548
KeyWidget, 683
keyModel
KeyMap, 660
keyNames
ColorMap, 158
keyRelease
KeyAction, 625
keyTab
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
KeyWidget, 661
_bindMap, 682
_colorMap, 682
_displayColorMap, 683
_indicators, 683
_monochrome, 683
_rgbMode, 683
animation, 683
BindMap, 664
bindMap, 665
clearAnimation, 666
clearSelection, 666
colorMap, 666, 667
displayColorMap, 667
drawInfo, 667
keyMap, 683
KeyWidget, 665
KeyWidget, 665
map, 668, 669
monochrome, 669, 670
mouseCurrentX, 683
mouseCurrentY, 683
mouseDownMode, 683
mouseDownX, 684
mouseDownY, 684
mouseMoveEvent, 670
mousePressEvent, 671
mouseReleaseEvent, 672
newSelection, 684
paintEvent, 673
rgbMode, 678, 679
selectAll, 679
selection, 684
selectionChanged, 680
setAnimation, 680
setAnimationToSelection, 681
setSelection, 681
sidelightToggled, 682
keyWidget
Ui::KbBindWidget, 402
Ui::KbLightWidget, 463
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
keyWidth
KeyMap, 661
keyaction.cpp
ANIM_KRSTOP, 1713
ANIM_ONCE, 1713
keyanim, 1408
keyboard
device.c, 1234
device.h, 1245
keymacro, 1505
keymap
daemon/keymap.h, 1742
keymap.c, 1338
keymap.c
BUTTON_HID_COUNT, 1334
corsair_kbcopy, 1334
corsair_mousecopy, 1335
hid_kb_translate, 1335

hid_mouse_translate, 1337
keymap, 1338
keymap.cpp
_patch, 1720
ANSI_ENTER_H, 1716
ANSI_ENTER_W, 1716
ANSI_ENTER_X, 1716
ANSI_ENTER_Y, 1716
ANSI_LSHIFT_W, 1717
ANSI_LSHIFT_X, 1717
GLAIVE_HEIGHT, 1717
GLAIVE_WIDTH, 1717
getMap, 1721
GlaiveKeys, 1727
HARPOON_HEIGHT, 1717
HARPOON_WIDTH, 1717
HarpoonKeys, 1728
K63_HEIGHT, 1717
K63_TOP_COUNT, 1717
K63_WIDTH, 1717
K63TopRow, 1728
K65_HEIGHT, 1717
K65_TOP_COUNT, 1717
K65_WIDTH, 1718
K65TopRow, 1728
K70_HEIGHT, 1718
K70_WIDTH, 1718
K70_X_START, 1718
K95_HEIGHT, 1718
K95_WIDTH, 1718
K95BaseMap, 1728
K95Keys, 1728
KEYCOUNT_GLAIVE, 1718
KEYCOUNT_HARPOON, 1718
KEYCOUNT_K95, 1718
KEYCOUNT_M65, 1719
KEYCOUNT_SABRE, 1719
KEYCOUNT_SCIM, 1719
KSTRAFE_HEIGHT, 1719
KSTRAFE_WIDTH, 1719
KSTRAFE_X_START, 1719
KStrafeKeys, 1729
M65_HEIGHT, 1719
M65_WIDTH, 1719
M65Keys, 1730
N_LAYOUTS, 1719
N_MODELS, 1720
NS, 1720
PATCH_COUNT, 1720
patch, 1720
patchANSI, 1724
patchDE, 1730
patchDK, 1730
patchDvorak, 1730
patchES, 1730
patchEU, 1731
patchFR, 1731
patchISO, 1725
patchIT, 1731
patchJP, 1731
patchJP106, 1726
patchJP106fn, 1726
patchMX, 1731
patchNO, 1732
patchSE, 1732
patchnonJP106, 1727
SABRE_HEIGHT, 1720
SABRE_WIDTH, 1720
SCIM_HEIGHT, 1720
SCIM_WIDTH, 1720
SabreKeys, 1732
ScimKeys, 1732
standardMaps, 1733
keypress
AnimScript, 69
KbAnim, 323
keys
KbAnim, 324, 325
KeyMap, 653
keywidget.cpp
glaiveOverlay, 1744
harpOverlay, 1744
KEY_SIZE, 1744
m65Overlay, 1744
monoRgb, 1743
sabOverlay, 1744
scimOverlay, 1745
kf_bfly2
kiss_fft.c, 1611
kf_bfly3
kiss_fft.c, 1612
kf_bfly4
kiss_fft.c, 1613
kf_bfly5
kiss_fft.c, 1614
kf_bfly_generic
kiss_fft.c, 1615
kf_cexp
_kiss_fft_guts.h, 1609
kf_factor
kiss_fft.c, 1616
kf_work
kiss_fft.c, 1616
kiss_fft_cpx, 1624
kiss_fft_state, 1607
kiss_fftr_state, 1630
kiss_fft
kiss_fft.c, 1618
kiss_fft.h, 1625
kiss_fft.c
kf_bfly2, 1611
kf_bfly3, 1612
kf_bfly4, 1613
kf_bfly5, 1614
kf_bfly_generic, 1615
kf_factor, 1616

kf_work, 1616
kiss_fft, 1618
kiss_fft_alloc, 1619
kiss_fft_cleanup, 1620
kiss_fft_next_fast_size, 1621
kiss_fft_stride, 1621
kiss_fft.h
KISS_FFT_FREE, 1624
KISS_FFT_MALLOC, 1624
kiss_fft, 1625
kiss_fft_alloc, 1626
kiss_fft_cfg, 1625
kiss_fft_cleanup, 1627
kiss_fft_free, 1624
kiss_fft_next_fast_size, 1627
kiss_fft_scalar, 1625
kiss_fft_stride, 1628
kiss_fftr_next_fast_size_real, 1625
kiss_fft_alloc
kiss_fft.c, 1619
kiss_fft.h, 1626
kiss_fft_cfg
kiss_fft.h, 1625
kiss_fft_cleanup
kiss_fft.c, 1620
kiss_fft.h, 1627
kiss_fft_free
kiss_fft.h, 1624
kiss_fft_next_fast_size
kiss_fft.c, 1621
kiss_fft.h, 1627
kiss_fft_scalar
kiss_fft.h, 1625
kiss_fft_stride
kiss_fft.c, 1621
kiss_fft.h, 1628
kiss_fftr
kiss_fftr.c, 1631
kiss_fftr.h, 1635
kiss_fftr.c
kiss_fftr, 1631
kiss_fftr_alloc, 1632
kiss_fftri, 1633
kiss_fftr.h
kiss_fftr, 1635
kiss_fftr_alloc, 1636
kiss_fftr_cfg, 1635
kiss_fftr_free, 1635
kiss_fftri, 1637
kiss_fftr_alloc
kiss_fftr.c, 1632
kiss_fftr.h, 1636
kiss_fftr_cfg
kiss_fftr.h, 1635
kiss_fftr_free
kiss_fftr.h, 1635
kiss_fftr_next_fast_size_real
kiss_fft.h, 1625
kiss_fftri
kiss_fftr.c, 1633
kiss_fftr.h, 1637
kpDelayBox
Ui::AnimSettingDialog, 94
Ui_AnimSettingDialog, 1051
kpModeStopBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1051
kpReleaseBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1051
kpRepeatBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1051
kpRepeatLabel
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1051
kpRepeatLabel_2
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1051
kpRepeatMsec
KbAnim, 337
kpRepeatTime
KbAnim, 337
kpStopCheck
AnimSettingDialog, 119
kpStopTime
KbAnim, 337
kphold
ckb-gradient/main.c, 1407
kprelease
ckb-gradient/main.c, 1407
ckb-ripple/main.c, 1441
ckb-wave/main.c, 1449

LAYOUT
command.h, 1225
LIFT
command.h, 1226
LIGHT
KbPerf, 509
LOCK
KbPerf, 509
LOW
KbPerf, 508
LOWMED
KbPerf, 508
LED_DPI
daemon/keymap.h, 1737
LED_MOUSE
daemon/keymap.h, 1737
lHeightBox
Ui::MPerfWidget, 776
Ui_MPerfWidget, 1165
LIFT_MAX
structures.h, 1518
LIFT_MIN
structures.h, 1518

LIGHT_DOWN
KeyAction, 634
LIGHT_DOWN_WRAP
KeyAction, 634
LIGHT_UP
KeyAction, 634
LIGHT_UP_WRAP
KeyAction, 634
LOCALHEADERMAGIC
zip.c, 1899
LOCK_OFF
KeyAction, 635
LOCK_ON
KeyAction, 635
LOCK_TOGGLE
KeyAction, 635
lToS
kblight.cpp, 1700
label
Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 171
Ui::GradientDialog, 212
Ui::KbBindWidget, 402
Ui::KbLightWidget, 463
Ui::KPerfWidget, 698
Ui::LayoutDialog, 721
Ui::ModeSelectDialog, 756
Ui::MPerfWidget, 775
Ui::RebindWidget, 962
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1064
Ui_GradientDialog, 1079
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1131
Ui_LayoutDialog, 1141
Ui_ModeSelectDialog, 1149
Ui_MPerfWidget, 1164
Ui_RebindWidget, 1192
Ui_SettingsWidget, 1209
label_10
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 171
Ui::KPerfWidget, 698
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1064
Ui_KPerfWidget, 1131
label_11
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 171
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1064
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
label_12
Ui::AnimSettingDialog, 95
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1052
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
label_13
Ui::AnimSettingDialog, 96
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1052
Ui_MPerfWidget, 1164
label_14
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
label_15
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_KPerfWidget, 1132
Ui_MPerfWidget, 1164
label_16
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1132
label_17
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1132
label_18
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1132
label_19
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1132
label_2
Ui::AnimAddDialog, 47
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 172
Ui::FwUpgradeDialog, 199
Ui::GradientDialog, 212
Ui::KbBindWidget, 402
Ui::KbLightWidget, 463
Ui::KPerfWidget, 699
Ui::LayoutDialog, 722
Ui::MPerfWidget, 775
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1064
Ui_FwUpgradeDialog, 1073
Ui_GradientDialog, 1079
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1132
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1164
Ui_SettingsWidget, 1209

label_20
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1132
label_21
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1132
label_22
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1132
label_23
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1133
label_24
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1133
label_25
Ui::MPerfWidget, 775
Ui_MPerfWidget, 1165
label_3
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 172
Ui::KbLightWidget, 463
Ui::KbWidget, 601
Ui::KPerfWidget, 700
Ui::MPerfWidget, 775
Ui::SettingsWidget, 1032
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1064
Ui_KbLightWidget, 1103
Ui_KbWidget, 1116
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_4
Ui::AnimSettingDialog, 96
Ui::FwUpgradeDialog, 199
Ui::KbWidget, 601
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui_AnimSettingDialog, 1052
Ui_FwUpgradeDialog, 1073
Ui_KbWidget, 1116
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
label_5
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 172
Ui::KbAnimWidget, 346
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1032
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1065
Ui_KbAnimWidget, 1088
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_6
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 172
Ui::KbAnimWidget, 346
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1065
Ui_KbAnimWidget, 1088
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_7
Ui::AnimSettingDialog, 96
Ui::KbAnimWidget, 346
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui_AnimSettingDialog, 1052
Ui_KbAnimWidget, 1088
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
label_8
Ui::AnimSettingDialog, 96
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1052
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_9
Ui::AnimSettingDialog, 96
Ui::KbWidget, 601
Ui_AnimSettingDialog, 1053
Ui_KbWidget, 1116
lastAutoSave
Kb, 309
KbWidget, 593
lastCheck
KbFirmware, 425
lastCmd
KbBind, 396
lastDuration
AnimSettingDialog, 119
lastFinished
KbFirmware, 425
lastFrame
AnimScript, 84
lastFrameSignal
KbLight, 456
lastGlobalRemapTime
KbBind, 396
lastKnown
media_linux.cpp, 1762
lastMappedDirectoryEntry
QuaZipPrivate, 937
lastSharedDimming
extrasettingswidget.cpp, 1679

Layout
KeyMap, 639
layout
Kb, 285
KeyMap, 653
layoutBox
Ui::SettingsWidget, 1033
Ui_SettingsWidget, 1209
layoutChanged
KbBind, 380
LayoutDialog, 722
~LayoutDialog, 724
LayoutDialog, 724
LayoutDialog, 724
selected, 725
ui, 725
layoutNames
KeyMap, 654
layoutWidget
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
layoutWidget1
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
layoutWidget2
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
layoutWidget_2
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
lbl_macro
Ui::RebindWidget, 962
Ui_RebindWidget, 1192
led.c
cmd_iauto, 1339
cmd_inotify, 1340
cmd_ioff, 1340
cmd_ion, 1341
cmd_rgb, 1341
has_key, 1342
iselect, 1342
printrgb, 1343
led.h
cmd_iauto, 1345
cmd_inotify, 1346
cmd_ioff, 1346
cmd_ion, 1347
cmd_rgb, 1347
loadrgb_kb, 1348
loadrgb_mouse, 1350
printrgb, 1350
savergb_kb, 1352
savergb_mouse, 1353
updatergb_kb, 1354
updatergb_mouse, 1355
led_keyboard.c
BR1, 1379
BR2, 1379
BR4, 1379
bit_reverse_table, 1387
loadrgb_kb, 1380
makergb_512, 1382
makergb_full, 1383
O0, 1379
O1, 1379
O2, 1379
O3, 1380
O4, 1380
O5, 1380
O6, 1380
O7, 1380
O8, 1380
ordered8to3, 1383
quantize8to3, 1384
rgbcmp, 1384
savergb_kb, 1385
updatergb_kb, 1386
led_mouse.c
isblack, 1389
loadrgb_mouse, 1390
rgbcmp, 1390
savergb_mouse, 1391
updatergb_mouse, 1391
left
ckb-wave/main.c, 1449
license
AnimScript, 70
lift
devcmd.__unnamed__, 162
liftHeight
KbPerf, 523
light
KbAnimWidget, 365
KbBind, 381
KbLightWidget, 477
KbMode, 498
KbPerf, 523
light100Color
KbPerf, 539
lightAction
KeyAction, 626
lightBox
Ui::KPerfWidget, 701
Ui::RebindWidget, 963
Ui_KPerfWidget, 1133
Ui_RebindWidget, 1193
lightButton
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
lightColor1
Ui::KPerfWidget, 701
Ui_KPerfWidget, 1134
lightColor2
Ui::KPerfWidget, 701
Ui_KPerfWidget, 1134
lightColor3

Ui::KPerfWidget, 701
Ui_KPerfWidget, 1134
lightIndicator
KbPerf, 524
lightTab
Ui::KbWidget, 601
Ui_KbWidget, 1116
lightWidget
Ui::KbWidget, 601
Ui_KbWidget, 1116
lightWrapBox
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
lighting, 1508
line
Ui::AnimSettingDialog, 97
Ui::ExtraSettingsWidget, 172
Ui::KbBindWidget, 402
Ui::KbLightWidget, 464
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1065
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1210
line_2
Ui::AnimSettingDialog, 97
Ui::ExtraSettingsWidget, 172
Ui::KbBindWidget, 402
Ui::KbLightWidget, 464
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1065
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
line_3
Ui::ExtraSettingsWidget, 172
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_ExtraSettingsWidget, 1065
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
linkedlist_data_s, 1896
linkedlist_datablock_internal_s, 1895
linkedlist_data
zip.c, 1901
linkedlist_datablock_internal
zip.c, 1901
list
AnimScript, 70
load
AnimScript, 71
Kb, 286
KbBind, 381
KbLight, 443
KbPerf, 525
LoadCentralDirectoryRecord
zip.c, 1905
loadGlobalRemap
KbBind, 383
loaddpi
dpi.c, 1279
dpi.h, 1285
loadprofile
devcmd.__unnamed__, 162
profile.c, 1475
profile.h, 1494
loadprofile_none
device_vtable.c, 1255
loadrgb_kb
led.h, 1348
led_keyboard.c, 1380
loadrgb_mouse
led.h, 1350
led_mouse.c, 1390
local
unzip.c, 1827
zip.c, 1899
locale
KeyMap, 654
localecase
ckb-daemon/main.c, 1393
lockAction
KeyAction, 626
lockBox
Ui::KPerfWidget, 702
Ui::RebindWidget, 963
Ui_KPerfWidget, 1134
Ui_RebindWidget, 1193
lockButton
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
lockColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1134
lockColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1134
lockMutex
ckbsettings.cpp, 1671
ckbsettingswriter.cpp, 1674
lockMutexCache
ckbsettings.cpp, 1671
ckbsettingswriter.cpp, 1674
lockMutexStatic

ckbsettings.cpp, 1671
ckbsettingswriter.cpp, 1674
lockMutexStatic2
ckbsettings.cpp, 1671
ckbsettingswriter.cpp, 1674
loginItemBox
Ui::SettingsWidget, 1033
Ui_SettingsWidget, 1210

M65
KeyMap, 640
M65_HEIGHT
keymap.cpp, 1719
M65_WIDTH
keymap.cpp, 1719
M65Keys
keymap.cpp, 1730
m65Overlay
keywidget.cpp, 1744
MACRO
command.h, 1226
KbPerf, 509
MAX_FILE_NAME_LENGTH
QuaZip, 835
MEDHIGH
KbPerf, 508
MEDIUM
KbPerf, 508
MODE
command.h, 1225
KbPerf, 509
MPerfWidget::DpiUi, 783, 1769
MUTE
KbPerf, 509
MUTED
media.h, 1760
MX
KeyMap, 639
M_PI
ckb-anim.h, 1657
MACRO_MAX
structures.h, 1518
MAKEULONG64
zip.c, 1899
MAX_BUFFER
devnode.c, 1257
MAX_DIM
KbLight, 456
MAXFACTORS
_kiss_fft_guts.h, 1610
mAccelBox
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1065
MD_NAME_LEN
structures.h, 1518
MODE_COUNT
structures.h, 1518
MODE_NEXT
KeyAction, 635
MODE_NEXT_WRAP
KeyAction, 635
MODE_PREV
KeyAction, 635
MODE_PREV_WRAP
KeyAction, 635
MOUSE_BUTTON_FIRST
daemon/keymap.h, 1737
MOUSE_EXTRA_FIRST
daemon/keymap.h, 1737
mPerfTab
Ui::KbWidget, 602
Ui_KbWidget, 1117
MPerfWidget, 780
~MPerfWidget, 786
_xyLink, 796
boxXChanged, 786
boxXMapper, 796
boxYChanged, 787
boxYMapper, 796
buttonMapper1, 796
buttonMapper2, 796
colorChanged, 788
colorClicked, 789
colorLink, 797
DPI_COUNT, 797
DPI_MAX, 797
DPI_MIN, 797
enableChanged, 789
enableMapper, 797
isSetting, 797
MPerfWidget, 784
MPerfWidget, 784
on_aSnapBox_clicked, 790
on_copyButton_clicked, 790
on_indicBox_clicked, 791
on_lHeightBox_activated, 791
on_spinBox_valueChanged, 792
on_xyBox_clicked, 792
perf, 797
profile, 797
setPerf, 793
sliderXMapper, 797
sliderXMoved, 794
sliderYMapper, 797
sliderYMoved, 795
stages, 798
ui, 798
mPerfWidget
Ui::KbWidget, 602
Ui_KbWidget, 1117
MSG_SIZE
structures.h, 1518
macReader
RebindWidget, 1004
macro
devcmd.__unnamed__, 162
macro_pt_dequeue

input.c, 1310
macro_pt_enqueue
input.c, 1311
macro_pt_first
input.c, 1311
macroAction
KeyAction, 626
macroBox
MacroReaderThread, 733
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
macroColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
macroColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
macroContent
KeyAction, 627
macroDelay
Kb, 287
macroDisplay
KeyAction, 627
macroFullLine
KeyAction, 628
macroLine
KeyAction, 629
macroNumber
Kb, 309
MacroReaderThread, 733
macroPath
Kb, 310
MacroReaderThread, 733
MacroReader, 725
~MacroReader, 728
MacroReader, 728
macroReaderThread, 729
MacroReader, 728
startWorkInAThread, 728
MacroReaderThread, 729
macroBox, 733
macroNumber, 733
macroPath, 733
MacroReaderThread, 731
macroText, 733
MacroReaderThread, 731
readMacro, 732
run, 732
macroReaderThread
MacroReader, 729
macroTab
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
macroText
MacroReaderThread, 733
macroTiming
KeyAction, 629
macroaction, 1504
macromask
input.c, 1312
macromutex
device.c, 1234
device.h, 1245
macromutex2
device.c, 1234
device.h, 1245
macrovar
device.c, 1235
device.h, 1245
main
ckb-anim.h, 1666
ckb-daemon/main.c, 1394
main.cpp, 1754
main.cpp
CommandLineBackground, 1752
CommandLineClose, 1752
CommandLineError, 1752
CommandLineHelpRequested, 1752
CommandLineOK, 1752
CommandLineVersionRequested, 1752
main.cpp
appShare, 1753
CommandLineParseResults, 1752
isRunning, 1753
main, 1754
parseCommandLine, 1755
pidActive, 1757
SHMEM_SIZE, 1752
SHMEM_SIZE_V015, 1752
main_ac
ckb-daemon/main.c, 1401
main_av
ckb-daemon/main.c, 1401
MainWindow, 737
~MainWindow, 741
addDevice, 742
checkFwUpdates, 742
cleanup, 743
closeAction, 751
closeEvent, 744
iconClicked, 744
kbWidgets, 751
MainWindow, 740
mainWindow, 751
MainWindow, 740
quitApp, 745
removeDevice, 746
restoreAction, 751
settingsWidget, 752
SettingsWidget, 1022
showFwUpdateNotification, 746
showWindow, 747
stateChange, 748
timerTick, 749
toggleTrayIcon, 750
trayIcon, 752

trayIconMenu, 752
ui, 752
updateVersion, 750
mainWindow
MainWindow, 751
mainwindow.cpp
appShare, 1758
configLabel, 1758
makeIcon
GradientDialog, 221
makeStops
GradientDialogWidget, 232
makergb_512
led_keyboard.c, 1382
makergb_full
led_keyboard.c, 1383
map
KbAnim, 325, 326
KbBind, 383, 384
KbLight, 444, 445
KeyMap, 655
KeyWidget, 668, 669
map_last
kbperf.cpp, 1707
matches
Kb, 288
max
ckb-mviz/main.c, 1418
maxsize
ckb-rain/main.c, 1429
mb2Box
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
mb2Button
Ui::RebindWidget, 963
Ui_RebindWidget, 1193
mbBox
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
mbButton
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
mdAdd
QuaZip, 835
mdAppend
QuaZip, 835
mdCreate
QuaZip, 835
mdNotOpen
QuaZip, 835
mdUnzip
QuaZip, 835
media.h
MUTED, 1760
UNKNOWN, 1760
UNMUTED, 1760
media.h
ENUM_C, 1760
ENUM_END_C, 1760
EXTERN_C, 1760
getMuteState, 1760
muteState, 1760
media_linux.cpp
getMuteState, 1762
lastKnown, 1762
media_mac.m
disableAppNap, 1763
getMuteState, 1763
mediaBox
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
mediaButton
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
mediaKeys
RebindWidget, 1004
method
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
min
ckb-mviz/main.c, 1418
minX
AnimScript, 85
minY
AnimScript, 85
mkdevpath
devnode.c, 1262
devnode.h, 1271
mkfwnode
devnode.c, 1263
devnode.h, 1272
mknotifynode
devnode.c, 1264
devnode.h, 1273
mmutex
device.h, 1238
mmutex2
device.h, 1238
moc_animadddialog.cpp
QT_MOC_LITERAL, 1962
qt_meta_data_AnimAddDialog, 1962
qt_meta_stringdata_AnimAddDialog, 1963
moc_animscript.cpp
QT_MOC_LITERAL, 1965
qt_meta_data_AnimScript, 1965
qt_meta_stringdata_AnimScript, 1966
moc_animsettingdialog.cpp
QT_MOC_LITERAL, 1967
qt_meta_data_AnimSettingDialog, 1968
qt_meta_stringdata_AnimSettingDialog, 1968
moc_ckbsettingswriter.cpp
QT_MOC_LITERAL, 1970
qt_meta_data_CkbSettingsWriter, 1970
qt_meta_stringdata_CkbSettingsWriter, 1971
moc_colorbutton.cpp
QT_MOC_LITERAL, 1972

qt_meta_data_ColorButton, 1973
qt_meta_stringdata_ColorButton, 1973
moc_extrasettingswidget.cpp
QT_MOC_LITERAL, 1975
qt_meta_data_ExtraSettingsWidget, 1975
qt_meta_stringdata_ExtraSettingsWidget, 1975
moc_fwupgradedialog.cpp
QT_MOC_LITERAL, 1978
qt_meta_data_FwUpgradeDialog, 1978
qt_meta_stringdata_FwUpgradeDialog, 1979
moc_gradientbutton.cpp
QT_MOC_LITERAL, 1981
qt_meta_data_GradientButton, 1981
qt_meta_stringdata_GradientButton, 1982
moc_gradientdialog.cpp
QT_MOC_LITERAL, 1983
qt_meta_data_GradientDialog, 1984
qt_meta_stringdata_GradientDialog, 1984
moc_gradientdialogwidget.cpp
QT_MOC_LITERAL, 1986
qt_meta_data_GradientDialogWidget, 1986
qt_meta_stringdata_GradientDialogWidget, 1987
moc_kb.cpp
QT_MOC_LITERAL, 1989
qt_meta_data_Kb, 1989
qt_meta_stringdata_Kb, 1989
moc_kbanim.cpp
QT_MOC_LITERAL, 1991
qt_meta_data_KbAnim, 1991
qt_meta_stringdata_KbAnim, 1992
moc_kbanimwidget.cpp
QT_MOC_LITERAL, 1994
qt_meta_data_KbAnimWidget, 1994
qt_meta_stringdata_KbAnimWidget, 1994
moc_kbbind.cpp
QT_MOC_LITERAL, 1996
qt_meta_data_KbBind, 1996
qt_meta_stringdata_KbBind, 1996
moc_kbbindwidget.cpp
QT_MOC_LITERAL, 1998
qt_meta_data_KbBindWidget, 1999
qt_meta_stringdata_KbBindWidget, 1999
moc_kbfirmware.cpp
QT_MOC_LITERAL, 2001
qt_meta_data_KbFirmware, 2001
qt_meta_stringdata_KbFirmware, 2002
moc_kblight.cpp
QT_MOC_LITERAL, 2004
qt_meta_data_KbLight, 2004
qt_meta_stringdata_KbLight, 2005
moc_kblightwidget.cpp
QT_MOC_LITERAL, 2007
qt_meta_data_KbLightWidget, 2007
qt_meta_stringdata_KbLightWidget, 2007
moc_kbmanager.cpp
QT_MOC_LITERAL, 2009
qt_meta_data_KbManager, 2009
qt_meta_stringdata_KbManager, 2009
moc_kbmode.cpp
QT_MOC_LITERAL, 2011
qt_meta_data_KbMode, 2012
qt_meta_stringdata_KbMode, 2012
moc_kbperf.cpp
QT_MOC_LITERAL, 2014
qt_meta_data_KbPerf, 2014
qt_meta_stringdata_KbPerf, 2015
moc_kbprofile.cpp
QT_MOC_LITERAL, 2016
qt_meta_data_KbProfile, 2017
qt_meta_stringdata_KbProfile, 2017
moc_kbprofiledialog.cpp
QT_MOC_LITERAL, 2019
qt_meta_data_KbProfileDialog, 2019
qt_meta_stringdata_KbProfileDialog, 2020
moc_kbwidget.cpp
QT_MOC_LITERAL, 2022
qt_meta_data_KbWidget, 2022
qt_meta_stringdata_KbWidget, 2022
moc_keyaction.cpp
QT_MOC_LITERAL, 2024
qt_meta_data_KeyAction, 2024
qt_meta_stringdata_KeyAction, 2025
moc_keywidget.cpp
QT_MOC_LITERAL, 2026
qt_meta_data_KeyWidget, 2027
qt_meta_stringdata_KeyWidget, 2027
moc_kperfwidget.cpp
QT_MOC_LITERAL, 2029
qt_meta_data_KPerfWidget, 2029
qt_meta_stringdata_KPerfWidget, 2030
moc_layoutdialog.cpp
QT_MOC_LITERAL, 2032
qt_meta_data_LayoutDialog, 2032
qt_meta_stringdata_LayoutDialog, 2033
moc_macroreader.cpp
QT_MOC_LITERAL, 2035
qt_meta_data_MacroReader, 2035
qt_meta_data_MacroReaderThread, 2036
qt_meta_stringdata_MacroReader, 2036
qt_meta_stringdata_MacroReaderThread, 2036
moc_mainwindow.cpp
QT_MOC_LITERAL, 2038
qt_meta_data_MainWindow, 2038
qt_meta_stringdata_MainWindow, 2038
moc_modeselectdialog.cpp
QT_MOC_LITERAL, 2040
qt_meta_data_ModeSelectDialog, 2040
qt_meta_stringdata_ModeSelectDialog, 2041
moc_mperfwidget.cpp
QT_MOC_LITERAL, 2042
qt_meta_data_MPerfWidget, 2043
qt_meta_stringdata_MPerfWidget, 2043
moc_quagzipfile.cpp
QT_MOC_LITERAL, 2045
qt_meta_data_QuaGzipFile, 2045
qt_meta_stringdata_QuaGzipFile, 2046

moc_quaziodevice.cpp
QT_MOC_LITERAL, 2047
qt_meta_data_QuaZIODevice, 2048
qt_meta_stringdata_QuaZIODevice, 2048
moc_quazipfile.cpp
QT_MOC_LITERAL, 2049
qt_meta_data_QuaZipFile, 2050
qt_meta_stringdata_QuaZipFile, 2050
moc_rebindwidget.cpp
QT_MOC_LITERAL, 2052
qt_meta_data_RebindWidget, 2052
qt_meta_stringdata_RebindWidget, 2052
moc_rlistwidget.cpp
QT_MOC_LITERAL, 2054
qt_meta_data_RListWidget, 2054
qt_meta_stringdata_RListWidget, 2054
moc_settingswidget.cpp
QT_MOC_LITERAL, 2056
qt_meta_data_SettingsWidget, 2057
qt_meta_stringdata_SettingsWidget, 2057
modBox
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
modButton
Ui::RebindWidget, 964
Ui_RebindWidget, 1194
modKeys
RebindWidget, 1004
settingswidget.cpp, 2068
modNames
settingswidget.cpp, 2068
Mode
KbAnim, 314
QuaZip, 835
mode
KbAnim, 326
QuaZipPrivate, 937
mode2Raw
KPerfWidget, 711
modeAction
KeyAction, 630
modeBox
Ui::KPerfWidget, 702
Ui::RebindWidget, 964
Ui_KPerfWidget, 1135
Ui_RebindWidget, 1194
modeButton
Ui::RebindWidget, 965
Ui_RebindWidget, 1194
modeChanged
Kb, 288
KbWidget, 576
modeColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
modeColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
modeCount
KbProfile, 549
modeIcon
KbWidget, 578
ModeList
KbProfile, 542
modeList
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1149
modeParent
KbBind, 384
KbPerf, 527
modeRenamed
Kb, 289
ModeSelectDialog, 756
~ModeSelectDialog, 758
_modeList, 760
ModeSelectDialog, 758
ModeSelectDialog, 758
on_selAllButton_clicked, 759
on_selNoneButton_clicked, 759
selection, 759
ui, 760
modeUpdate
KbWidget, 580
modeWrapBox
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
Model
KeyMap, 639
model
Kb, 288
KeyMap, 655
modelHeight
KeyMap, 656
modelWidth
KeyMap, 656
models
usb_linux.c, 1604
modes
KbProfile, 549, 550
modesList
Ui::KbWidget, 602
Ui_KbWidget, 1116
modesList_reordered
KbWidget, 579
modified
UsbId, 1216
modifiedString
UsbId, 1215
monoRgb
kblight.cpp, 1700
keywidget.cpp, 1743
monochrome
Kb, 310
KeyWidget, 669, 670
mouseAccel
Kb, 289

mouseCurrentX
KeyWidget, 683
mouseCurrentY
KeyWidget, 683
mouseDownMode
KeyWidget, 683
mouseDownX
KeyWidget, 684
mouseDownY
KeyWidget, 684
mouseExtKeys
RebindWidget, 1004
mouseKeys
RebindWidget, 1004
mouseMoveEvent
GradientDialogWidget, 233
KeyWidget, 670
mousePressEvent
GradientDialogWidget, 234
KeyWidget, 671
mouseReleaseEvent
GradientDialogWidget, 234
KeyWidget, 672
mouseTab
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
move
KbProfile, 550
moveCurrent
GradientDialogWidget, 235
mperfwidget.cpp
DPI_BASE, 1768
dpiExp, 1766
dpiLog, 1767
dpiRound, 1767
SET_END, 1766
SET_START, 1766
xyLinkPath, 1768
Multiply
KbAnim, 314
muteBox
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1135
muteColorNA
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1135
muteColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1135
muteColorOn
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
muteNAColor
KbPerf, 539
muteState
media.h, 1760
mvar
device.h, 1238
NAME
command.h, 1226
NO
KbFirmware, 417
KeyMap, 639
NO_LAYOUT
KeyMap, 639
NO_MODEL
KeyMap, 640
NONE
command.h, 1225
KbPerf, 509
KeyWidget, 665
NORMAL
KPerfWidget, 709
KbPerf, 509
KeyAction, 610
NOTIFY
command.h, 1226
NOTIFYOFF
command.h, 1225
NOTIFYON
command.h, 1225
NUM
KbPerf, 509
N_BUTTONS_EXTENDED
daemon/keymap.h, 1737
N_BUTTONS_HW
daemon/keymap.h, 1737
N_KEY_ZONES
daemon/keymap.h, 1737
N_KEYBYTES_EXTENDED
daemon/keymap.h, 1737
N_KEYBYTES_HW
daemon/keymap.h, 1737
N_KEYBYTES_INPUT
daemon/keymap.h, 1738
N_KEYS_EXTENDED
daemon/keymap.h, 1738
N_KEYS_EXTRA
daemon/keymap.h, 1738
N_KEYS_HW
daemon/keymap.h, 1738
N_KEYS_INPUT
daemon/keymap.h, 1738
N_LAYOUTS
keymap.cpp, 1719
N_MODELS
keymap.cpp, 1720
usb_linux.c, 1581
N_MOUSE_ZONES
daemon/keymap.h, 1738
NEEDS_FW_UPDATE
structures.h, 1518
NEW_FLAG
KbProfileDialog, 566
KbWidget, 593
NK95_HWOFF

usb.h, 1545
NK95_HWON
usb.h, 1545
NK95_M1
usb.h, 1545
NK95_M2
usb.h, 1545
NK95_M3
usb.h, 1545
NONE
ckb-gradient/main.c, 1403
NS
keymap.cpp, 1720
name
AnimScript, 74
AnimSettingDialog, 110
devcmd.__unnamed__, 162
GradientDialog::Preset, 799
KbAnim, 326, 327
KbMode, 498, 499
KbProfile, 551
KbWidget, 580
Key, 606
KeyMap, 657
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipNewInfo, 929
nameBox
Ui::KbAnimWidget, 346
Ui_KbAnimWidget, 1089
nameFilters
QuaZipDir, 877
nativetohw
profile.c, 1476
profile.h, 1495
needsSave
Kb, 290
KbAnim, 327
KbBind, 384
KbLight, 445
KbMode, 499
KbPerf, 527
KbProfile, 551
networkManager
KbFirmware, 425
newDuration
AnimSettingDialog, 110
newGuid
UsbId, 1215
newId
KbAnim, 328
KbMode, 500
KbProfile, 552
newLabel
Ui::FwUpgradeDialog, 199
Ui_FwUpgradeDialog, 1073
newLayout
KbBindWidget, 407
newMode
Kb, 290, 291
newModified
UsbId, 1215
newProfile
Kb, 291, 292
newSelection
KbBindWidget, 407
KbLightWidget, 470
KeyWidget, 684
newtarget
ckb-random/main.c, 1434
nk95cmd
usb.h, 1545
noAction
KbBind, 385
KeyAction, 630
noAnimLabel
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1089
noReorder
KbAnimWidget, 365
noSelPage
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1089
Normal
KbAnim, 314
notify
devcmd.__unnamed__, 162
notify.c
_cmd_get, 1451
cmd_get, 1453
cmd_notify, 1454
cmd_restart, 1454
HW_STANDARD, 1450
HWMODE_OR_RETURN, 1450
nprintf, 1455
nprintind, 1455
nprintkey, 1456
restart, 1457
notify.h
cmd_get, 1459
cmd_notify, 1459
cmd_restart, 1460
nprintf, 1460
nprintind, 1461
nprintkey, 1462
notifyNumber
Kb, 310
notifyPath
Kb, 310
notifyPathMutex
kb.cpp, 1689
notifyPaths
kb.cpp, 1689
nprintf
notify.c, 1455
notify.h, 1460

nprintind
notify.c, 1455
notify.h, 1461
nprintkey
notify.c, 1456
notify.h, 1462
numBox
Ui::KPerfWidget, 703
Ui::RebindWidget, 965
Ui_KPerfWidget, 1136
Ui_RebindWidget, 1195
numButton
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
numColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
numColorOn
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
numKeys
RebindWidget, 1004

O0
led_keyboard.c, 1379
O1
led_keyboard.c, 1379
O2
led_keyboard.c, 1379
O3
led_keyboard.c, 1380
O4
led_keyboard.c, 1380
O5
led_keyboard.c, 1380
O6
led_keyboard.c, 1380
O7
led_keyboard.c, 1380
O8
led_keyboard.c, 1380
OFF
KbPerf, 509
ON
KbPerf, 509
OF
ioapi.h, 1778
ONE_DAY
animscript.cpp, 1640
OTHER
KbPerf, 539
OUTFIFO_MAX
structures.h, 1518
on_aSnapBox_clicked
MPerfWidget, 790
on_actionButton_clicked
FwUpgradeDialog, 190
on_altBox_activated
SettingsWidget, 1015
on_animBox_activated
AnimAddDialog, 51
on_animBox_currentIndexChanged
RebindWidget, 979
on_animButton_clicked
KbLightWidget, 471
RebindWidget, 979
on_animList_currentItemChanged
KbAnimWidget, 354
on_animList_customContextMenuRequested
KbAnimWidget, 355
on_animList_itemChanged
KbAnimWidget, 356
on_animScanButton_clicked
ExtraSettingsWidget, 178
on_applyButton_clicked
RebindWidget, 980
on_autoFWBox_clicked
SettingsWidget, 1016
on_bgButton_clicked
KbLightWidget, 472
on_blendBox_activated
KbAnimWidget, 356
on_brightnessBox_activated
KbLightWidget, 472
on_brightnessBox_clicked
ExtraSettingsWidget, 179
on_btnClearMacro_clicked
RebindWidget, 980
on_btnStartMacro_clicked
RebindWidget, 981
on_btnStopMacro_clicked
RebindWidget, 981
on_cancelButton_clicked
FwUpgradeDialog, 191
RebindWidget, 982
on_capsBox_activated
SettingsWidget, 1016
on_copyButton_clicked
KbBindWidget, 409
KPerfWidget, 712
MPerfWidget, 790
on_ctrlBox_activated
SettingsWidget, 1016
on_delayBox_clicked
ExtraSettingsWidget, 179
on_delayBox_valueChanged
AnimSettingDialog, 111
on_deleteButton_clicked
KbAnimWidget, 357
on_ditherBox_clicked
ExtraSettingsWidget, 179
on_dpiBox_currentIndexChanged
RebindWidget, 983
on_dpiButton_clicked
RebindWidget, 984
on_extraButton_clicked
SettingsWidget, 1017

on_fnBox_currentIndexChanged
RebindWidget, 984
on_fnButton_clicked
RebindWidget, 984
on_fpsBox_valueChanged
ExtraSettingsWidget, 180
on_fwUpdButton_clicked
KbWidget, 580
on_hwSaveButton_clicked
KbWidget, 582
on_indicBox_clicked
MPerfWidget, 791
on_intensityBox_valueChanged
KPerfWidget, 713
on_keyButton_clicked
KbAnimWidget, 357
on_kpDelayBox_valueChanged
AnimSettingDialog, 112
on_kpReleaseBox_stateChanged
AnimSettingDialog, 112
on_kpRepeatBox_valueChanged
AnimSettingDialog, 113
on_lHeightBox_activated
MPerfWidget, 791
on_layoutBox_activated
SettingsWidget, 1017
on_lightBox_currentIndexChanged
RebindWidget, 984
on_lightButton_clicked
RebindWidget, 985
on_lockBox_currentIndexChanged
RebindWidget, 985
on_lockButton_clicked
RebindWidget, 985
on_loginItemBox_clicked
SettingsWidget, 1018
on_mAccelBox_clicked
ExtraSettingsWidget, 180
on_mb2Box_currentIndexChanged
RebindWidget, 986
on_mb2Button_clicked
RebindWidget, 986
on_mbBox_currentIndexChanged
RebindWidget, 986
on_mbButton_clicked
RebindWidget, 987
on_mediaBox_currentIndexChanged
RebindWidget, 987
on_mediaButton_clicked
RebindWidget, 987
on_modBox_currentIndexChanged
RebindWidget, 987
on_modButton_clicked
RebindWidget, 988
on_modeBox_currentIndexChanged
RebindWidget, 988
on_modeButton_clicked
RebindWidget, 988
on_modesList_currentItemChanged
KbWidget, 583
on_modesList_customContextMenuRequested
KbWidget, 584
on_modesList_itemChanged
KbWidget, 585
on_modesList_itemClicked
KbWidget, 586
on_nameBox_textEdited
KbAnimWidget, 358
on_numBox_currentIndexChanged
RebindWidget, 989
on_numButton_clicked
RebindWidget, 989
on_opacityBox_valueChanged
KbAnimWidget, 359
on_presetBox_activated
AnimAddDialog, 52
on_presetDelete_clicked
GradientDialog, 222
on_presetList_currentItemChanged
GradientDialog, 222
on_presetName_textEdited
GradientDialog, 223
on_presetSave_clicked
GradientDialog, 223
on_previewBox_clicked
AnimAddDialog, 53
on_profileBox_activated
KbWidget, 587
on_profileList_currentItemChanged
KbProfileDialog, 560
on_profileList_customContextMenuRequested
KbProfileDialog, 560
on_profileList_itemChanged
KbProfileDialog, 562
on_profileList_itemClicked
KbProfileDialog, 563
on_programKpBox_textChanged
RebindWidget, 989
on_programKpButton_clicked
RebindWidget, 990
on_programKpSIBox_clicked
RebindWidget, 990
on_programKrBox_textChanged
RebindWidget, 990
on_programKrButton_clicked
RebindWidget, 991
on_programKrSIBox_clicked
RebindWidget, 991
on_propertyButton_clicked
KbAnimWidget, 359
on_pteMacroBox_textChanged
RebindWidget, 991
on_pushButton_clicked
SettingsWidget, 1018
on_rb_delay_asTyped_toggled
RebindWidget, 992

on_rb_delay_default_toggled
RebindWidget, 992
on_rb_delay_no_toggled
RebindWidget, 993
on_repeatBox_valueChanged
AnimSettingDialog, 113
on_resetButton_clicked
KbBindWidget, 409
RebindWidget, 993
on_sAccelBox_clicked
ExtraSettingsWidget, 181
on_sSpeedBox_valueChanged
ExtraSettingsWidget, 181
on_selAllButton_clicked
ModeSelectDialog, 759
on_selNoneButton_clicked
ModeSelectDialog, 759
on_shiftBox_activated
SettingsWidget, 1018
on_showAnimBox_clicked
KbLightWidget, 473
on_spinBox_valueChanged
MPerfWidget, 792
on_stopOpacity_valueChanged
GradientDialog, 224
on_stopPos_valueChanged
GradientDialog, 224
on_tabWidget_currentChanged
KbWidget, 587
on_trayBox_clicked
ExtraSettingsWidget, 182
on_typingBox_currentIndexChanged
RebindWidget, 994
on_typingButton_clicked
RebindWidget, 994
on_unbindButton_clicked
RebindWidget, 994
on_wheelBox_currentIndexChanged
RebindWidget, 994
on_wheelButton_clicked
RebindWidget, 995
on_winBox_activated
SettingsWidget, 1019
on_xyBox_clicked
MPerfWidget, 792
once
AutoRun, 123
opacity
KbAnim, 328
opacityBox
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1089
open
KbLight, 446
QuaGzipFile, 822, 823
QuaZIODevice, 829
QuaZip, 854
QuaZipFile, 895–897
operator bool
Key, 604
operator const QHash< QString, Key > &
KeyMap, 657
operator QString
KeyAction, 631
operator=
ColorMap, 158
KbPerf, 528
KeyAction, 631
QuaGzipFile, 823
QuaZip, 857
QuaZipDir, 878
QuaZipFile, 899
operator==
ColorMap, 159
QuaZipDir, 878
orderChanged
RListWidget, 1009
ordered8to3
led_keyboard.c, 1383
os.h
_DEFAULT_SOURCE, 1463
_GNU_SOURCE, 1463
euid_guard_start, 1464
euid_guard_stop, 1464
UINPUT_VERSION, 1464
os_closeusb
usb.h, 1558
usb_linux.c, 1583
os_inputclose
input.h, 1322
input_linux.c, 1328
os_inputmain
usb.h, 1559
usb_linux.c, 1583
os_inputopen
input.h, 1322
input_linux.c, 1329
os_keypress
input.h, 1323
input_linux.c, 1330
os_mousemove
input.h, 1324
input_linux.c, 1330
os_resetusb
usb.h, 1563
usb_linux.c, 1587
os_sendindicators
usb.h, 1564
usb_linux.c, 1588
os_setupindicators
input.h, 1325
input_linux.c, 1331
os_setupusb
usb.h, 1565
usb_linux.c, 1589
os_usbrecv

usb.h, 1567
usb_linux.c, 1591
os_usbsend
usb.h, 1568
usb_linux.c, 1592
osxLabel
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1065
osxLine
Ui::ExtraSettingsWidget, 173
Ui_ExtraSettingsWidget, 1065
outbuf
ckb-mviz/main.c, 1419

p
QuaZip, 864
QuaZipFile, 905
PL
KeyMap, 639
POLLRATE
command.h, 1225
PROFILEID
command.h, 1226
PROFILENAME
command.h, 1226
P_GLAIVE
usb.h, 1545
P_GLAIVE_STR
usb.h, 1545
P_HARPOON
usb.h, 1545
P_HARPOON_STR
usb.h, 1546
P_K63_NRGB
usb.h, 1546
P_K63_NRGB_STR
usb.h, 1546
P_K65
usb.h, 1546
P_K65_LUX
usb.h, 1546
P_K65_LUX_STR
usb.h, 1546
P_K65_NRGB
usb.h, 1546
P_K65_NRGB_STR
usb.h, 1546
P_K65_RFIRE
usb.h, 1546
P_K65_RFIRE_STR
usb.h, 1546
P_K65_STR
usb.h, 1547
P_K70
usb.h, 1547
P_K70_LUX
usb.h, 1547
P_K70_LUX_NRGB
usb.h, 1547
P_K70_LUX_NRGB_STR
usb.h, 1547
P_K70_LUX_STR
usb.h, 1547
P_K70_NRGB
usb.h, 1547
P_K70_NRGB_STR
usb.h, 1547
P_K70_RFIRE
usb.h, 1547
P_K70_RFIRE_NRGB
usb.h, 1547
P_K70_RFIRE_NRGB_STR
usb.h, 1548
P_K70_RFIRE_STR
usb.h, 1548
P_K70_STR
usb.h, 1548
P_K95
usb.h, 1548
P_K95_NRGB
usb.h, 1548
P_K95_NRGB_STR
usb.h, 1548
P_K95_PLATINUM
usb.h, 1548
P_K95_PLATINUM_STR
usb.h, 1548
P_K95_STR
usb.h, 1548
P_M65
usb.h, 1548
P_M65_PRO
usb.h, 1548
P_M65_PRO_STR
usb.h, 1549
P_M65_STR
usb.h, 1549
P_SABRE_L
usb.h, 1549
P_SABRE_L_STR
usb.h, 1549
P_SABRE_N
usb.h, 1549
P_SABRE_N_STR
usb.h, 1549
P_SABRE_O
usb.h, 1549
P_SABRE_O2
usb.h, 1549
P_SABRE_O2_STR
usb.h, 1549
P_SABRE_O_STR
usb.h, 1549
P_SCIMITAR
usb.h, 1549
P_SCIMITAR_PRO
usb.h, 1550

P_SCIMITAR_PRO_STR
usb.h, 1550
P_SCIMITAR_STR
usb.h, 1550
P_STRAFE
usb.h, 1550
P_STRAFE_NRGB
usb.h, 1550
P_STRAFE_NRGB_STR
usb.h, 1550
P_STRAFE_STR
usb.h, 1550
PATCH_COUNT
keymap.cpp, 1720
PR_NAME_LEN
structures.h, 1519
PROGRAM_PR_INDEF
KeyAction, 635
PROGRAM_PR_KPSTOP
KeyAction, 636
PROGRAM_PR_KRSTOP
KeyAction, 636
PROGRAM_PR_MULTI
KeyAction, 636
PROGRAM_RE_INDEF
KeyAction, 636
PROGRAM_RE_KPSTOP
KeyAction, 636
PROGRAM_RE_MULTI
KeyAction, 636
paintEvent
GradientDialogWidget, 236
KeyWidget, 673
param
AnimScript, 74
paramIterator
AnimScript, 76
parameter, 1317
KbAnim, 328, 329
parameter_t
input.h, 1318
parameters
AnimScript, 75
parseCommandLine
main.cpp, 1755
parseVersionString
KbManager, 486
pas
ckb-mviz/main.c, 1419
patch
keymap.cpp, 1720
patchANSI
keymap.cpp, 1724
patchDE
keymap.cpp, 1730
patchDK
keymap.cpp, 1730
patchDvorak
keymap.cpp, 1730
patchES
keymap.cpp, 1730
patchEU
keymap.cpp, 1731
patchFR
keymap.cpp, 1731
patchISO
keymap.cpp, 1725
patchIT
keymap.cpp, 1731
patchJP
keymap.cpp, 1731
patchJP106
keymap.cpp, 1726
patchJP106fn
keymap.cpp, 1726
patchMX
keymap.cpp, 1731
patchNO
keymap.cpp, 1732
patchSE
keymap.cpp, 1732
patchnonJP106
keymap.cpp, 1727
path
AnimScript, 76
QuaZipDir, 878
pcpx
_kiss_fft_guts.h, 1610
perf
KbBind, 386
KbMode, 501
KPerfWidget, 717
MPerfWidget, 797
period
ckb-rain/main.c, 1430
permissionsFromExternalAttr
quazipfileinfo.cpp, 1815
phase
ckb-random/main.c, 1435
pickColor
ColorButton, 148
pickGradient
GradientButton, 203
pidActive
main.cpp, 1757
play_macro
input.c, 1312
pollLabel
Ui::KbWidget, 602
Ui_KbWidget, 1117
pollLabel2
Ui::KbWidget, 602
Ui_KbWidget, 1117
pollUpdates
ExtraSettingsWidget, 182
SettingsWidget, 1019

pollrate
devcmd.__unnamed__, 162
Kb, 310
popDpi
KbPerf, 528
pos
QIODevice_descriptor, 802
QuaZipFile, 899
positions
KeyMap, 658
power
ckb-mviz/main.c, 1419
powers
ckb-mviz/main.c, 1419
preProgram
KeyAction, 635
prefsPath
gradientdialog.cpp, 1686
Kb, 310
Preset
GradientDialog::Preset, 799
preset
AnimScript, 76
presetBox
Ui::AnimAddDialog, 47
Ui_AnimAddDialog, 1042
presetDelete
Ui::GradientDialog, 212
Ui_GradientDialog, 1079
presetList
Ui::GradientDialog, 213
Ui_GradientDialog, 1079
presetName
Ui::GradientDialog, 213
Ui_GradientDialog, 1080
presetSave
Ui::GradientDialog, 213
Ui_GradientDialog, 1080
PresetValue
AnimScript, 59
presets
AnimScript, 77
GradientDialog, 226
pressestofull
ckb-heat/main.c, 1413
prevMode
Kb, 310
prevProfile
Kb, 310
previewAnim
KbLight, 447
previewBox
Ui::AnimAddDialog, 47
Ui_AnimAddDialog, 1042
previousItems
RListWidget, 1011
printParams
AnimScript, 77
printRGB
KbLight, 448
printdpi
dpi.c, 1280
dpi.h, 1286
printname
profile.c, 1476
printrgb
led.c, 1343
led.h, 1350
printurl
ckb-anim.h, 1668
process
AnimScript, 85
processDownload
KbFirmware, 422
product_str
usb.c, 1533
usb.h, 1571
profile
KbBindWidget, 414
KPerfWidget, 717
MPerfWidget, 797
RebindWidget, 1004
profile.c
_freeprofile, 1465
allocprofile, 1466
cmd_erase, 1466
cmd_eraseprofile, 1467
cmd_id, 1467
cmd_name, 1468
cmd_profileid, 1468
cmd_profilename, 1469
freemode, 1469
freeprofile, 1470
gethwmodename, 1471
gethwprofilename, 1471
getid, 1472
getmodename, 1473
getprofilename, 1473
hwtonative, 1474
initmode, 1475
loadprofile, 1475
nativetohw, 1476
printname, 1476
setid, 1477
u16dec, 1478
u16enc, 1478
urldecode2, 1479
urlencode2, 1480
utf16to8, 1480
utf8to16, 1481
profile.h
allocprofile, 1482
cmd_erase, 1483
cmd_eraseprofile, 1483
cmd_hwload_kb, 1484
cmd_hwload_mouse, 1485

cmd_hwsave_kb, 1486
cmd_hwsave_mouse, 1487
cmd_id, 1488
cmd_name, 1488
cmd_profileid, 1489
cmd_profilename, 1489
freeprofile, 1490
gethwmodename, 1490
gethwprofilename, 1491
getid, 1492
getmodename, 1492
getprofilename, 1493
hwloadprofile, 1482
hwtonative, 1494
loadprofile, 1494
nativetohw, 1495
setid, 1495
profile_keyboard.c
cmd_hwload_kb, 1496
cmd_hwsave_kb, 1497
hwloadmode, 1498
profile_mouse.c
cmd_hwload_mouse, 1499
cmd_hwsave_mouse, 1500
profileAdded
Kb, 293
profileBox
Ui::KbWidget, 602
Ui_KbWidget, 1117
profileChanged
Kb, 293
KbWidget, 588
profileList
Ui::KbProfileDialog, 570
Ui_KbProfileDialog, 1108
profileList_reordered
KbProfileDialog, 563
profileRenamed
Kb, 293
profileid
devcmd.__unnamed__, 162
profilename
devcmd.__unnamed__, 162
profiles
Kb, 294
progTipLabel
Ui::RebindWidget, 967
Ui_RebindWidget, 1196
programAction
KeyAction, 631
programInfo
KeyAction, 631
programKpBox
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
programKpButton
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
programKpExtra
Ui::RebindWidget, 965
Ui_RebindWidget, 1195
programKpModeBox
Ui::RebindWidget, 966
Ui_RebindWidget, 1195
programKpSIBox
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programKrBox
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programKrButton
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programKrExtra
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programKrModeBox
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programKrSIBox
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
programTab
Ui::RebindWidget, 966
Ui_RebindWidget, 1196
progressBar
Ui::FwUpgradeDialog, 200
Ui_FwUpgradeDialog, 1073
propertyButton
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1089
pt_head
input.c, 1315
pt_tail
input.c, 1315
pteMacroBox
Ui::RebindWidget, 967
Ui_RebindWidget, 1196
pteMacroComment
Ui::RebindWidget, 967
Ui_RebindWidget, 1197
pteMacroText
Ui::RebindWidget, 967
Ui_RebindWidget, 1197
ptlist, 1317
ptlist_t
input.h, 1318
pushButton
Ui::SettingsWidget, 1033
Ui_SettingsWidget, 1210
pushDpi
KbPerf, 529, 530
pushSniper
KbPerf, 531
pushedDpis
KbPerf, 539

pwd
CkbSettings, 133, 134

q
QuaZipFilePrivate, 920
QuaZipPrivate, 938
qCleanupResources_binary
qrc_binary.cpp, 2058
qCleanupResources_image
qrc_image.cpp, 2061
qCleanupResources_text
qrc_text.cpp, 2063
QColorMap
colormap.h, 1679
QColorMapIterator
colormap.h, 1679
QDialog, 800
QIODevice, 801
QIODevice_descriptor, 802
pos, 802
QIODevice_descriptor, 802
QIODevice_descriptor, 802
qInitResources_binary
qrc_binary.cpp, 2058
qInitResources_image
qrc_image.cpp, 2061
qInitResources_text
qrc_text.cpp, 2064
QListWidget, 803
QMainWindow, 804
QMutableColorMapIterator
colormap.h, 1679
QObject, 805
QPushButton, 806
qRegisterResourceData
qrc_binary.cpp, 2059
qrc_image.cpp, 2062
qrc_text.cpp, 2064
QT_MOC_LITERAL
moc_animadddialog.cpp, 1962
moc_animscript.cpp, 1965
moc_animsettingdialog.cpp, 1967
moc_ckbsettingswriter.cpp, 1970
moc_colorbutton.cpp, 1972
moc_extrasettingswidget.cpp, 1975
moc_fwupgradedialog.cpp, 1978
moc_gradientbutton.cpp, 1981
moc_gradientdialog.cpp, 1983
moc_gradientdialogwidget.cpp, 1986
moc_kb.cpp, 1989
moc_kbanim.cpp, 1991
moc_kbanimwidget.cpp, 1994
moc_kbbind.cpp, 1996
moc_kbbindwidget.cpp, 1998
moc_kbfirmware.cpp, 2001
moc_kblight.cpp, 2004
moc_kblightwidget.cpp, 2007
moc_kbmanager.cpp, 2009
moc_kbmode.cpp, 2011
moc_kbperf.cpp, 2014
moc_kbprofile.cpp, 2016
moc_kbprofiledialog.cpp, 2019
moc_kbwidget.cpp, 2022
moc_keyaction.cpp, 2024
moc_keywidget.cpp, 2026
moc_kperfwidget.cpp, 2029
moc_layoutdialog.cpp, 2032
moc_macroreader.cpp, 2035
moc_mainwindow.cpp, 2038
moc_modeselectdialog.cpp, 2040
moc_mperfwidget.cpp, 2042
moc_quagzipfile.cpp, 2045
moc_quaziodevice.cpp, 2047
moc_quazipfile.cpp, 2049
moc_rebindwidget.cpp, 2052
moc_rlistwidget.cpp, 2054
moc_settingswidget.cpp, 2056
QThread, 807
QUAZIO_INBUFSIZE
quaziodevice.cpp, 1803
QUAZIO_OUTBUFSIZE
quaziodevice.cpp, 1803
QUAZIP_EXPORT
quazip_global.h, 1808
qUnregisterResourceData
qrc_binary.cpp, 2059
qrc_image.cpp, 2062
qrc_text.cpp, 2064
QWidget, 938
qioapi.cpp
call_zopen64, 1785
call_zseek64, 1785
call_ztell64, 1785
fill_qiodevice64_filefunc, 1786
fill_qiodevice_filefunc, 1787
fill_zlib_filefunc64_32_def_from_filefunc32, 1788
qiodevice64_seek_file_func, 1789
qiodevice64_tell_file_func, 1790
qiodevice_close_file_func, 1790
qiodevice_error_file_func, 1791
qiodevice_fakeclose_file_func, 1791
qiodevice_open_file_func, 1792
qiodevice_read_file_func, 1793
qiodevice_seek_file_func, 1793
qiodevice_tell_file_func, 1794
qiodevice_write_file_func, 1794
SEEK_CUR, 1785
SEEK_END, 1785
SEEK_SET, 1785
qiodevice64_seek_file_func
qioapi.cpp, 1789
qiodevice64_tell_file_func
qioapi.cpp, 1790
qiodevice_close_file_func
qioapi.cpp, 1790
qiodevice_error_file_func
qioapi.cpp, 1791

qiodevice_fakeclose_file_func
qioapi.cpp, 1791
qiodevice_open_file_func
qioapi.cpp, 1792
qiodevice_read_file_func
qioapi.cpp, 1793
qiodevice_seek_file_func
qioapi.cpp, 1793
qiodevice_tell_file_func
qioapi.cpp, 1794
qiodevice_write_file_func
qioapi.cpp, 1794
qrc_binary.cpp
qCleanupResources_binary, 2058
qInitResources_binary, 2058
qRegisterResourceData, 2059
qUnregisterResourceData, 2059
qt_resource_data, 2060
qt_resource_name, 2060
qt_resource_struct, 2060
qrc_image.cpp
qCleanupResources_image, 2061
qInitResources_image, 2061
qRegisterResourceData, 2062
qUnregisterResourceData, 2062
qt_resource_data, 2062
qt_resource_name, 2062
qt_resource_struct, 2063
qrc_text.cpp
qCleanupResources_text, 2063
qInitResources_text, 2064
qRegisterResourceData, 2064
qUnregisterResourceData, 2064
qt_resource_data, 2065
qt_resource_name, 2065
qt_resource_struct, 2065
qs_strcmp
colormap.cpp, 1677
qt_meta_stringdata_AnimAddDialog_t, 1961
qt_meta_stringdata_AnimScript_t, 1964
qt_meta_stringdata_AnimSettingDialog_t, 1967
qt_meta_stringdata_CkbSettingsWriter_t, 1969
qt_meta_stringdata_ColorButton_t, 1972
qt_meta_stringdata_ExtraSettingsWidget_t, 1974
qt_meta_stringdata_FwUpgradeDialog_t, 1977
qt_meta_stringdata_GradientButton_t, 1980
qt_meta_stringdata_GradientDialog_t, 1983
qt_meta_stringdata_GradientDialogWidget_t, 1985
qt_meta_stringdata_KPerfWidget_t, 2028
qt_meta_stringdata_Kb_t, 1988
qt_meta_stringdata_KbAnim_t, 1990
qt_meta_stringdata_KbAnimWidget_t, 1993
qt_meta_stringdata_KbBind_t, 1995
qt_meta_stringdata_KbBindWidget_t, 1998
qt_meta_stringdata_KbFirmware_t, 2000
qt_meta_stringdata_KbLight_t, 2003
qt_meta_stringdata_KbLightWidget_t, 2006
qt_meta_stringdata_KbManager_t, 2008
qt_meta_stringdata_KbMode_t, 2011
qt_meta_stringdata_KbPerf_t, 2013
qt_meta_stringdata_KbProfile_t, 2016
qt_meta_stringdata_KbProfileDialog_t, 2018
qt_meta_stringdata_KbWidget_t, 2021
qt_meta_stringdata_KeyAction_t, 2023
qt_meta_stringdata_KeyWidget_t, 2026
qt_meta_stringdata_LayoutDialog_t, 2031
qt_meta_stringdata_MPerfWidget_t, 2042
qt_meta_stringdata_MacroReader_t, 2034
qt_meta_stringdata_MacroReaderThread_t, 2034
qt_meta_stringdata_MainWindow_t, 2038
qt_meta_stringdata_ModeSelectDialog_t, 2039
qt_meta_stringdata_QuaGzipFile_t, 2044
qt_meta_stringdata_QuaZIODevice_t, 2047
qt_meta_stringdata_QuaZipFile_t, 2049
qt_meta_stringdata_RListWidget_t, 2053
qt_meta_stringdata_RebindWidget_t, 2051
qt_meta_stringdata_SettingsWidget_t, 2056
qt_meta_data_AnimAddDialog
moc_animadddialog.cpp, 1962
qt_meta_data_AnimScript
moc_animscript.cpp, 1965
qt_meta_data_AnimSettingDialog
moc_animsettingdialog.cpp, 1968
qt_meta_data_CkbSettingsWriter
moc_ckbsettingswriter.cpp, 1970
qt_meta_data_ColorButton
moc_colorbutton.cpp, 1973
qt_meta_data_ExtraSettingsWidget
moc_extrasettingswidget.cpp, 1975
qt_meta_data_FwUpgradeDialog
moc_fwupgradedialog.cpp, 1978
qt_meta_data_GradientButton
moc_gradientbutton.cpp, 1981
qt_meta_data_GradientDialog
moc_gradientdialog.cpp, 1984
qt_meta_data_GradientDialogWidget
moc_gradientdialogwidget.cpp, 1986
qt_meta_data_KPerfWidget
moc_kperfwidget.cpp, 2029
qt_meta_data_Kb
moc_kb.cpp, 1989
qt_meta_data_KbAnim
moc_kbanim.cpp, 1991
qt_meta_data_KbAnimWidget
moc_kbanimwidget.cpp, 1994
qt_meta_data_KbBind
moc_kbbind.cpp, 1996
qt_meta_data_KbBindWidget
moc_kbbindwidget.cpp, 1999
qt_meta_data_KbFirmware
moc_kbfirmware.cpp, 2001
qt_meta_data_KbLight
moc_kblight.cpp, 2004
qt_meta_data_KbLightWidget
moc_kblightwidget.cpp, 2007
qt_meta_data_KbManager

moc_kbmanager.cpp, 2009
qt_meta_data_KbMode
moc_kbmode.cpp, 2012
qt_meta_data_KbPerf
moc_kbperf.cpp, 2014
qt_meta_data_KbProfile
moc_kbprofile.cpp, 2017
qt_meta_data_KbProfileDialog
moc_kbprofiledialog.cpp, 2019
qt_meta_data_KbWidget
moc_kbwidget.cpp, 2022
qt_meta_data_KeyAction
moc_keyaction.cpp, 2024
qt_meta_data_KeyWidget
moc_keywidget.cpp, 2027
qt_meta_data_LayoutDialog
moc_layoutdialog.cpp, 2032
qt_meta_data_MPerfWidget
moc_mperfwidget.cpp, 2043
qt_meta_data_MacroReader
moc_macroreader.cpp, 2035
qt_meta_data_MacroReaderThread
moc_macroreader.cpp, 2036
qt_meta_data_MainWindow
moc_mainwindow.cpp, 2038
qt_meta_data_ModeSelectDialog
moc_modeselectdialog.cpp, 2040
qt_meta_data_QuaGzipFile
moc_quagzipfile.cpp, 2045
qt_meta_data_QuaZIODevice
moc_quaziodevice.cpp, 2048
qt_meta_data_QuaZipFile
moc_quazipfile.cpp, 2050
qt_meta_data_RListWidget
moc_rlistwidget.cpp, 2054
qt_meta_data_RebindWidget
moc_rebindwidget.cpp, 2052
qt_meta_data_SettingsWidget
moc_settingswidget.cpp, 2057
qt_meta_stringdata_AnimAddDialog
moc_animadddialog.cpp, 1963
qt_meta_stringdata_AnimScript
moc_animscript.cpp, 1966
qt_meta_stringdata_AnimSettingDialog
moc_animsettingdialog.cpp, 1968
qt_meta_stringdata_CkbSettingsWriter
moc_ckbsettingswriter.cpp, 1971
qt_meta_stringdata_ColorButton
moc_colorbutton.cpp, 1973
qt_meta_stringdata_ExtraSettingsWidget
moc_extrasettingswidget.cpp, 1975
qt_meta_stringdata_FwUpgradeDialog
moc_fwupgradedialog.cpp, 1979
qt_meta_stringdata_GradientButton
moc_gradientbutton.cpp, 1982
qt_meta_stringdata_GradientDialog
moc_gradientdialog.cpp, 1984
qt_meta_stringdata_GradientDialogWidget
moc_gradientdialogwidget.cpp, 1987
qt_meta_stringdata_KPerfWidget
moc_kperfwidget.cpp, 2030
qt_meta_stringdata_Kb
moc_kb.cpp, 1989
qt_meta_stringdata_KbAnim
moc_kbanim.cpp, 1992
qt_meta_stringdata_KbAnimWidget
moc_kbanimwidget.cpp, 1994
qt_meta_stringdata_KbBind
moc_kbbind.cpp, 1996
qt_meta_stringdata_KbBindWidget
moc_kbbindwidget.cpp, 1999
qt_meta_stringdata_KbFirmware
moc_kbfirmware.cpp, 2002
qt_meta_stringdata_KbLight
moc_kblight.cpp, 2005
qt_meta_stringdata_KbLightWidget
moc_kblightwidget.cpp, 2007
qt_meta_stringdata_KbManager
moc_kbmanager.cpp, 2009
qt_meta_stringdata_KbMode
moc_kbmode.cpp, 2012
qt_meta_stringdata_KbPerf
moc_kbperf.cpp, 2015
qt_meta_stringdata_KbProfile
moc_kbprofile.cpp, 2017
qt_meta_stringdata_KbProfileDialog
moc_kbprofiledialog.cpp, 2020
qt_meta_stringdata_KbWidget
moc_kbwidget.cpp, 2022
qt_meta_stringdata_KeyAction
moc_keyaction.cpp, 2025
qt_meta_stringdata_KeyWidget
moc_keywidget.cpp, 2027
qt_meta_stringdata_LayoutDialog
moc_layoutdialog.cpp, 2033
qt_meta_stringdata_MPerfWidget
moc_mperfwidget.cpp, 2043
qt_meta_stringdata_MacroReader
moc_macroreader.cpp, 2036
qt_meta_stringdata_MacroReaderThread
moc_macroreader.cpp, 2036
qt_meta_stringdata_MainWindow
moc_mainwindow.cpp, 2038
qt_meta_stringdata_ModeSelectDialog
moc_modeselectdialog.cpp, 2041
qt_meta_stringdata_QuaGzipFile
moc_quagzipfile.cpp, 2046
qt_meta_stringdata_QuaZIODevice
moc_quaziodevice.cpp, 2048
qt_meta_stringdata_QuaZipFile
moc_quazipfile.cpp, 2050
qt_meta_stringdata_RListWidget
moc_rlistwidget.cpp, 2054
qt_meta_stringdata_RebindWidget
moc_rebindwidget.cpp, 2052
qt_meta_stringdata_SettingsWidget

moc_settingswidget.cpp, 2057
qt_resource_data
qrc_binary.cpp, 2060
qrc_image.cpp, 2062
qrc_text.cpp, 2065
qt_resource_name
qrc_binary.cpp, 2060
qrc_image.cpp, 2062
qrc_text.cpp, 2065
qt_resource_struct
qrc_binary.cpp, 2060
qrc_image.cpp, 2063
qrc_text.cpp, 2065
QuaZip
csDefault, 835
csInsensitive, 835
csSensitive, 835
MAX_FILE_NAME_LENGTH, 835
mdAdd, 835
mdAppend, 835
mdCreate, 835
mdNotOpen, 835
mdUnzip, 835
QuaAdler32, 808
calculate, 810
checksum, 811
QuaAdler32, 810
QuaAdler32, 810
reset, 810
update, 811
value, 811
QuaChecksum32, 811
calculate, 813
reset, 813
update, 813
value, 813
QuaCrc32, 814
calculate, 816
checksum, 817
QuaCrc32, 816
QuaCrc32, 816
reset, 816
update, 817
value, 817
QuaGzipFile, 817
~QuaGzipFile, 821
close, 821
d, 824
flush, 822
getFileName, 822
isSequential, 822
open, 822, 823
operator=, 823
QuaGzipFile, 820, 821
QuaGzipFile, 820, 821
readData, 823
setFileName, 823
writeData, 823
QuaZIODevice, 824
~QuaZIODevice, 827
close, 827
d, 831
flush, 828
getIoDevice, 829
isSequential, 829
open, 829
QuaZIODevice, 827
QuaZIODevice, 827
readData, 830
writeData, 831
QuaZip, 832
~QuaZip, 836
CaseSensitivity, 835
close, 837
Constants, 835
convertCaseSensitivity, 838
getComment, 839
getCommentCodec, 839
getCurrentFileInfo, 840, 841
getCurrentFileName, 842
getEntriesCount, 843
getFileInfoList, 844
getFileInfoList64, 844
getFileNameCodec, 845
getFileNameList, 845
getIoDevice, 846
getMode, 846
getUnzFile, 847
getZipError, 848
getZipFile, 849
getZipName, 849
goToFirstFile, 850
goToNextFile, 851
hasCurrentFile, 852
isAutoClose, 852
isDataDescriptorWritingEnabled, 852
isOpen, 853
isZip64Enabled, 853
Mode, 835
open, 854
operator=, 857
p, 864
QuaZip, 836
QuaZipPrivate, 864
QuaZip, 836
QuaZipPrivate, 936
setAutoClose, 857
setComment, 858
setCommentCodec, 858
setCurrentFile, 858
setDataDescriptorWritingEnabled, 860
setDefaultFileNameCodec, 861
setFileNameCodec, 862
setIoDevice, 862
setZip64Enabled, 863
setZipName, 863

QuaZip_getFileInfo
quazip.cpp, 1805, 1806
QuaZipDir, 864
~QuaZipDir, 867
caseSensitivity, 868
cd, 868
cdUp, 870
count, 870
d, 881
dirName, 871
entryInfoList, 871, 872
entryInfoList64, 872, 873
entryList, 873, 874
exists, 874, 875
filePath, 876
filter, 876
isRoot, 877
nameFilters, 877
operator=, 878
operator==, 878
path, 878
QuaZipDir, 867
QuaZipDir, 867
relativeFilePath, 879
setCaseSensitivity, 879
setFilter, 880
setNameFilters, 880
setPath, 880
setSorting, 881
sorting, 881
QuaZipDir_convertInfoList
quazipdir.cpp, 1809, 1810
QuaZipDir_getFileInfo
quazipdir.cpp, 1810
QuaZipFile, 882
~QuaZipFile, 887
atEnd, 887
bytesAvailable, 888
close, 888
csize, 889
getActualFileName, 890
getCaseSensitivity, 891
getFileInfo, 891, 892
getFileName, 893
getZip, 893
getZipError, 893
getZipName, 894
isRaw, 894
isSequential, 895
open, 895–897
operator=, 899
p, 905
pos, 899
QuaZipFile, 885, 886
QuaZipFilePrivate, 904
QuaZipFile, 885, 886
QuaZipFilePrivate, 919
readData, 900
setFileName, 901
setZip, 901
setZipName, 902
size, 902
usize, 903
writeData, 904
QuaZipFileInfo, 905
comment, 907
compressedSize, 907
crc, 907
dateTime, 907
diskNumberStart, 907
externalAttr, 907
extra, 907
flags, 907
getPermissions, 906
internalAttr, 908
method, 908
name, 908
uncompressedSize, 908
versionCreated, 908
versionNeeded, 908
QuaZipFileInfo64, 908
comment, 914
compressedSize, 914
crc, 914
dateTime, 914
diskNumberStart, 914
externalAttr, 914
extra, 915
flags, 915
getNTFSaTime, 910
getNTFScTime, 911
getNTFSmTime, 911
getPermissions, 912
internalAttr, 915
isEncrypted, 913
method, 915
name, 915
toQuaZipFileInfo, 913
uncompressedSize, 915
versionCreated, 915
versionNeeded, 915
QuaZipFilePrivate, 916
~QuaZipFilePrivate, 918
caseSensitivity, 919
crc, 919
fileName, 919
internal, 919
q, 920
QuaZipFile, 919
QuaZipFilePrivate, 917, 918
QuaZipFile, 904
QuaZipFilePrivate, 917, 918
raw, 920
resetZipError, 918
setZipError, 918
uncompressedSize, 920

writePos, 920
zip, 920
zipError, 920
QuaZipNewInfo, 921
comment, 928
dateTime, 928
externalAttr, 928
extraGlobal, 929
extraLocal, 929
internalAttr, 929
name, 929
QuaZipNewInfo, 922, 923
QuaZipNewInfo, 922, 923
setFileDateTime, 924
setFileNTFSTimes, 927
setFileNTFSaTime, 924
setFileNTFScTime, 925
setFileNTFSmTime, 926
setFilePermissions, 927
setPermissions, 928
uncompressedSize, 929
QuaZipNewInfo_init
quazipnewinfo.cpp, 1817
QuaZipNewInfo_setPermissions
quazipnewinfo.cpp, 1818
QuaZipPrivate, 929
addCurrentFileToDirectoryMap, 932
autoClose, 936
clearDirectoryMap, 933
comment, 936
commentCodec, 936
dataDescriptorWritingEnabled, 936
defaultFileNameCodec, 937
directoryCaseInsensitive, 937
directoryCaseSensitive, 937
fileNameCodec, 937
getDefaultFileNameCodec, 934
getFileInfoList, 934
goToFirstUnmappedFile, 935
hasCurrentFile_f, 937
ioDevice, 937
lastMappedDirectoryEntry, 937
mode, 937
q, 938
QuaZip, 936
QuaZipPrivate, 931, 932
QuaZip, 864
QuaZipPrivate, 931, 932
zip64, 938
zipError, 938
zipName, 938
quantize8to3
led_keyboard.c, 1384
quaziodevice.cpp
QUAZIO_INBUFSIZE, 1803
QUAZIO_OUTBUFSIZE, 1803
quazip.cpp
QuaZip_getFileInfo, 1805, 1806
quazip.h
UNZ_OPENERROR, 1807
quazip_global.h
QUAZIP_EXPORT, 1808
UNUSED, 1809
quazipdir.cpp
QuaZipDir_convertInfoList, 1809, 1810
QuaZipDir_getFileInfo, 1810
quazipfileinfo.cpp
getNTFSTime, 1813
permissionsFromExternalAttr, 1815
quazipnewinfo.cpp
QuaZipNewInfo_init, 1817
QuaZipNewInfo_setPermissions, 1818
setNTFSTime, 1818
quit
ckb-daemon/main.c, 1396
quitApp
MainWindow, 745
quitWithLock
ckb-daemon/main.c, 1397

REBIND
command.h, 1226
RESTART
command.h, 1226
RGB
command.h, 1226
KPerfWidget, 709
README.md, 1217
RListWidget, 1006
change, 1008
currentData, 1011
DATA_ROLE, 1011
dragged, 1011
enter, 1008
orderChanged, 1009
previousItems, 1011
RListWidget, 1008
reorderTimer, 1011
rescanItems, 1009
RListWidget, 1008
timerTick, 1010
ROADMAP.md, 1217
randomBright
ckb-heat/main.c, 1413
randomize
ckb-gradient/main.c, 1407
ckb-ripple/main.c, 1441
raw
QuaZipFilePrivate, 920
raw2Mode
KPerfWidget, 713
rb_delay_asTyped
Ui::RebindWidget, 967
Ui_RebindWidget, 1197
rb_delay_default
Ui::RebindWidget, 967
Ui_RebindWidget, 1197

rb_delay_no
Ui::RebindWidget, 967
Ui_RebindWidget, 1197
rbWidget
Ui::KbBindWidget, 402
Ui_KbBindWidget, 1095
reInit
KbAnim, 330
readAnyFrame
AnimScript, 85
readData
QuaGzipFile, 823
QuaZIODevice, 830
QuaZipFile, 900
readFrame
AnimScript, 85
readMacro
MacroReaderThread, 732
readNotify
Kb, 295
readProcess
AnimScript, 78
readcmd
command.c, 1218
command.h, 1227
readlines
devnode.c, 1264
devnode.h, 1273
readlines_ctx
devnode.h, 1271
readlines_ctx_free
devnode.c, 1265
devnode.h, 1274
readlines_ctx_init
devnode.c, 1266
devnode.h, 1275
rebind
devcmd.__unnamed__, 162
RebindWidget, 970
~RebindWidget, 975
applyChanges, 975
bind, 1003
convertMacroBox, 977
fnKeys, 1004
helpStatus, 978
macReader, 1004
mediaKeys, 1004
modKeys, 1004
mouseExtKeys, 1004
mouseKeys, 1004
numKeys, 1004
on_animBox_currentIndexChanged, 979
on_animButton_clicked, 979
on_applyButton_clicked, 980
on_btnClearMacro_clicked, 980
on_btnStartMacro_clicked, 981
on_btnStopMacro_clicked, 981
on_cancelButton_clicked, 982
on_dpiBox_currentIndexChanged, 983
on_dpiButton_clicked, 984
on_fnBox_currentIndexChanged, 984
on_fnButton_clicked, 984
on_lightBox_currentIndexChanged, 984
on_lightButton_clicked, 985
on_lockBox_currentIndexChanged, 985
on_lockButton_clicked, 985
on_mb2Box_currentIndexChanged, 986
on_mb2Button_clicked, 986
on_mbBox_currentIndexChanged, 986
on_mbButton_clicked, 987
on_mediaBox_currentIndexChanged, 987
on_mediaButton_clicked, 987
on_modBox_currentIndexChanged, 987
on_modButton_clicked, 988
on_modeBox_currentIndexChanged, 988
on_modeButton_clicked, 988
on_numBox_currentIndexChanged, 989
on_numButton_clicked, 989
on_programKpBox_textChanged, 989
on_programKpButton_clicked, 990
on_programKpSIBox_clicked, 990
on_programKrBox_textChanged, 990
on_programKrButton_clicked, 991
on_programKrSIBox_clicked, 991
on_pteMacroBox_textChanged, 991
on_rb_delay_asTyped_toggled, 992
on_rb_delay_default_toggled, 992
on_rb_delay_no_toggled, 993
on_resetButton_clicked, 993
on_typingBox_currentIndexChanged, 994
on_typingButton_clicked, 994
on_unbindButton_clicked, 994
on_wheelBox_currentIndexChanged, 994
on_wheelButton_clicked, 995
profile, 1004
RebindWidget, 974
RebindWidget, 974
selection, 1004
setBind, 995
setBox, 998
setCorrectRadioButton, 999
setSelection, 1000
TAB_ANIM, 1005
TAB_KB, 1005
TAB_MACRO, 1005
TAB_MOUSE, 1005
TAB_PROGRAM, 1005
TAB_SPECIAL, 1005
typingKeys, 1005
ui, 1005
wheelKeys, 1006
rebindwidget.cpp
DPI_CUST_IDX, 1959
DPI_OFFSET, 1959
rebuildBaseMap
KbLight, 449

refreshList
KbAnimWidget, 360
relProgram
KeyAction, 636
relativeFilePath
QuaZipDir, 879
remove
CkbSettings, 135
removeAll
KbProfile, 553
removeCache
CkbSettings, 139
removeDev
FwUpgradeDialog, 191
removeDevice
MainWindow, 746
removeFile
JlCompress, 259
reorderAnims
KbAnimWidget, 361
reorderTimer
RListWidget, 1011
repeatBox
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
repeatKey
KbAnim, 338
repeatLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
repeatLabel_2
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
repeatMsec
AnimScript, 85
KbAnim, 338
repeatTime
KbAnim, 338
repopulate
KbProfileDialog, 564
rescanItems
RListWidget, 1009
reset
QuaAdler32, 810
QuaChecksum32, 813
QuaCrc32, 816
reset_stop
ckb-daemon/main.c, 1401
usb.c, 1537
resetAction
KbBind, 387
resetButton
Ui::KbBindWidget, 402
Ui::RebindWidget, 968
Ui_KbBindWidget, 1096
Ui_RebindWidget, 1197
resetIndicators
KbLight, 449
resetParams
KbAnim, 330
resetZipError
QuaZipFilePrivate, 918
resetusb
usb.h, 1550
restart
ckb-daemon/main.c, 1398
devcmd.__unnamed__, 162
notify.c, 1457
restartAnimation
KbLight, 450
restoreAction
MainWindow, 751
retranslateUi
Ui::AnimAddDialog, 44
Ui::AnimSettingDialog, 88
Ui::ExtraSettingsWidget, 165
Ui::FwUpgradeDialog, 196
Ui::GradientDialog, 208
Ui::KbAnimWidget, 340
Ui::KbBindWidget, 398
Ui::KbLightWidget, 458
Ui::KbProfileDialog, 568
Ui::KbWidget, 595
Ui::KPerfWidget, 688
Ui::LayoutDialog, 719
Ui::MainWindow, 735
Ui::ModeSelectDialog, 754
Ui::MPerfWidget, 763
Ui::RebindWidget, 942
Ui::SettingsWidget, 1025
Ui_AnimAddDialog, 1039
Ui_AnimSettingDialog, 1045
Ui_ExtraSettingsWidget, 1058
Ui_FwUpgradeDialog, 1069
Ui_GradientDialog, 1075
Ui_KbAnimWidget, 1083
Ui_KbBindWidget, 1092
Ui_KbLightWidget, 1098
Ui_KbProfileDialog, 1106
Ui_KbWidget, 1110
Ui_KPerfWidget, 1121
Ui_LayoutDialog, 1139
Ui_MainWindow, 1144
Ui_ModeSelectDialog, 1147
Ui_MPerfWidget, 1153
Ui_RebindWidget, 1173
Ui_SettingsWidget, 1202
retrigger
AnimScript, 79
revertusb
usb.c, 1534
usb.h, 1573
rgb, 1431
devcmd.__unnamed__, 162
rgbMode
KeyWidget, 678, 679

rgbcmp
led_keyboard.c, 1384
led_mouse.c, 1390
right
settingswidget.cpp, 2068
rm_recursive
devnode.c, 1266
rmdevpath
devnode.c, 1267
devnode.h, 1275
rmnotifynode
devnode.c, 1268
devnode.h, 1276
run
CkbSettingsWriter, 141
Kb, 299
MacroReaderThread, 732
runningPushIdx
KbPerf, 539

SABRE
KeyMap, 640
SCIMITAR
KeyMap, 640
SCROLL
KbPerf, 509
SCROLLSPEED
command.h, 1225
SE
KeyMap, 639
SET
KeyWidget, 665
SNAP
command.h, 1226
SPECIAL
KeyAction, 610
STRAFE
KeyMap, 640
SUBTRACT
KeyWidget, 665
SWITCH
command.h, 1225
S_CUSTOM
devnode.h, 1271
S_CUSTOM_R
devnode.h, 1271
S_GID_READ
devnode.c, 1257
S_MUL
_kiss_fft_guts.h, 1610
S_READ
devnode.h, 1271
S_READDIR
devnode.h, 1271
S_READWRITE
devnode.h, 1271
SABRE_HEIGHT
keymap.cpp, 1720
SABRE_WIDTH
keymap.cpp, 1720
sAccelBox
Ui::ExtraSettingsWidget, 173
Ui_ExtraSettingsWidget, 1065
sAuthorLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
SCAN_KBD
daemon/keymap.h, 1738
SCAN_MOUSE
daemon/keymap.h, 1738
SCAN_SILENT
daemon/keymap.h, 1738
SCIM_HEIGHT
keymap.cpp, 1720
SCIM_WIDTH
keymap.cpp, 1720
SCROLL_ACCELERATED
structures.h, 1519
SCROLL_MAX
structures.h, 1519
SCROLL_MIN
structures.h, 1519
sDescLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
SEEK_CUR
qioapi.cpp, 1785
zip.c, 1900
SEEK_END
qioapi.cpp, 1785
zip.c, 1900
SEEK_SET
qioapi.cpp, 1785
zip.c, 1900
SERIAL_LEN
structures.h, 1519
SET_END
mperfwidget.cpp, 1766
SET_KEYBIT
structures.h, 1519
SET_START
mperfwidget.cpp, 1766
SGroup, 1035
~SGroup, 1037
_settings, 1037
SGroup, 1037
SGroup, 1037
SHMEM_SIZE
main.cpp, 1752
SHMEM_SIZE_V015
main.cpp, 1752
SIZECENTRALDIRITEM
unzip.c, 1827
SIZECENTRALHEADER
zip.c, 1900
SIZEDATA_INDATABLOCK
zip.c, 1900

SIZEZIPLOCALHEADER
unzip.c, 1827
sLicenseLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
SNIPER
KbPerf, 539
sNameLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
sSpeedBox
Ui::ExtraSettingsWidget, 173
Ui_ExtraSettingsWidget, 1066
sSpeedWidget
Ui::ExtraSettingsWidget, 173
Ui_ExtraSettingsWidget, 1066
sToL
kblight.cpp, 1701
sVerLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
sYearLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
sabOverlay
keywidget.cpp, 1744
SabreKeys
keymap.cpp, 1732
save
Kb, 300
KbAnim, 331
KbBind, 388
KbLight, 451
KbMode, 501
KbPerf, 531
KbProfile, 554
saveBlob
FwUpgradeDialog, 192
saveGlobalRemap
KbBind, 389
savePath
FwUpgradeDialog, 193
savedpi
dpi.c, 1281
dpi.h, 1287
savergb_kb
led.h, 1352
led_keyboard.c, 1385
savergb_mouse
led.h, 1353
led_mouse.c, 1391
scan
AnimScript, 80
scanKeyboards
KbManager, 486
scanTimer
KbManager, 488
ScimKeys
keymap.cpp, 1732
scimOverlay
keywidget.cpp, 1745
script
KbAnim, 332
scriptName
KbAnim, 332
scripts
AnimAddDialog, 53
AnimScript, 85
scrollBox
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
scrollColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
scrollColorOn
Ui::KPerfWidget, 704
Ui_KPerfWidget, 1136
scrollSpeed
Kb, 301
selAllButton
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1149
selLabel
Ui::KbLightWidget, 464
Ui_KbLightWidget, 1104
selNoneButton
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1150
selectAll
KeyWidget, 679
selectLabel
Ui::KbBindWidget, 402
Ui_KbBindWidget, 1096
selected
GradientDialogWidget, 242
LayoutDialog, 725
selectedKeys
KbAnimWidget, 365
selectedOffset
GradientDialogWidget, 242
selectedPos
GradientDialogWidget, 242
selectedStop
GradientDialogWidget, 237
selection
KeyWidget, 684
ModeSelectDialog, 759
RebindWidget, 1004
selectionChanged
KeyWidget, 680
selectionColors
GradientDialogWidget, 238
selectionStack
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1089
serialLabel

Ui::KbWidget, 602
Ui_KbWidget, 1117
set
CkbSettings, 135
setAction
KbBind, 390
setAnimation
KeyWidget, 680
setAnimationToSelection
KeyWidget, 681
setAutoClose
QuaZip, 857
setBind
KbBindWidget, 410
RebindWidget, 995
setBox
RebindWidget, 998
setCaseSensitivity
QuaZipDir, 879
setComment
QuaZip, 858
setCommentCodec
QuaZip, 858
setCorrectRadioButton
RebindWidget, 999
setCurrent
KbAnimWidget, 362
setCurrentColor
GradientDialogWidget, 238
setCurrentFile
QuaZip, 858
setCurrentMode
Kb, 302, 303
setCurrentProfile
Kb, 304
setDataDescriptorWritingEnabled
QuaZip, 860
setDefaultFileNameCodec
QuaZip, 861
setDuration
AnimScript, 80
setFileDateTime
QuaZipNewInfo, 924
setFileNTFSTimes
QuaZipNewInfo, 927
setFileNTFSaTime
QuaZipNewInfo, 924
setFileNTFScTime
QuaZipNewInfo, 925
setFileNTFSmTime
QuaZipNewInfo, 926
setFileName
QuaGzipFile, 823
QuaZipFile, 901
setFileNameCodec
QuaZip, 862
setFilePermissions
QuaZipNewInfo, 927
setFilter
QuaZipDir, 880
setGlobalRemap
KbBind, 391
setIndicator
KbLight, 452
KbPerf, 532
setIoDevice
QuaZip, 862
setLabel
ColorButton, 148, 149
setLight
KbAnimWidget, 363
KbLightWidget, 473
setMonochrome
KbLightWidget, 474
setNTFSTime
quazipnewinfo.cpp, 1818
setNameFilters
QuaZipDir, 880
setNeedsSave
KbMode, 502
KbProfile, 555
setNeedsUpdate
KbBind, 392
KbMode, 502
KbPerf, 533
KbProfile, 555
setPath
QuaZipDir, 880
setPerf
KPerfWidget, 714
MPerfWidget, 793
setPermissions
QuaZipNewInfo, 928
setPreset
GradientDialog, 224
setSelectedKeys
KbAnimWidget, 364
setSelection
KeyWidget, 681
RebindWidget, 1000
setSorting
QuaZipDir, 881
setStatus
SettingsWidget, 1019
setStops
GradientDialogWidget, 239
setValue
CkbSettings, 136
setVersion
SettingsWidget, 1020
setZip
QuaZipFile, 901
setZip64Enabled
QuaZip, 863
setZipError
QuaZipFilePrivate, 918

setZipName
QuaZip, 863
QuaZipFile, 902
setactive
device.h, 1238
setactive_kb
device.h, 1240
device_keyboard.c, 1247
setactive_mouse
device.h, 1242
device_mouse.c, 1251
setid
profile.c, 1477
profile.h, 1495
setmodeindex
devcmd.__unnamed__, 162
setmodeindex_nrgb
device.h, 1243
device_keyboard.c, 1249
settingPath
autorun.cpp, 1645
settingTab
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
settingWidgets
AnimSettingDialog, 119
settingsCacheMutex
ckbsettings.cpp, 1672
ckbsettingswriter.cpp, 1675
settingsGrid
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1053
settingsMutex
ckbsettings.cpp, 1672
ckbsettingswriter.cpp, 1675
settingsUpdated
KbPerf, 533
SettingsWidget, 1011
~SettingsWidget, 1015
extra, 1022
MainWindow, 1022
on_altBox_activated, 1015
on_autoFWBox_clicked, 1016
on_capsBox_activated, 1016
on_ctrlBox_activated, 1016
on_extraButton_clicked, 1017
on_layoutBox_activated, 1017
on_loginItemBox_clicked, 1018
on_pushButton_clicked, 1018
on_shiftBox_activated, 1018
on_winBox_activated, 1019
pollUpdates, 1019
setStatus, 1019
setVersion, 1020
SettingsWidget, 1014
SettingsWidget, 1014
showLayoutDialog, 1020
ui, 1022
updateModifiers, 1021
settingsWidget
MainWindow, 752
settingswidget.cpp
devpath, 2068
modKeys, 2068
modNames, 2068
right, 2068
setupUi
Ui::AnimAddDialog, 45
Ui::AnimSettingDialog, 89
Ui::ExtraSettingsWidget, 166
Ui::FwUpgradeDialog, 196
Ui::GradientDialog, 209
Ui::KbAnimWidget, 341
Ui::KbBindWidget, 398
Ui::KbLightWidget, 459
Ui::KbProfileDialog, 569
Ui::KbWidget, 596
Ui::KPerfWidget, 689
Ui::LayoutDialog, 719
Ui::MainWindow, 735
Ui::ModeSelectDialog, 754
Ui::MPerfWidget, 765
Ui::RebindWidget, 945
Ui::SettingsWidget, 1026
Ui_AnimAddDialog, 1039
Ui_AnimSettingDialog, 1046
Ui_ExtraSettingsWidget, 1059
Ui_FwUpgradeDialog, 1069
Ui_GradientDialog, 1076
Ui_KbAnimWidget, 1083
Ui_KbBindWidget, 1092
Ui_KbLightWidget, 1099
Ui_KbProfileDialog, 1106
Ui_KbWidget, 1111
Ui_KPerfWidget, 1122
Ui_LayoutDialog, 1139
Ui_MainWindow, 1144
Ui_ModeSelectDialog, 1148
Ui_MPerfWidget, 1154
Ui_RebindWidget, 1175
Ui_SettingsWidget, 1203
setupusb
usb.c, 1535
usb.h, 1574
shareDimming
KbLight, 452, 453
shiftBox
Ui::SettingsWidget, 1033
Ui_SettingsWidget, 1210
shiftLabel
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1210
showAnimBox
Ui::KbLightWidget, 464
Ui_KbLightWidget, 1104
showFirstTab

KbWidget, 589
showFwUpdate
KbWidget, 589
showFwUpdateNotification
MainWindow, 746
showLastTab
KbWidget, 590
showLayoutDialog
SettingsWidget, 1020
showPreview
AnimAddDialog, 53
showWindow
MainWindow, 747
sidelightToggled
KeyWidget, 682
sighandler
ckb-daemon/main.c, 1399
sighandler2
ckb-daemon/main.c, 1400
size
QuaZipFile, 902
sliderXMapper
MPerfWidget, 797
sliderXMoved
MPerfWidget, 794
sliderYMapper
MPerfWidget, 797
sliderYMoved
MPerfWidget, 795
snap
devcmd.__unnamed__, 162
sniperDpi
KbPerf, 533, 534
sniperValue
KeyAction, 636
sorting
QuaZipDir, 881
spawn
ckb-rain/main.c, 1430
specialInfo
KeyAction, 632
speed
ckb-rain/main.c, 1430
spinBox
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1166
src/ckb-daemon/command.c, 1217
src/ckb-daemon/command.h, 1222
src/ckb-daemon/device.c, 1231
src/ckb-daemon/device.h, 1235
src/ckb-daemon/device_keyboard.c, 1245
src/ckb-daemon/device_mouse.c, 1250
src/ckb-daemon/device_vtable.c, 1253
src/ckb-daemon/devnode.c, 1255
src/ckb-daemon/devnode.h, 1269
src/ckb-daemon/dpi.c, 1277
src/ckb-daemon/dpi.h, 1283
src/ckb-daemon/extra_mac.c, 1289
src/ckb-daemon/firmware.c, 1289
src/ckb-daemon/firmware.h, 1294
src/ckb-daemon/includes.h, 1297
src/ckb-daemon/input.c, 1301
src/ckb-daemon/input.h, 1315
src/ckb-daemon/input_linux.c, 1326
src/ckb-daemon/input_mac.c, 1333
src/ckb-daemon/input_mac_mouse.c, 1333
src/ckb-daemon/keymap.c, 1333
src/ckb-daemon/keymap.h, 1734
src/ckb-daemon/keymap_mac.h, 1338
src/ckb-daemon/led.c, 1339
src/ckb-daemon/led.h, 1344
src/ckb-daemon/led_keyboard.c, 1356
src/ckb-daemon/led_mouse.c, 1389
src/ckb-daemon/main.c, 1393
src/ckb-daemon/notify.c, 1449
src/ckb-daemon/notify.h, 1458
src/ckb-daemon/os.h, 1463
src/ckb-daemon/profile.c, 1464
src/ckb-daemon/profile.h, 1481
src/ckb-daemon/profile_keyboard.c, 1496
src/ckb-daemon/profile_mouse.c, 1499
src/ckb-daemon/structures.h, 1501
src/ckb-daemon/usb.c, 1520
src/ckb-daemon/usb.h, 1538
src/ckb-daemon/usb_linux.c, 1579
src/ckb-daemon/usb_mac.c, 1605
src/ckb-gradient/main.c, 1401
src/ckb-heat/main.c, 1408
src/ckb-mviz/_kiss_fft_guts.h, 1606
src/ckb-mviz/kiss_fft.c, 1610
src/ckb-mviz/kiss_fft.h, 1622
src/ckb-mviz/kiss_fftr.c, 1629
src/ckb-mviz/kiss_fftr.h, 1634
src/ckb-mviz/main.c, 1413
src/ckb-pinwheel/main.c, 1419
src/ckb-rain/main.c, 1424
src/ckb-random/main.c, 1430
src/ckb-ripple/main.c, 1435
src/ckb-wave/main.c, 1441
src/ckb/animadddialog.cpp, 1638
src/ckb/animadddialog.h, 1639
src/ckb/animscript.cpp, 1639
src/ckb/animscript.h, 1641
src/ckb/animsettingdialog.cpp, 1642
src/ckb/animsettingdialog.h, 1644
src/ckb/autorun.cpp, 1645
src/ckb/autorun.h, 1646
src/ckb/ckb-anim.h, 1646
src/ckb/ckbsettings.cpp, 1670
src/ckb/ckbsettings.h, 1673
src/ckb/ckbsettingswriter.cpp, 1673
src/ckb/ckbsettingswriter.h, 1675
src/ckb/colorbutton.cpp, 1675
src/ckb/colorbutton.h, 1676
src/ckb/colormap.cpp, 1677
src/ckb/colormap.h, 1678

src/ckb/extrasettingswidget.cpp, 1679
src/ckb/extrasettingswidget.h, 1680
src/ckb/fwupgradedialog.cpp, 1680
src/ckb/fwupgradedialog.h, 1683
src/ckb/gradientbutton.cpp, 1684
src/ckb/gradientbutton.h, 1685
src/ckb/gradientdialog.cpp, 1686
src/ckb/gradientdialog.h, 1686
src/ckb/gradientdialogwidget.cpp, 1687
src/ckb/gradientdialogwidget.h, 1687
src/ckb/kb.cpp, 1688
src/ckb/kb.h, 1689
src/ckb/kbanim.cpp, 1690
src/ckb/kbanim.h, 1692
src/ckb/kbanimwidget.cpp, 1693
src/ckb/kbanimwidget.h, 1693
src/ckb/kbbind.cpp, 1694
src/ckb/kbbind.h, 1695
src/ckb/kbbindwidget.cpp, 1696
src/ckb/kbbindwidget.h, 1696
src/ckb/kbfirmware.cpp, 1697
src/ckb/kbfirmware.h, 1698
src/ckb/kblight.cpp, 1699
src/ckb/kblight.h, 1702
src/ckb/kblightwidget.cpp, 1703
src/ckb/kblightwidget.h, 1703
src/ckb/kbmanager.cpp, 1704
src/ckb/kbmanager.h, 1705
src/ckb/kbmode.cpp, 1706
src/ckb/kbmode.h, 1706
src/ckb/kbperf.cpp, 1707
src/ckb/kbperf.h, 1707
src/ckb/kbprofile.cpp, 1708
src/ckb/kbprofile.h, 1709
src/ckb/kbprofiledialog.cpp, 1709
src/ckb/kbprofiledialog.h, 1710
src/ckb/kbwidget.cpp, 1711
src/ckb/kbwidget.h, 1711
src/ckb/keyaction.cpp, 1712
src/ckb/keyaction.h, 1713
src/ckb/keymap.cpp, 1714
src/ckb/keymap.h, 1733
src/ckb/keywidget.cpp, 1742
src/ckb/keywidget.h, 1745
src/ckb/kperfwidget.cpp, 1746
src/ckb/kperfwidget.h, 1746
src/ckb/layoutdialog.cpp, 1748
src/ckb/layoutdialog.h, 1749
src/ckb/macroreader.cpp, 1750
src/ckb/macroreader.h, 1750
src/ckb/main.cpp, 1751
src/ckb/mainwindow.cpp, 1757
src/ckb/mainwindow.h, 1758
src/ckb/media.h, 1759
src/ckb/media_linux.cpp, 1761
src/ckb/media_mac.m, 1762
src/ckb/modeselectdialog.cpp, 1764
src/ckb/modeselectdialog.h, 1764
src/ckb/mperfwidget.cpp, 1765
src/ckb/mperfwidget.h, 1768
src/ckb/quazip/JlCompress.cpp, 1781
src/ckb/quazip/JlCompress.h, 1783
src/ckb/quazip/crypt.h, 1770
src/ckb/quazip/ioapi.h, 1774
src/ckb/quazip/qioapi.cpp, 1783
src/ckb/quazip/quaadler32.cpp, 1795
src/ckb/quazip/quaadler32.h, 1796
src/ckb/quazip/quachecksum32.h, 1797
src/ckb/quazip/quacrc32.cpp, 1798
src/ckb/quazip/quacrc32.h, 1799
src/ckb/quazip/quagzipfile.cpp, 1800
src/ckb/quazip/quagzipfile.h, 1801
src/ckb/quazip/quaziodevice.cpp, 1802
src/ckb/quazip/quaziodevice.h, 1803
src/ckb/quazip/quazip.cpp, 1804
src/ckb/quazip/quazip.h, 1806
src/ckb/quazip/quazip_global.h, 1807
src/ckb/quazip/quazipdir.cpp, 1809
src/ckb/quazip/quazipdir.h, 1811
src/ckb/quazip/quazipfile.cpp, 1811
src/ckb/quazip/quazipfile.h, 1812
src/ckb/quazip/quazipfileinfo.cpp, 1813
src/ckb/quazip/quazipfileinfo.h, 1815
src/ckb/quazip/quazipnewinfo.cpp, 1816
src/ckb/quazip/quazipnewinfo.h, 1820
src/ckb/quazip/unzip.c, 1821
src/ckb/quazip/unzip.h, 1872
src/ckb/quazip/zip.c, 1892
src/ckb/quazip/zip.h, 1948
src/ckb/rebindwidget.cpp, 1959
src/ckb/rebindwidget.h, 1959
src/ckb/release/moc_animadddialog.cpp, 1960
src/ckb/release/moc_animscript.cpp, 1963
src/ckb/release/moc_animsettingdialog.cpp, 1966
src/ckb/release/moc_ckbsettingswriter.cpp, 1969
src/ckb/release/moc_colorbutton.cpp, 1971
src/ckb/release/moc_extrasettingswidget.cpp, 1973
src/ckb/release/moc_fwupgradedialog.cpp, 1976
src/ckb/release/moc_gradientbutton.cpp, 1979
src/ckb/release/moc_gradientdialog.cpp, 1982
src/ckb/release/moc_gradientdialogwidget.cpp, 1985
src/ckb/release/moc_kb.cpp, 1987
src/ckb/release/moc_kbanim.cpp, 1990
src/ckb/release/moc_kbanimwidget.cpp, 1992
src/ckb/release/moc_kbbind.cpp, 1995
src/ckb/release/moc_kbbindwidget.cpp, 1997
src/ckb/release/moc_kbfirmware.cpp, 1999
src/ckb/release/moc_kblight.cpp, 2002
src/ckb/release/moc_kblightwidget.cpp, 2005
src/ckb/release/moc_kbmanager.cpp, 2008
src/ckb/release/moc_kbmode.cpp, 2010
src/ckb/release/moc_kbperf.cpp, 2012
src/ckb/release/moc_kbprofile.cpp, 2015
src/ckb/release/moc_kbprofiledialog.cpp, 2017
src/ckb/release/moc_kbwidget.cpp, 2021
src/ckb/release/moc_keyaction.cpp, 2023

src/ckb/release/moc_keywidget.cpp, 2025
src/ckb/release/moc_kperfwidget.cpp, 2027
src/ckb/release/moc_layoutdialog.cpp, 2030
src/ckb/release/moc_macroreader.cpp, 2033
src/ckb/release/moc_mainwindow.cpp, 2037
src/ckb/release/moc_modeselectdialog.cpp, 2039
src/ckb/release/moc_mperfwidget.cpp, 2041
src/ckb/release/moc_quagzipfile.cpp, 2044
src/ckb/release/moc_quaziodevice.cpp, 2046
src/ckb/release/moc_quazipfile.cpp, 2048
src/ckb/release/moc_rebindwidget.cpp, 2050
src/ckb/release/moc_rlistwidget.cpp, 2053
src/ckb/release/moc_settingswidget.cpp, 2055
src/ckb/release/qrc_binary.cpp, 2057
src/ckb/release/qrc_image.cpp, 2060
src/ckb/release/qrc_text.cpp, 2063
src/ckb/rlistwidget.cpp, 2066
src/ckb/rlistwidget.h, 2066
src/ckb/settingswidget.cpp, 2067
src/ckb/settingswidget.h, 2069
src/ckb/ui_animadddialog.h, 2070
src/ckb/ui_animsettingdialog.h, 2070
src/ckb/ui_extrasettingswidget.h, 2071
src/ckb/ui_fwupgradedialog.h, 2072
src/ckb/ui_gradientdialog.h, 2073
src/ckb/ui_kbanimwidget.h, 2074
src/ckb/ui_kbbindwidget.h, 2075
src/ckb/ui_kblightwidget.h, 2076
src/ckb/ui_kbprofiledialog.h, 2077
src/ckb/ui_kbwidget.h, 2078
src/ckb/ui_kperfwidget.h, 2079
src/ckb/ui_layoutdialog.h, 2080
src/ckb/ui_mainwindow.h, 2081
src/ckb/ui_modeselectdialog.h, 2082
src/ckb/ui_mperfwidget.h, 2083
src/ckb/ui_rebindwidget.h, 2084
src/ckb/ui_settingswidget.h, 2085
stages
    MPerfWidget, 798
standardMaps
    keymap.cpp, 1733
start
    devcmd.__unnamed__, 162
start_dev
    device.c, 1233
    device.h, 1244
start_kb_nrgb
    device.h, 1244
    device_keyboard.c, 1249
startWorkInAThread
    MacroReader, 728
stateChange
    MainWindow, 748
statusLabel
    Ui::FwUpgradeDialog, 200
    Ui_FwUpgradeDialog, 1073
stop
    AnimScript, 81
    KbAnim, 333
    KbManager, 488
stopBox
    Ui::GradientDialog, 213
    Ui_GradientDialog, 1080
stopCheck
    AnimSettingDialog, 119
stopColor
    Ui::GradientDialog, 213
    Ui_GradientDialog, 1080
stopCount
    GradientDialogWidget, 240
stopOpacity
    Ui::GradientDialog, 213
    Ui_GradientDialog, 1080
stopPos
    Ui::GradientDialog, 213
    Ui_GradientDialog, 1080
stopPreview
    KbLight, 453
stopRect
    GradientDialogWidget, 240
stopTime
    KbAnim, 338
stopped
    AnimScript, 85
stops
    GradientDialogWidget, 241
storageName
    Key, 605
strLayout
    KeyMap, 658
strModel
    KeyMap, 659
strcmpcasenosensitive_internal
    unzip.c, 1828
strtrim
    usb_linux.c, 1594
structures.h
    CLEAR_KEYBIT, 1515
    DPI_COUNT, 1515
    FEAT_ADJRATE, 1515
    FEAT_ANSI, 1515
    FEAT_BIND, 1515
    FEAT_COMMON, 1515
    FEAT_FWUPDATE, 1515
    FEAT_FWVERSION, 1515
    FEAT_HWLOAD, 1516
    FEAT_ISO, 1516
    FEAT_LMASK, 1516
    FEAT_MONOCHROME, 1516
    FEAT_MOUSEACCEL, 1516
    FEAT_NOTIFY, 1516
    FEAT_POLLRATE, 1516
    FEAT_RGB, 1516
    FEAT_STD_NRGB, 1516
    FEAT_STD_RGB, 1517
    HAS_ANY_FEATURE, 1517

HAS_FEATURES, 1517
HWMODE_K70, 1517
HWMODE_K95, 1517
HWMODE_MAX, 1517
I_CAPS, 1517
I_NUM, 1517
I_SCROLL, 1517
IFACE_MAX, 1517
KB_NAME_LEN, 1518
LIFT_MAX, 1518
LIFT_MIN, 1518
MACRO_MAX, 1518
MD_NAME_LEN, 1518
MODE_COUNT, 1518
MSG_SIZE, 1518
NEEDS_FW_UPDATE, 1518
OUTFIFO_MAX, 1518
PR_NAME_LEN, 1519
SCROLL_ACCELERATED, 1519
SCROLL_MAX, 1519
SCROLL_MIN, 1519
SERIAL_LEN, 1519
SET_KEYBIT, 1519
vtable_keyboard, 1519
vtable_keyboard_nonrgb, 1519
vtable_mouse, 1519
Subtract
KbAnim, 314
symmetric
ckb-pinwheel/main.c, 1423
ckb-ripple/main.c, 1441
ckb-wave/main.c, 1449

TOGGLE
KeyWidget, 665
TAB_ANIM
RebindWidget, 1005
TAB_KB
RebindWidget, 1005
TAB_MACRO
RebindWidget, 1005
TAB_MOUSE
RebindWidget, 1005
TAB_PROGRAM
RebindWidget, 1005
TAB_SPECIAL
RebindWidget, 1005
TEST_RESET
usb_linux.c, 1581
TRUE
ckb-anim.h, 1657
TRY_WITH_RESET
command.c, 1218
TRYFREE
unzip.c, 1827
zip.c, 1900
tabWidget
Ui::AnimSettingDialog, 98
Ui::KbWidget, 602
Ui::MainWindow, 737
Ui::RebindWidget, 968
Ui_AnimSettingDialog, 1054
Ui_KbWidget, 1117
Ui_MainWindow, 1146
Ui_RebindWidget, 1197
tableDownload
KbFirmware, 425
tableName
kbfirmware.cpp, 1698
target
ckb-random/main.c, 1435
tick
ckb-rain/main.c, 1430
timeGrid
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
timeTab
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1054
timerTick
MainWindow, 749
RListWidget, 1010
timespec_add
ckb-daemon/main.c, 1400
includes.h, 1301
timespec_eq
includes.h, 1300
timespec_ge
includes.h, 1300
timespec_gt
includes.h, 1300
timespec_le
includes.h, 1300
timespec_lt
includes.h, 1300
tm_unz_s, 1874
tm_zip_s, 1950
tm_unz
unzip.h, 1882
tm_zip
zip.h, 1954
toQuaZipFileInfo
QuaZipFileInfo64, 913
toStorage
KeyMap, 659
toString
GradientButton, 204
toggleSidelight
KbLightWidget, 475
toggleTrayIcon
MainWindow, 750
top
ckb-wave/main.c, 1449
trayBox
Ui::ExtraSettingsWidget, 173
Ui_ExtraSettingsWidget, 1066
trayIcon

MainWindow, 752
trayIconMenu
MainWindow, 752
trigger
KbAnim, 334
txtBuffer
Ui::RebindWidget, 968
Ui_RebindWidget, 1197
Type
KeyAction, 610
type
KeyAction, 632
typingBox
Ui::RebindWidget, 968
Ui_RebindWidget, 1198
typingButton
Ui::RebindWidget, 968
Ui_RebindWidget, 1198
typingKeys
RebindWidget, 1005

u16dec
profile.c, 1478
u16enc
profile.c, 1478
UNBIND
command.h, 1226
UNBOUND
KeyAction, 610
UNKNOWN
KbFirmware, 417
media.h, 1760
UNMUTED
media.h, 1760
US
KeyMap, 639
US_DVORAK
KeyMap, 639
UINPUT_VERSION
os.h, 1464
UNUSED
quazip_global.h, 1809
UNZ_AUTO_CLOSE
unzip.h, 1880
UNZ_BADZIPFILE
unzip.h, 1880
UNZ_BUFSIZE
unzip.c, 1827
UNZ_CRCERROR
unzip.h, 1880
UNZ_DEFAULT_FLAGS
unzip.h, 1880
UNZ_EOF
unzip.h, 1881
UNZ_ERRNO
unzip.h, 1881
UNZ_INTERNALERROR
unzip.h, 1881
UNZ_MAXFILENAMEINZIP
unzip.c, 1827
UNZ_OK
unzip.h, 1881
UNZ_OPENERROR
quazip.h, 1807
UNZ_PARAMERROR
unzip.h, 1881
USB_DELAY_DEFAULT
usb.h, 1550
uchar
includes.h, 1301
udev
usb_linux.c, 1605
udev_enum
usb_linux.c, 1594
udevthread
usb_linux.c, 1605
Ui, 41
ui
AnimAddDialog, 54
AnimSettingDialog, 119
ExtraSettingsWidget, 183
FwUpgradeDialog, 193
GradientDialog, 227
KbAnimWidget, 365
KbBindWidget, 414
KbLightWidget, 477
KbProfileDialog, 566
KbWidget, 593
KPerfWidget, 717
LayoutDialog, 725
MainWindow, 752
ModeSelectDialog, 760
MPerfWidget, 798
RebindWidget, 1005
SettingsWidget, 1022
Ui::AnimAddDialog, 43
animBox, 46
buttonBox, 47
gridLayout, 47
horizontalLayout, 47
horizontalSpacer, 47
horizontalSpacer_2, 47
label, 47
label_2, 47
presetBox, 47
previewBox, 47
retranslateUi, 44
setupUi, 45
verticalSpacer_2, 48
verticalSpacer_3, 48
Ui::AnimSettingDialog, 86
animName, 93
buttonBox, 93
delayBox, 93
gridLayout, 93
gridLayout_2, 94
horizontalSpacer, 94

horizontalSpacer_2, 94
horizontalSpacer_3, 94
horizontalSpacer_4, 94
horizontalSpacer_5, 94
horizontalSpacer_6, 94
infoTab, 94
kpDelayBox, 94
kpModeStopBox, 95
kpReleaseBox, 95
kpRepeatBox, 95
kpRepeatLabel, 95
kpRepeatLabel_2, 95
label, 95
label_10, 95
label_11, 95
label_12, 95
label_13, 96
label_2, 96
label_3, 96
label_4, 96
label_5, 96
label_6, 96
label_7, 96
label_8, 96
label_9, 96
line, 97
line_2, 97
repeatBox, 97
repeatLabel, 97
repeatLabel_2, 97
retranslateUi, 88
sAuthorLabel, 97
sDescLabel, 97
sLicenseLabel, 98
sNameLabel, 98
sVerLabel, 98
sYearLabel, 98
settingTab, 97
settingsGrid, 97
setupUi, 89
tabWidget, 98
timeGrid, 98
timeTab, 98
verticalSpacer, 98
verticalSpacer_2, 98
verticalSpacer_3, 99
Ui::ExtraSettingsWidget, 162
animCountLabel, 170
animPathLabel, 170
animScanButton, 170
brightnessBox, 170
buttonBox, 170
delayBox, 170
ditherBox, 170
fpsBox, 170
fpsWarnLabel, 170
gridLayout, 171
horizontalLayout, 171
horizontalLayout_2, 171
horizontalSpacer, 171
horizontalSpacer_2, 171
horizontalSpacer_3, 171
label, 171
label_10, 171
label_11, 171
label_2, 172
label_3, 172
label_5, 172
label_6, 172
line, 172
line_2, 172
line_3, 172
mAccelBox, 172
osxLabel, 172
osxLine, 173
retranslateUi, 165
sAccelBox, 173
sSpeedBox, 173
sSpeedWidget, 173
setupUi, 166
trayBox, 173
verticalSpacer, 173
verticalSpacer_10, 173
verticalSpacer_11, 173
verticalSpacer_2, 174
verticalSpacer_3, 174
verticalSpacer_4, 174
verticalSpacer_5, 174
verticalSpacer_6, 174
verticalSpacer_7, 174
verticalSpacer_8, 174
verticalSpacer_9, 174
Ui::FwUpgradeDialog, 193
actionButton, 198
cancelButton, 198
curLabel, 198
devLabel, 198
gridLayout, 199
gridLayout_2, 199
horizontalSpacer, 199
horizontalSpacer_2, 199
horizontalSpacer_3, 199
horizontalSpacer_4, 199
label_2, 199
label_4, 199
newLabel, 199
progressBar, 200
retranslateUi, 196
setupUi, 196
statusLabel, 200
Ui::GradientDialog, 206
buttonBox, 211
gridLayout, 211
gridLayout_2, 211
gridLayout_3, 211
groupBox_2, 212

horizontalLayout, 212
horizontalLayout_2, 212
horizontalSpacer, 212
horizontalSpacer_2, 212
horizontalSpacer_3, 212
label, 212
label_2, 212
presetDelete, 212
presetList, 213
presetName, 213
presetSave, 213
retranslateUi, 208
setupUi, 209
stopBox, 213
stopColor, 213
stopOpacity, 213
stopPos, 213
verticalSpacer, 213
verticalSpacer_2, 214
widget, 214
Ui::KPerfWidget, 684
capsBox, 696
capsColorOff, 696
capsColorOn, 696
copyButton, 696
gridLayout, 696
horizontalLayout, 696
horizontalLayout_2, 696
horizontalSpacer, 696
horizontalSpacer_2, 697
horizontalSpacer_3, 697
horizontalSpacer_4, 697
horizontalSpacer_5, 697
horizontalSpacer_6, 697
horizontalSpacer_7, 697
horizontalSpacer_8, 697
intensityBox, 697
k95Label1, 697
k95Label2, 698
k95Label3, 698
k95Label4, 698
k95Label5, 698
k95Label6, 698
k95Line, 698
k95Spacer, 698
label, 698
label_10, 698
label_11, 699
label_12, 699
label_14, 699
label_15, 699
label_16, 699
label_17, 699
label_18, 699
label_19, 699
label_2, 699
label_20, 700
label_21, 700
label_22, 700
label_23, 700
label_24, 700
label_3, 700
label_4, 700
label_5, 700
label_6, 700
label_7, 701
label_8, 701
lightBox, 701
lightColor1, 701
lightColor2, 701
lightColor3, 701
line, 701
line_2, 701
line_3, 701
lockBox, 702
lockColorOff, 702
lockColorOn, 702
macroBox, 702
macroColorOff, 702
macroColorOn, 702
modeBox, 702
modeColorOff, 702
modeColorOn, 702
muteBox, 703
muteColorNA, 703
muteColorOff, 703
muteColorOn, 703
numBox, 703
numColorOff, 703
numColorOn, 703
retranslateUi, 688
scrollBox, 703
scrollColorOff, 703
scrollColorOn, 704
setupUi, 689
verticalSpacer, 704
verticalSpacer_2, 704
verticalSpacer_3, 704
verticalSpacer_4, 704
Ui::KbAnimWidget, 338
aCopyLabel, 344
aMissingLabel, 344
aMissingPage, 344
aNameLabel, 344
aVerLabel, 345
animList, 344
animPage, 344
blendBox, 345
deleteButton, 345
gridLayout, 345
gridLayout_2, 345
gridLayout_3, 345
gridLayout_4, 345
horizontalLayout, 345
horizontalSpacer, 345
horizontalSpacer_2, 346

horizontalSpacer_3, 346
horizontalSpacer_4, 346
horizontalSpacer_5, 346
keyButton, 346
label_5, 346
label_6, 346
label_7, 346
nameBox, 346
noAnimLabel, 347
noSelPage, 347
opacityBox, 347
propertyButton, 347
retranslateUi, 340
selectionStack, 347
setupUi, 341
verticalLayout, 347
verticalSpacer, 347
verticalSpacer_2, 347
verticalSpacer_3, 347
Ui::KbBindWidget, 396
copyButton, 401
gridLayout, 401
gridLayout_2, 401
horizontalLayout_2, 401
horizontalSpacer, 401
horizontalSpacer_2, 401
keyWidget, 402
label, 402
label_2, 402
line, 402
line_2, 402
rbWidget, 402
resetButton, 402
retranslateUi, 398
selectLabel, 402
setupUi, 398
verticalLayout, 402
verticalSpacer, 403
widget, 403
Ui::KbLightWidget, 456
animButton, 462
animWidget, 462
bgButton, 462
brightnessBox, 462
gridLayout, 462
gridLayout_2, 462
gridLayout_4, 462
horizontalLayout, 462
horizontalLayout_2, 462
horizontalLayout_3, 463
horizontalSpacer_3, 463
horizontalSpacer_4, 463
horizontalSpacer_5, 463
horizontalSpacer_6, 463
keyWidget, 463
label, 463
label_2, 463
label_3, 463
line, 464
line_2, 464
retranslateUi, 458
selLabel, 464
setupUi, 459
showAnimBox, 464
verticalLayout, 464
verticalSpacer_2, 464
verticalSpacer_3, 464
widget, 464
Ui::KbProfileDialog, 566
buttonBox, 570
gridLayout, 570
horizontalSpacer, 570
horizontalSpacer_2, 570
profileList, 570
retranslateUi, 568
setupUi, 569
Ui::KbWidget, 593
bindTab, 599
bindWidget, 599
devTab, 599
fwLabel, 599
fwUpdButton, 599
fwUpdLabel, 600
fwUpdLayout, 600
gridLayout, 600
gridLayout_2, 600
gridLayout_3, 600
gridLayout_4, 600
gridLayout_5, 600
gridLayout_7, 600
horizontalSpacer_2, 600
horizontalSpacer_3, 601
hwSaveButton, 601
kPerfTab, 601
kPerfWidget, 601
label_3, 601
label_4, 601
label_9, 601
lightTab, 601
lightWidget, 601
mPerfTab, 602
mPerfWidget, 602
modesList, 602
pollLabel, 602
pollLabel2, 602
profileBox, 602
retranslateUi, 595
serialLabel, 602
setupUi, 596
tabWidget, 602
verticalSpacer, 602
Ui::LayoutDialog, 717
buttonBox, 721
comboBox, 721
gridLayout, 721
horizontalSpacer, 721

horizontalSpacer_2, 721
label, 721
label_2, 722
retranslateUi, 719
setupUi, 719
verticalSpacer, 722
verticalSpacer_2, 722
verticalSpacer_3, 722
verticalSpacer_4, 722
Ui::MPerfWidget, 760
aSnapBox, 772
copyButton, 772
eBox1, 772
eBox2, 772
eBox3, 772
eBox4, 772
eBox5, 772
gridLayout, 772
horizontalLayout, 773
horizontalLayout_2, 773
horizontalLayout_4, 773
horizontalSpacer, 773
horizontalSpacer_2, 773
horizontalSpacer_3, 773
horizontalSpacer_4, 773
horizontalSpacer_5, 773
horizontalSpacer_6, 773
horizontalSpacer_7, 774
iButton0, 774
iButton1, 774
iButton2, 774
iButton3, 774
iButton4, 774
iButton5, 774
iButtonO, 774
indicBox, 774
lHeightBox, 776
label, 775
label_11, 775
label_12, 775
label_13, 775
label_14, 775
label_15, 775
label_2, 775
label_25, 775
label_3, 775
label_4, 776
label_5, 776
label_6, 776
label_7, 776
label_8, 776
line, 776
line_2, 776
line_3, 776
retranslateUi, 763
setupUi, 765
spinBox, 777
verticalLayout, 777
verticalSpacer, 777
verticalSpacer_2, 777
verticalSpacer_3, 777
xBox0, 777
xBox1, 777
xBox2, 777
xBox3, 777
xBox4, 778
xBox5, 778
xSlider0, 778
xSlider1, 778
xSlider2, 778
xSlider3, 778
xSlider4, 778
xSlider5, 778
xyBox, 778
yBox0, 779
yBox1, 779
yBox2, 779
yBox3, 779
yBox4, 779
yBox5, 779
ySlider0, 779
ySlider1, 779
ySlider2, 779
ySlider3, 780
ySlider4, 780
ySlider5, 780
Ui::MainWindow, 733
actionAbout, 736
actionExit, 736
centralWidget, 736
gridLayout, 737
retranslateUi, 735
setupUi, 735
tabWidget, 737
Ui::ModeSelectDialog, 752
buttonBox, 755
gridLayout, 756
label, 756
modeList, 756
retranslateUi, 754
selAllButton, 756
selNoneButton, 756
setupUi, 754
Ui::RebindWidget, 939
actionTab, 955
animBox, 955
animButton, 955
animKrBox, 955
animOnceBox, 956
animTab, 956
applyButton, 956
btnClearMacro, 956
btnStartMacro, 956
btnStopMacro, 956
cancelButton, 956
delayButtons, 956

dpiBox, 957
dpiButton, 957
dpiCustLabel, 957
dpiCustXBox, 957
dpiCustYBox, 957
dpiWarning, 957
fnBox, 957
fnButton, 957
gridLayout, 958
gridLayout_10, 958
gridLayout_2, 958
gridLayout_3, 958
gridLayout_4, 958
gridLayout_5, 958
gridLayout_8, 958
groupBox_2, 958
groupBox_3, 958
groupBox_4, 958
horizontalLayout, 959
horizontalLayout_2, 959
horizontalLayout_3, 959
horizontalSpacer, 959
horizontalSpacer_10, 959
horizontalSpacer_11, 959
horizontalSpacer_12, 959
horizontalSpacer_13, 959
horizontalSpacer_14, 959
horizontalSpacer_15, 960
horizontalSpacer_16, 960
horizontalSpacer_17, 960
horizontalSpacer_18, 960
horizontalSpacer_19, 960
horizontalSpacer_2, 960
horizontalSpacer_20, 960
horizontalSpacer_21, 960
horizontalSpacer_22, 960
horizontalSpacer_23, 961
horizontalSpacer_24, 961
horizontalSpacer_25, 961
horizontalSpacer_26, 961
horizontalSpacer_3, 961
horizontalSpacer_4, 961
horizontalSpacer_5, 961
horizontalSpacer_6, 961
horizontalSpacer_7, 961
horizontalSpacer_8, 962
horizontalSpacer_9, 962
keyTab, 962
label, 962
layoutWidget, 962
layoutWidget1, 962
layoutWidget2, 962
layoutWidget_2, 962
lbl_macro, 962
lightBox, 963
lightButton, 963
lightWrapBox, 963
lockBox, 963
lockButton, 963
macroTab, 963
mb2Box, 963
mb2Button, 963
mbBox, 964
mbButton, 964
mediaBox, 964
mediaButton, 964
modBox, 964
modButton, 964
modeBox, 964
modeButton, 965
modeWrapBox, 965
mouseTab, 965
numBox, 965
numButton, 965
progTipLabel, 967
programKpBox, 965
programKpButton, 965
programKpExtra, 965
programKpModeBox, 966
programKpSIBox, 966
programKrBox, 966
programKrButton, 966
programKrExtra, 966
programKrModeBox, 966
programKrSIBox, 966
programTab, 966
pteMacroBox, 967
pteMacroComment, 967
pteMacroText, 967
rb_delay_asTyped, 967
rb_delay_default, 967
rb_delay_no, 967
resetButton, 968
retranslateUi, 942
setupUi, 945
tabWidget, 968
txtBuffer, 968
typingBox, 968
typingButton, 968
unbindButton, 968
verticalLayout, 968
verticalLayout_2, 968
verticalSpacer, 968
verticalSpacer_10, 969
verticalSpacer_11, 969
verticalSpacer_2, 969
verticalSpacer_3, 969
verticalSpacer_4, 969
verticalSpacer_5, 969
verticalSpacer_6, 969
verticalSpacer_7, 969
verticalSpacer_8, 969
wheelBox, 970
wheelButton, 970
Ui::SettingsWidget, 1023
altBox, 1030

altLabel, 1030
autoFWBox, 1030
capsBox, 1030
capsLabel, 1030
ctrlBox, 1031
ctrlLabel, 1031
devicesLabel, 1031
extraButton, 1031
gridLayout, 1031
gridLayout_3, 1031
gridLayout_5, 1031
horizontalLayout, 1031
horizontalLayout_2, 1031
horizontalSpacer, 1032
horizontalSpacer_10, 1032
horizontalSpacer_2, 1032
horizontalSpacer_7, 1032
horizontalSpacer_9, 1032
label, 1032
label_2, 1032
label_3, 1032
label_5, 1032
label_6, 1033
label_8, 1033
layoutBox, 1033
line, 1033
line_2, 1033
line_3, 1033
loginItemBox, 1033
pushButton, 1033
retranslateUi, 1025
setupUi, 1026
shiftBox, 1033
shiftLabel, 1034
versionLabel, 1034
verticalSpacer, 1034
verticalSpacer_10, 1034
verticalSpacer_2, 1034
verticalSpacer_3, 1034
verticalSpacer_4, 1034
verticalSpacer_5, 1034
verticalSpacer_6, 1034
verticalSpacer_7, 1035
verticalSpacer_8, 1035
winBox, 1035
winLabel, 1035
Ui_AnimAddDialog, 1038
animBox, 1041
buttonBox, 1041
gridLayout, 1041
horizontalLayout, 1041
horizontalSpacer, 1041
horizontalSpacer_2, 1041
label, 1042
label_2, 1042
presetBox, 1042
previewBox, 1042
retranslateUi, 1039
setupUi, 1039
verticalSpacer_2, 1042
verticalSpacer_3, 1042
Ui_AnimSettingDialog, 1042
animName, 1049
buttonBox, 1049
delayBox, 1050
gridLayout, 1050
gridLayout_2, 1050
horizontalSpacer, 1050
horizontalSpacer_2, 1050
horizontalSpacer_3, 1050
horizontalSpacer_4, 1050
horizontalSpacer_5, 1050
horizontalSpacer_6, 1050
infoTab, 1050
kpDelayBox, 1051
kpModeStopBox, 1051
kpReleaseBox, 1051
kpRepeatBox, 1051
kpRepeatLabel, 1051
kpRepeatLabel_2, 1051
label, 1051
label_10, 1051
label_11, 1051
label_12, 1052
label_13, 1052
label_2, 1052
label_3, 1052
label_4, 1052
label_5, 1052
label_6, 1052
label_7, 1052
label_8, 1052
label_9, 1053
line, 1053
line_2, 1053
repeatBox, 1053
repeatLabel, 1053
repeatLabel_2, 1053
retranslateUi, 1045
sAuthorLabel, 1053
sDescLabel, 1053
sLicenseLabel, 1054
sNameLabel, 1054
sVerLabel, 1054
sYearLabel, 1054
settingTab, 1054
settingsGrid, 1053
setupUi, 1046
tabWidget, 1054
timeGrid, 1054
timeTab, 1054
verticalSpacer, 1054
verticalSpacer_2, 1055
verticalSpacer_3, 1055
Ui_ExtraSettingsWidget, 1055
animCountLabel, 1062

animPathLabel, 1062
animScanButton, 1063
brightnessBox, 1063
buttonBox, 1063
delayBox, 1063
ditherBox, 1063
fpsBox, 1063
fpsWarnLabel, 1063
gridLayout, 1063
horizontalLayout, 1063
horizontalLayout_2, 1064
horizontalSpacer, 1064
horizontalSpacer_2, 1064
horizontalSpacer_3, 1064
label, 1064
label_10, 1064
label_11, 1064
label_2, 1064
label_3, 1064
label_5, 1065
label_6, 1065
line, 1065
line_2, 1065
line_3, 1065
mAccelBox, 1065
osxLabel, 1065
osxLine, 1065
retranslateUi, 1058
sAccelBox, 1065
sSpeedBox, 1066
sSpeedWidget, 1066
setupUi, 1059
trayBox, 1066
verticalSpacer, 1066
verticalSpacer_10, 1066
verticalSpacer_11, 1066
verticalSpacer_2, 1066
verticalSpacer_3, 1066
verticalSpacer_4, 1066
verticalSpacer_5, 1067
verticalSpacer_6, 1067
verticalSpacer_7, 1067
verticalSpacer_8, 1067
verticalSpacer_9, 1067
Ui_FwUpgradeDialog, 1067
actionButton, 1071
cancelButton, 1072
curLabel, 1072
devLabel, 1072
gridLayout, 1072
gridLayout_2, 1072
horizontalSpacer, 1072
horizontalSpacer_2, 1072
horizontalSpacer_3, 1072
horizontalSpacer_4, 1072
label_2, 1073
label_4, 1073
newLabel, 1073
progressBar, 1073
retranslateUi, 1069
setupUi, 1069
statusLabel, 1073
Ui_GradientDialog, 1073
buttonBox, 1078
gridLayout, 1078
gridLayout_2, 1078
gridLayout_3, 1078
groupBox_2, 1079
horizontalLayout, 1079
horizontalLayout_2, 1079
horizontalSpacer, 1079
horizontalSpacer_2, 1079
horizontalSpacer_3, 1079
label, 1079
label_2, 1079
presetDelete, 1079
presetList, 1079
presetName, 1080
presetSave, 1080
retranslateUi, 1075
setupUi, 1076
stopBox, 1080
stopColor, 1080
stopOpacity, 1080
stopPos, 1080
verticalSpacer, 1080
verticalSpacer_2, 1080
widget, 1080
Ui_KPerfWidget, 1118
capsBox, 1128
capsColorOff, 1128
capsColorOn, 1129
copyButton, 1129
gridLayout, 1129
horizontalLayout, 1129
horizontalLayout_2, 1129
horizontalSpacer, 1129
horizontalSpacer_2, 1129
horizontalSpacer_3, 1129
horizontalSpacer_4, 1129
horizontalSpacer_5, 1130
horizontalSpacer_6, 1130
horizontalSpacer_7, 1130
horizontalSpacer_8, 1130
intensityBox, 1130
k95Label1, 1130
k95Label2, 1130
k95Label3, 1130
k95Label4, 1130
k95Label5, 1131
k95Label6, 1131
k95Line, 1131
k95Spacer, 1131
label, 1131
label_10, 1131
label_11, 1131

label_12, 1131
label_14, 1131
label_15, 1132
label_16, 1132
label_17, 1132
label_18, 1132
label_19, 1132
label_2, 1132
label_20, 1132
label_21, 1132
label_22, 1132
label_23, 1133
label_24, 1133
label_3, 1133
label_4, 1133
label_5, 1133
label_6, 1133
label_7, 1133
label_8, 1133
lightBox, 1133
lightColor1, 1134
lightColor2, 1134
lightColor3, 1134
line, 1134
line_2, 1134
line_3, 1134
lockBox, 1134
lockColorOff, 1134
lockColorOn, 1134
macroBox, 1135
macroColorOff, 1135
macroColorOn, 1135
modeBox, 1135
modeColorOff, 1135
modeColorOn, 1135
muteBox, 1135
muteColorNA, 1135
muteColorOff, 1135
muteColorOn, 1136
numBox, 1136
numColorOff, 1136
numColorOn, 1136
retranslateUi, 1121
scrollBox, 1136
scrollColorOff, 1136
scrollColorOn, 1136
setupUi, 1122
verticalSpacer, 1136
verticalSpacer_2, 1136
verticalSpacer_3, 1137
verticalSpacer_4, 1137
Ui_KbAnimWidget, 1081
aCopyLabel, 1086
aMissingLabel, 1086
aMissingPage, 1086
aNameLabel, 1086
aVerLabel, 1087
animList, 1086
animPage, 1087
blendBox, 1087
deleteButton, 1087
gridLayout, 1087
gridLayout_2, 1087
gridLayout_3, 1087
gridLayout_4, 1087
horizontalLayout, 1087
horizontalSpacer, 1088
horizontalSpacer_2, 1088
horizontalSpacer_3, 1088
horizontalSpacer_4, 1088
horizontalSpacer_5, 1088
keyButton, 1088
label_5, 1088
label_6, 1088
label_7, 1088
nameBox, 1089
noAnimLabel, 1089
noSelPage, 1089
opacityBox, 1089
propertyButton, 1089
retranslateUi, 1083
selectionStack, 1089
setupUi, 1083
verticalLayout, 1089
verticalSpacer, 1089
verticalSpacer_2, 1089
verticalSpacer_3, 1090
Ui_KbBindWidget, 1090
copyButton, 1094
gridLayout, 1094
gridLayout_2, 1094
horizontalLayout_2, 1095
horizontalSpacer, 1095
horizontalSpacer_2, 1095
keyWidget, 1095
label, 1095
label_2, 1095
line, 1095
line_2, 1095
rbWidget, 1095
resetButton, 1096
retranslateUi, 1092
selectLabel, 1096
setupUi, 1092
verticalLayout, 1096
verticalSpacer, 1096
widget, 1096
Ui_KbLightWidget, 1096
animButton, 1101
animWidget, 1102
bgButton, 1102
brightnessBox, 1102
gridLayout, 1102
gridLayout_2, 1102
gridLayout_4, 1102
horizontalLayout, 1102

horizontalLayout_2, 1102
horizontalLayout_3, 1102
horizontalSpacer_3, 1102
horizontalSpacer_4, 1103
horizontalSpacer_5, 1103
horizontalSpacer_6, 1103
keyWidget, 1103
label, 1103
label_2, 1103
label_3, 1103
line, 1103
line_2, 1103
retranslateUi, 1098
selLabel, 1104
setupUi, 1099
showAnimBox, 1104
verticalLayout, 1104
verticalSpacer_2, 1104
verticalSpacer_3, 1104
widget, 1104
Ui_KbProfileDialog, 1104
buttonBox, 1107
gridLayout, 1107
horizontalSpacer, 1108
horizontalSpacer_2, 1108
profileList, 1108
retranslateUi, 1106
setupUi, 1106
Ui_KbWidget, 1108
bindTab, 1114
bindWidget, 1114
devTab, 1114
fwLabel, 1114
fwUpdButton, 1114
fwUpdLabel, 1114
fwUpdLayout, 1115
gridLayout, 1115
gridLayout_2, 1115
gridLayout_3, 1115
gridLayout_4, 1115
gridLayout_5, 1115
gridLayout_7, 1115
horizontalSpacer_2, 1115
horizontalSpacer_3, 1115
hwSaveButton, 1116
kPerfTab, 1116
kPerfWidget, 1116
label_3, 1116
label_4, 1116
label_9, 1116
lightTab, 1116
lightWidget, 1116
mPerfTab, 1117
mPerfWidget, 1117
modesList, 1116
pollLabel, 1117
pollLabel2, 1117
profileBox, 1117
retranslateUi, 1110
serialLabel, 1117
setupUi, 1111
tabWidget, 1117
verticalSpacer, 1117
Ui_LayoutDialog, 1137
buttonBox, 1141
comboBox, 1141
gridLayout, 1141
horizontalSpacer, 1141
horizontalSpacer_2, 1141
label, 1141
label_2, 1142
retranslateUi, 1139
setupUi, 1139
verticalSpacer, 1142
verticalSpacer_2, 1142
verticalSpacer_3, 1142
verticalSpacer_4, 1142
Ui_MPerfWidget, 1150
aSnapBox, 1161
copyButton, 1161
eBox1, 1161
eBox2, 1161
eBox3, 1161
eBox4, 1161
eBox5, 1162
gridLayout, 1162
horizontalLayout, 1162
horizontalLayout_2, 1162
horizontalLayout_4, 1162
horizontalSpacer, 1162
horizontalSpacer_2, 1162
horizontalSpacer_3, 1162
horizontalSpacer_4, 1162
horizontalSpacer_5, 1163
horizontalSpacer_6, 1163
horizontalSpacer_7, 1163
iButton0, 1163
iButton1, 1163
iButton2, 1163
iButton3, 1163
iButton4, 1163
iButton5, 1163
iButtonO, 1164
indicBox, 1164
lHeightBox, 1165
label, 1164
label_11, 1164
label_12, 1164
label_13, 1164
label_14, 1164
label_15, 1164
label_2, 1164
label_25, 1165
label_3, 1165
label_4, 1165
label_5, 1165

label_6, 1165
label_7, 1165
label_8, 1165
line, 1165
line_2, 1166
line_3, 1166
retranslateUi, 1153
setupUi, 1154
spinBox, 1166
verticalLayout, 1166
verticalSpacer, 1166
verticalSpacer_2, 1166
verticalSpacer_3, 1166
xBox0, 1166
xBox1, 1166
xBox2, 1167
xBox3, 1167
xBox4, 1167
xBox5, 1167
xSlider0, 1167
xSlider1, 1167
xSlider2, 1167
xSlider3, 1167
xSlider4, 1167
xSlider5, 1168
xyBox, 1168
yBox0, 1168
yBox1, 1168
yBox2, 1168
yBox3, 1168
yBox4, 1168
yBox5, 1168
ySlider0, 1168
ySlider1, 1169
ySlider2, 1169
ySlider3, 1169
ySlider4, 1169
ySlider5, 1169
Ui_MainWindow, 1142
actionAbout, 1145
actionExit, 1145
centralWidget, 1145
gridLayout, 1145
retranslateUi, 1144
setupUi, 1144
tabWidget, 1146
Ui_ModeSelectDialog, 1146
buttonBox, 1149
gridLayout, 1149
label, 1149
modeList, 1149
retranslateUi, 1147
selAllButton, 1149
selNoneButton, 1150
setupUi, 1148
Ui_RebindWidget, 1169
actionTab, 1185
animBox, 1185
animButton, 1185
animKrBox, 1185
animOnceBox, 1186
animTab, 1186
applyButton, 1186
btnClearMacro, 1186
btnStartMacro, 1186
btnStopMacro, 1186
cancelButton, 1186
delayButtons, 1186
dpiBox, 1186
dpiButton, 1187
dpiCustLabel, 1187
dpiCustXBox, 1187
dpiCustYBox, 1187
dpiWarning, 1187
fnBox, 1187
fnButton, 1187
gridLayout, 1187
gridLayout_10, 1188
gridLayout_2, 1188
gridLayout_3, 1188
gridLayout_4, 1188
gridLayout_5, 1188
gridLayout_8, 1188
groupBox_2, 1188
groupBox_3, 1188
groupBox_4, 1188
horizontalLayout, 1189
horizontalLayout_2, 1189
horizontalLayout_3, 1189
horizontalSpacer, 1189
horizontalSpacer_10, 1189
horizontalSpacer_11, 1189
horizontalSpacer_12, 1189
horizontalSpacer_13, 1189
horizontalSpacer_14, 1189
horizontalSpacer_15, 1190
horizontalSpacer_16, 1190
horizontalSpacer_17, 1190
horizontalSpacer_18, 1190
horizontalSpacer_19, 1190
horizontalSpacer_2, 1190
horizontalSpacer_20, 1190
horizontalSpacer_21, 1190
horizontalSpacer_22, 1190
horizontalSpacer_23, 1191
horizontalSpacer_24, 1191
horizontalSpacer_25, 1191
horizontalSpacer_26, 1191
horizontalSpacer_3, 1191
horizontalSpacer_4, 1191
horizontalSpacer_5, 1191
horizontalSpacer_6, 1191
horizontalSpacer_7, 1191
horizontalSpacer_8, 1192
horizontalSpacer_9, 1192
keyTab, 1192

label, 1192
layoutWidget, 1192
layoutWidget1, 1192
layoutWidget2, 1192
layoutWidget_2, 1192
lbl_macro, 1192
lightBox, 1193
lightButton, 1193
lightWrapBox, 1193
lockBox, 1193
lockButton, 1193
macroTab, 1193
mb2Box, 1193
mb2Button, 1193
mbBox, 1194
mbButton, 1194
mediaBox, 1194
mediaButton, 1194
modBox, 1194
modButton, 1194
modeBox, 1194
modeButton, 1194
modeWrapBox, 1195
mouseTab, 1195
numBox, 1195
numButton, 1195
progTipLabel, 1196
programKpBox, 1195
programKpButton, 1195
programKpExtra, 1195
programKpModeBox, 1195
programKpSIBox, 1196
programKrBox, 1196
programKrButton, 1196
programKrExtra, 1196
programKrModeBox, 1196
programKrSIBox, 1196
programTab, 1196
pteMacroBox, 1196
pteMacroComment, 1197
pteMacroText, 1197
rb_delay_asTyped, 1197
rb_delay_default, 1197
rb_delay_no, 1197
resetButton, 1197
retranslateUi, 1173
setupUi, 1175
tabWidget, 1197
txtBuffer, 1197
typingBox, 1198
typingButton, 1198
unbindButton, 1198
verticalLayout, 1198
verticalLayout_2, 1198
verticalSpacer, 1198
verticalSpacer_10, 1198
verticalSpacer_11, 1198
verticalSpacer_2, 1198
verticalSpacer_3, 1199
verticalSpacer_4, 1199
verticalSpacer_5, 1199
verticalSpacer_6, 1199
verticalSpacer_7, 1199
verticalSpacer_8, 1199
wheelBox, 1199
wheelButton, 1199
Ui_SettingsWidget, 1200
altBox, 1207
altLabel, 1207
autoFWBox, 1207
capsBox, 1207
capsLabel, 1207
ctrlBox, 1207
ctrlLabel, 1207
devicesLabel, 1207
extraButton, 1208
gridLayout, 1208
gridLayout_3, 1208
gridLayout_5, 1208
horizontalLayout, 1208
horizontalLayout_2, 1208
horizontalSpacer, 1208
horizontalSpacer_10, 1208
horizontalSpacer_2, 1208
horizontalSpacer_7, 1209
horizontalSpacer_9, 1209
label, 1209
label_2, 1209
label_3, 1209
label_5, 1209
label_6, 1209
label_8, 1209
layoutBox, 1209
line, 1210
line_2, 1210
line_3, 1210
loginItemBox, 1210
pushButton, 1210
retranslateUi, 1202
setupUi, 1203
shiftBox, 1210
shiftLabel, 1210
versionLabel, 1210
verticalSpacer, 1210
verticalSpacer_10, 1211
verticalSpacer_2, 1211
verticalSpacer_3, 1211
verticalSpacer_4, 1211
verticalSpacer_5, 1211
verticalSpacer_6, 1211
verticalSpacer_7, 1211
verticalSpacer_8, 1211
winBox, 1211
winLabel, 1212
uiUpdated
KPerfWidget, 715

uinputopen
input_linux.c, 1332
unbind
devcmd.__unnamed__, 162
unbindButton
Ui::RebindWidget, 968
Ui_RebindWidget, 1198
uncompressedSize
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipFilePrivate, 920
QuaZipNewInfo, 929
unz64_file_pos_s, 1879
unz64_s, 1825
unz64_file_pos
unzip.h, 1882
unz64local_CheckCurrentFileCoherencyHeader
unzip.c, 1828
unz64local_DosDateToTmuDate
unzip.c, 1830
unz64local_GetCurrentFileInfoInternal
unzip.c, 1831
unz64local_SearchCentralDir
unzip.c, 1838
unz64local_SearchCentralDir64
unzip.c, 1839
unz64local_getByte
unzip.c, 1831
unz64local_getLong
unzip.c, 1835
unz64local_getLong64
unzip.c, 1836
unz64local_getShort
unzip.c, 1837
unz_file_info64_internal_s, 1824
unz_file_info64_s, 1876
unz_file_info_s, 1877
unz_file_pos_s, 1879
unz_global_info64_s, 1874
unz_global_info_s, 1875
unz_copyright
unzip.c, 1871
unz_file_info
unzip.h, 1882
unz_file_info64
unzip.h, 1882
unz_file_info64_internal
unzip.c, 1828
unz_file_pos
unzip.h, 1882
unz_global_info
unzip.h, 1882
unz_global_info64
unzip.h, 1882
unzClearFlags
unzip.c, 1841
unzip.h, 1883
unzClose
unzip.c, 1842
unzCloseCurrentFile
unzip.c, 1843
unzFile
unzip.h, 1882
unzGetCurrentFileInfo
unzip.c, 1844
unzGetCurrentFileInfo64
unzip.c, 1845
unzGetCurrentFileZStreamPos64
unzip.c, 1846
unzGetFilePos
unzip.c, 1846
unzip.h, 1883
unzGetFilePos64
unzip.c, 1847
unzip.h, 1884
unzGetGlobalComment
unzip.c, 1847
unzGetGlobalInfo
unzip.c, 1848
unzGetGlobalInfo64
unzip.c, 1848
unzGetLocalExtrafield
unzip.c, 1849
unzGetOffset
unzip.c, 1849
unzip.h, 1884
unzGetOffset64
unzip.c, 1850
unzip.h, 1885
unzGoToFilePos
unzip.c, 1850
unzip.h, 1885
unzGoToFilePos64
unzip.c, 1851
unzip.h, 1886
unzGoToFirstFile
unzip.c, 1852
unzGoToNextFile
unzip.c, 1853
unzLocateFile
unzip.c, 1854
unzOpen
unzip.c, 1855
unzOpen2
unzip.c, 1855
unzOpen2_64
unzip.c, 1856
unzOpen64
unzip.c, 1857
unzOpenCurrentFile
unzip.c, 1857
unzOpenCurrentFile2
unzip.c, 1858
unzOpenCurrentFile3
unzip.c, 1858
unzOpenCurrentFilePassword

unzip.c, 1861
unzOpenInternal
unzip.c, 1862
unzip.h, 1887
unzReadCurrentFile
unzip.c, 1865
unzSetFlags
unzip.c, 1868
unzip.h, 1890
unzSetOffset
unzip.c, 1869
unzip.h, 1891
unzSetOffset64
unzip.c, 1869
unzip.h, 1891
unzStringFileNameCompare
unzip.c, 1870
unzeof
unzip.c, 1844
unzip.c
_Z_OF, 1828
ALLOC, 1826
BUFREADCOMMENT, 1827
local, 1827
SIZECENTRALDIRITEM, 1827
SIZEZIPLOCALHEADER, 1827
strcmpcasenosensitive_internal, 1828
TRYFREE, 1827
UNZ_BUFSIZE, 1827
UNZ_MAXFILENAMEINZIP, 1827
unz64local_CheckCurrentFileCoherencyHeader, 1828
unz64local_DosDateToTmuDate, 1830
unz64local_GetCurrentFileInfoInternal, 1831
unz64local_SearchCentralDir, 1838
unz64local_SearchCentralDir64, 1839
unz64local_getByte, 1831
unz64local_getLong, 1835
unz64local_getLong64, 1836
unz64local_getShort, 1837
unz_copyright, 1871
unz_file_info64_internal, 1828
unzClearFlags, 1841
unzClose, 1842
unzCloseCurrentFile, 1843
unzGetCurrentFileInfo, 1844
unzGetCurrentFileInfo64, 1845
unzGetCurrentFileZStreamPos64, 1846
unzGetFilePos, 1846
unzGetFilePos64, 1847
unzGetGlobalComment, 1847
unzGetGlobalInfo, 1848
unzGetGlobalInfo64, 1848
unzGetLocalExtrafield, 1849
unzGetOffset, 1849
unzGetOffset64, 1850
unzGoToFilePos, 1850
unzGoToFilePos64, 1851
unzGoToFirstFile, 1852
unzGoToNextFile, 1853
unzLocateFile, 1854
unzOpen, 1855
unzOpen2, 1855
unzOpen2_64, 1856
unzOpen64, 1857
unzOpenCurrentFile, 1857
unzOpenCurrentFile2, 1858
unzOpenCurrentFile3, 1858
unzOpenCurrentFilePassword, 1861
unzOpenInternal, 1862
unzReadCurrentFile, 1865
unzSetFlags, 1868
unzSetOffset, 1869
unzSetOffset64, 1869
unzStringFileNameCompare, 1870
unzeof, 1844
unztell, 1870
unztell64, 1871
z_crc_t, 1828
unzip.h
_Z_OF, 1882, 1883
tm_unz, 1882
UNZ_AUTO_CLOSE, 1880
UNZ_BADZIPFILE, 1880
UNZ_CRCERROR, 1880
UNZ_DEFAULT_FLAGS, 1880
UNZ_EOF, 1881
UNZ_ERRNO, 1881
UNZ_INTERNALERROR, 1881
UNZ_OK, 1881
UNZ_PARAMERROR, 1881
unz64_file_pos, 1882
unz_file_info, 1882
unz_file_info64, 1882
unz_file_pos, 1882
unz_global_info, 1882
unz_global_info64, 1882
unzClearFlags, 1883
unzFile, 1882
unzGetFilePos, 1883
unzGetFilePos64, 1884
unzGetOffset, 1884
unzGetOffset64, 1885
unzGoToFilePos, 1885
unzGoToFilePos64, 1886
unzOpenInternal, 1887
unzSetFlags, 1890
unzSetOffset, 1891
unzSetOffset64, 1891
Z_BZIP2ED, 1881
unztell
unzip.c, 1870
unztell64
unzip.c, 1871
update
KbBind, 392

KbPerf, 535
QuaAdler32, 811
QuaChecksum32, 813
QuaCrc32, 817
update_keys
crypt.h, 1773
updateBind
KbBindWidget, 411
updateFwButton
KbWidget, 590
updateImage
ColorButton, 149
GradientButton, 205
updateLayout
Kb, 305
updateLight
KbLightWidget, 476
updateMapper
AnimSettingDialog, 119
KPerfWidget, 717
updateModifiers
SettingsWidget, 1021
updateParam
AnimSettingDialog, 114
updateParams
KbAnim, 335
updatePresets
GradientDialog, 225
updateProfileList
KbWidget, 591
updateSelDisplay
KbBindWidget, 413
updateStops
AnimSettingDialog, 117
updateVersion
MainWindow, 750
updateconnected
devnode.c, 1268
devnode.h, 1277
updated
KbBind, 394
KbLight, 454
KbMode, 503
updatedpi
devcmd.__unnamed__, 162
dpi.c, 1282
dpi.h, 1288
updateindicators
devcmd.__unnamed__, 162
updateindicators_kb
input.c, 1314
input.h, 1326
updatergb
devcmd.__unnamed__, 162
updatergb_kb
led.h, 1354
led_keyboard.c, 1386
updatergb_mouse
led.h, 1355
led_mouse.c, 1391
url
KbFirmware::FW, 184
urlParam
animscript.cpp, 1640
urldecode
ckb-anim.h, 1669
urldecode2
profile.c, 1479
urlencode2
profile.c, 1480
usb.c
_resetusb, 1521
_setupusb, 1521
_usbrecv, 1525
_usbsend, 1527
closeusb, 1528
devmain, 1530
features_mask, 1537
get_vtable, 1532
hwload_mode, 1537
product_str, 1533
reset_stop, 1537
revertusb, 1534
setupusb, 1535
usb_tryreset, 1536
usbmutex, 1538
vendor_str, 1537
usb.h
_nk95cmd, 1551
_resetusb, 1553
_usbrecv, 1553
_usbsend, 1555
closeusb, 1557
DELAY_LONG, 1542
DELAY_MEDIUM, 1542
DELAY_SHORT, 1542
IS_FULLRANGE, 1542
IS_GLAIVE, 1543
IS_HARPOON, 1543
IS_K63, 1543
IS_K65, 1543
IS_K70, 1543
IS_K95, 1543
IS_M65, 1543
IS_MONOCHROME, 1543
IS_MONOCHROME_DEV, 1543
IS_MOUSE, 1544
IS_MOUSE_DEV, 1544
IS_NEW_PROTOCOL, 1544
IS_PLATINUM, 1544
IS_RGB, 1544
IS_RGB_DEV, 1544
IS_SABRE, 1544
IS_SCIMITAR, 1544
IS_STRAFE, 1544
NK95_HWOFF, 1545

NK95_HWON, 1545
NK95_M1, 1545
NK95_M2, 1545
NK95_M3, 1545
nk95cmd, 1545
os_closeusb, 1558
os_inputmain, 1559
os_resetusb, 1563
os_sendindicators, 1564
os_setupusb, 1565
os_usbrecv, 1567
os_usbsend, 1568
P_GLAIVE, 1545
P_GLAIVE_STR, 1545
P_HARPOON, 1545
P_HARPOON_STR, 1546
P_K63_NRGB, 1546
P_K63_NRGB_STR, 1546
P_K65, 1546
P_K65_LUX, 1546
P_K65_LUX_STR, 1546
P_K65_NRGB, 1546
P_K65_NRGB_STR, 1546
P_K65_RFIRE, 1546
P_K65_RFIRE_STR, 1546
P_K65_STR, 1547
P_K70, 1547
P_K70_LUX, 1547
P_K70_LUX_NRGB, 1547
P_K70_LUX_NRGB_STR, 1547
P_K70_LUX_STR, 1547
P_K70_NRGB, 1547
P_K70_NRGB_STR, 1547
P_K70_RFIRE, 1547
P_K70_RFIRE_NRGB, 1547
P_K70_RFIRE_STR, 1548
P_K70_STR, 1548
P_K95, 1548
P_K95_NRGB, 1548
P_K95_NRGB_STR, 1548
P_K95_PLATINUM, 1548
P_K95_PLATINUM_STR, 1548
P_K95_STR, 1548
P_M65, 1548
P_M65_PRO, 1548
P_M65_PRO_STR, 1549
P_M65_STR, 1549
P_SABRE_L, 1549
P_SABRE_L_STR, 1549
P_SABRE_N, 1549
P_SABRE_N_STR, 1549
P_SABRE_O, 1549
P_SABRE_O2, 1549
P_SABRE_O2_STR, 1549
P_SABRE_O_STR, 1549
P_SCIMITAR, 1549
P_SCIMITAR_PRO, 1550
P_SCIMITAR_PRO_STR, 1550
P_SCIMITAR_STR, 1550
P_STRAFE, 1550
P_STRAFE_NRGB, 1550
P_STRAFE_NRGB_STR, 1550
P_STRAFE_STR, 1550
product_str, 1571
resetusb, 1550
revertusb, 1573
setupusb, 1574
USB_DELAY_DEFAULT, 1550
usb_tryreset, 1575
usbkill, 1576
usbmain, 1577
usbrecv, 1550
usbsend, 1551
V_CORSAIR, 1551
V_CORSAIR_STR, 1551
vendor_str, 1578
usb_add_device
usb_linux.c, 1596
usb_linux.c
_nk95cmd, 1582
DEBUG, 1581
kbsyspath, 1604
models, 1604
N_MODELS, 1581
os_closeusb, 1583
os_inputmain, 1583
os_resetusb, 1587
os_sendindicators, 1588
os_setupusb, 1589
os_usbrecv, 1591
os_usbsend, 1592
strtrim, 1594
TEST_RESET, 1581
udev, 1605
udev_enum, 1594
udevthread, 1605
usb_add_device, 1596
usb_rm_device, 1597
usbadd, 1598
usbclaim, 1599
usbkill, 1601
usbmain, 1601
usbthread, 1605
usbunclaim, 1603
usb_rm_device
usb_linux.c, 1597
usb_tryreset
usb.c, 1536
usb.h, 1575
UsbId, 1212
guid, 1216
guidString, 1213, 1214
hwModified, 1216
hwModifiedString, 1214
modified, 1216
modifiedString, 1215

newGuid, 1215
newModified, 1215
UsbId, 1213
UsbId, 1213
usbModel
Kb, 310
usbSerial
Kb, 311
usbadd
usb_linux.c, 1598
usbclaim
usb_linux.c, 1599
usbdevice, 1513
usbid, 1503
usbinput, 1512
usbkill
usb.h, 1576
usb_linux.c, 1601
usbmain
usb.h, 1577
usb_linux.c, 1601
usbmode, 1509
usbmutex
usb.c, 1538
usbprofile, 1510
usbrecv
usb.h, 1550
usbsend
usb.h, 1551
usbthread
usb_linux.c, 1605
usbunclaim
usb_linux.c, 1603
useopacity
ckb-random/main.c, 1435
ushort
includes.h, 1301
usize
QuaZipFile, 903
utf16to8
profile.c, 1480
utf8to16
profile.c, 1481

V_CORSAIR
usb.h, 1551
V_CORSAIR_STR
usb.h, 1551
VERSIONMADEBY
zip.c, 1900
value
CkbSettings, 137
KeyAction, 633
QuaAdler32, 811
QuaChecksum32, 813
QuaCrc32, 817
vendor_str
usb.c, 1537
usb.h, 1578
verifyFw
fwupgradedialog.cpp, 1682
version
AnimScript, 82
versionCreated
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
versionForBoard
KbFirmware, 424
versionLabel
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1210
versionNeeded
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
versionUpdated
KbManager, 489
verticalLayout
Ui::KbAnimWidget, 347
Ui::KbBindWidget, 402
Ui::KbLightWidget, 464
Ui::MPerfWidget, 777
Ui::RebindWidget, 968
Ui_KbAnimWidget, 1089
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1104
Ui_MPerfWidget, 1166
Ui_RebindWidget, 1198
verticalLayout_2
Ui::RebindWidget, 968
Ui_RebindWidget, 1198
verticalSpacer
Ui::AnimSettingDialog, 98
Ui::ExtraSettingsWidget, 173
Ui::GradientDialog, 213
Ui::KbAnimWidget, 347
Ui::KbBindWidget, 403
Ui::KbWidget, 602
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 968
Ui::SettingsWidget, 1034
Ui_AnimSettingDialog, 1054
Ui_ExtraSettingsWidget, 1066
Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1089
Ui_KbBindWidget, 1096
Ui_KbWidget, 1117
Ui_KPerfWidget, 1136
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1166
Ui_RebindWidget, 1198
Ui_SettingsWidget, 1210
verticalSpacer_10
Ui::ExtraSettingsWidget, 173
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034

Ui_ExtraSettingsWidget, 1066
Ui_RebindWidget, 1198
Ui_SettingsWidget, 1211
verticalSpacer_11
Ui::ExtraSettingsWidget, 173
Ui::RebindWidget, 969
Ui_ExtraSettingsWidget, 1066
Ui_RebindWidget, 1198
verticalSpacer_2
Ui::AnimAddDialog, 48
Ui::AnimSettingDialog, 98
Ui::ExtraSettingsWidget, 174
Ui::GradientDialog, 214
Ui::KbAnimWidget, 347
Ui::KbLightWidget, 464
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1055
Ui_ExtraSettingsWidget, 1066
Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1089
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1136
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1166
Ui_RebindWidget, 1198
Ui_SettingsWidget, 1211
verticalSpacer_3
Ui::AnimAddDialog, 48
Ui::AnimSettingDialog, 99
Ui::ExtraSettingsWidget, 174
Ui::KbAnimWidget, 347
Ui::KbLightWidget, 464
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1055
Ui_ExtraSettingsWidget, 1066
Ui_KbAnimWidget, 1090
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1137
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1166
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_4
Ui::ExtraSettingsWidget, 174
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034
Ui_ExtraSettingsWidget, 1066
Ui_KPerfWidget, 1137
Ui_LayoutDialog, 1142
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_5
Ui::ExtraSettingsWidget, 174
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_6
Ui::ExtraSettingsWidget, 174
Ui::RebindWidget, 969
Ui::SettingsWidget, 1034
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_7
Ui::ExtraSettingsWidget, 174
Ui::RebindWidget, 969
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_8
Ui::ExtraSettingsWidget, 174
Ui::RebindWidget, 969
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_9
Ui::ExtraSettingsWidget, 174
Ui_ExtraSettingsWidget, 1067
vtable_keyboard
device_vtable.c, 1255
structures.h, 1519
vtable_keyboard_nonrgb
device_vtable.c, 1255
structures.h, 1519
vtable_mouse
device_vtable.c, 1255
structures.h, 1519

wheelBox
Ui::RebindWidget, 970
Ui_RebindWidget, 1199
wheelButton
Ui::RebindWidget, 970
Ui_RebindWidget, 1199
wheelKeys
RebindWidget, 1006
widget
Ui::GradientDialog, 214
Ui::KbBindWidget, 403
Ui::KbLightWidget, 464
Ui_GradientDialog, 1080

Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1104
width
ckb-wave/main.c, 1449
Key, 606
KeyMap, 660
winBox
Ui::SettingsWidget, 1035
Ui_SettingsWidget, 1211
winLabel
Ui::SettingsWidget, 1035
Ui_SettingsWidget, 1212
winLock
KbBind, 394, 395
Write_EndOfCentralDirectoryRecord
zip.c, 1908
Write_GlobalComment
zip.c, 1909
Write_LocalFileHeader
zip.c, 1910
Write_Zip64EndOfCentralDirectoryLocator
zip.c, 1912
Write_Zip64EndOfCentralDirectoryRecord
zip.c, 1913
writeCache
CkbSettings, 139
writeData
QuaGzipFile, 823
QuaZIODevice, 831
QuaZipFile, 904
writePos
QuaZipFilePrivate, 920
writeProfileHeader
Kb, 306

x
ckb-pinwheel/main.c, 1423
Key, 606
x_offset
ckb-pinwheel/main.c, 1424
ckb-ripple/main.c, 1441
xBox0
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1166
xBox1
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1166
xBox2
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1167
xBox3
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1167
xBox4
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xBox5
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider0
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider1
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider2
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider3
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider4
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1167
xSlider5
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xyBox
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xyLinkPath
mperfwidget.cpp, 1768

y
ckb-pinwheel/main.c, 1424
Key, 606
YES
KbFirmware, 417
y_offset
ckb-pinwheel/main.c, 1424
ckb-ripple/main.c, 1441
yBox0
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
yBox1
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
yBox2
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
yBox3
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
yBox4
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
yBox5
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
ySlider0
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1168
ySlider1
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
ySlider2
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169

ySlider3
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1169
ySlider4
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1169
ySlider5
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1169
year
AnimScript, 82

Z_BUFSIZE
zip.c, 1900
Z_BZIP2ED
unzip.h, 1881
zip.h, 1953
Z_MAXFILENAMEINZIP
zip.c, 1900
z_crc_t
unzip.c, 1828
zip.c, 1901
ZCALLBACK
ioapi.h, 1778
ZCLOSE64
ioapi.h, 1778
ZERROR64
ioapi.h, 1778
ZFAKECLOSE64
ioapi.h, 1778
ZIP64ENDHEADERMAGIC
zip.c, 1900
ZIP64ENDLOCHEADERMAGIC
zip.c, 1901
ZIP_AUTO_CLOSE
zip.h, 1953
ZIP_BADZIPFILE
zip.h, 1953
ZIP_DEFAULT_FLAGS
zip.h, 1953
ZIP_EOF
zip.h, 1953
ZIP_ERRNO
zip.h, 1953
ZIP_INTERNALERROR
zip.h, 1953
ZIP_OK
zip.h, 1953
ZIP_PARAMERROR
zip.h, 1954
ZIP_SEQUENTIAL
zip.h, 1954
ZOPEN64
ioapi.h, 1779
ZPOS64_T
ioapi.h, 1780
ZREAD64
ioapi.h, 1779
ZSEEK64
ioapi.h, 1779
ZTELL64
ioapi.h, 1780
ZWRITE64
ioapi.h, 1780
zdecode
crypt.h, 1772
zencode
crypt.h, 1772
zip
QuaZipFilePrivate, 920
zip.c
_Z_OF, 1901
ALLOC, 1898
add_data_in_datablock, 1901
allocate_new_datablock, 1902
BUFREADCOMMENT, 1899
CENTRALHEADERMAGIC, 1899
DESCRIPTORHEADERMAGIC, 1899
ENDHEADERMAGIC, 1899
free_datablock, 1903
free_linkedlist, 1903
init_linkedlist, 1904
LOCALHEADERMAGIC, 1899
linkedlist_data, 1901
linkedlist_datablock_internal, 1901
LoadCentralDirectoryRecord, 1905
local, 1899
MAKEULONG64, 1899
SEEK_CUR, 1900
SEEK_END, 1900
SEEK_SET, 1900
SIZECENTRALHEADER, 1900
SIZEDATA_INDATABLOCK, 1900
TRYFREE, 1900
VERSIONMADEBY, 1900
Write_EndOfCentralDirectoryRecord, 1908
Write_GlobalComment, 1909
Write_LocalFileHeader, 1910
Write_Zip64EndOfCentralDirectoryLocator, 1912
Write_Zip64EndOfCentralDirectoryRecord, 1913
Z_BUFSIZE, 1900
Z_MAXFILENAMEINZIP, 1900
z_crc_t, 1901
ZIP64ENDHEADERMAGIC, 1900
ZIP64ENDLOCHEADERMAGIC, 1901
zip64FlushWriteBuffer, 1914
zip64local_SearchCentralDir, 1920
zip64local_SearchCentralDir64, 1921
zip64local_TmzDateToDosDate, 1923
zip64local_getByte, 1915
zip64local_getLong, 1916
zip64local_getLong64, 1917
zip64local_getShort, 1918
zip64local_putValue, 1919
zip64local_putValue_inmemory, 1920
zip_copyright, 1948
zipClearFlags, 1924

zipClose, 1924
zipCloseFileInZip, 1926
zipCloseFileInZipRaw, 1927
zipCloseFileInZipRaw64, 1927
zipOpen, 1932
zipOpen2, 1932
zipOpen2_64, 1933
zipOpen3, 1934
zipOpen64, 1936
zipOpenNewFileInZip, 1937
zipOpenNewFileInZip2, 1937
zipOpenNewFileInZip2_64, 1938
zipOpenNewFileInZip3, 1938
zipOpenNewFileInZip3_64, 1939
zipOpenNewFileInZip4, 1939
zipOpenNewFileInZip4_64, 1940
zipOpenNewFileInZip64, 1944
zipRemoveExtraInfoBlock, 1944
zipSetFlags, 1945
zipWriteInFileInZip, 1946
zip.h
_Z_OF, 1954, 1955
DEF_MEM_LEVEL, 1953
tm_zip, 1954
Z_BZIP2ED, 1953
ZIP_AUTO_CLOSE, 1953
ZIP_BADZIPFILE, 1953
ZIP_DEFAULT_FLAGS, 1953
ZIP_EOF, 1953
ZIP_ERRNO, 1953
ZIP_INTERNALERROR, 1953
ZIP_OK, 1953
ZIP_PARAMERROR, 1954
ZIP_SEQUENTIAL, 1954
zipClearFlags, 1955
zipFile, 1954
zipOpen3, 1956
zipSetFlags, 1958
zipcharpc, 1954
zip64
QuaZipPrivate, 938
zip64_internal, 1898
zip64FlushWriteBuffer
zip.c, 1914
zip64local_SearchCentralDir
zip.c, 1920
zip64local_SearchCentralDir64
zip.c, 1921
zip64local_TmzDateToDosDate
zip.c, 1923
zip64local_getByte
zip.c, 1915
zip64local_getLong
zip.c, 1916
zip64local_getLong64
zip.c, 1917
zip64local_getShort
zip.c, 1918
zip64local_putValue
zip.c, 1919
zip64local_putValue_inmemory
zip.c, 1920
zip_fileinfo, 1951
zip_copyright
zip.c, 1948
zipClearFlags
zip.c, 1924
zip.h, 1955
zipClose
zip.c, 1924
zipCloseFileInZip
zip.c, 1926
zipCloseFileInZipRaw
zip.c, 1927
zipCloseFileInZipRaw64
zip.c, 1927
zipError
QuaZipFilePrivate, 920
QuaZipPrivate, 938
zipFile
zip.h, 1954
zipName
QuaZipPrivate, 938
zipOpen
zip.c, 1932
zipOpen2
zip.c, 1932
zipOpen2_64
zip.c, 1933
zipOpen3
zip.c, 1934
zip.h, 1956
zipOpen64
zip.c, 1936
zipOpenNewFileInZip
zip.c, 1937
zipOpenNewFileInZip2
zip.c, 1937
zipOpenNewFileInZip2_64
zip.c, 1938
zipOpenNewFileInZip3
zip.c, 1938
zipOpenNewFileInZip3_64
zip.c, 1939
zipOpenNewFileInZip4
zip.c, 1939
zipOpenNewFileInZip4_64
zip.c, 1940
zipOpenNewFileInZip64
zip.c, 1944
zipRemoveExtraInfoBlock
zip.c, 1944
zipSetFlags
zip.c, 1945
zip.h, 1958
zipWriteInFileInZip

zip.c, 1946
zipcharpc
zip.h, 1954
zlib_filefunc64_32_def_s, 1777
zlib_filefunc64_def_s, 1776
zlib_filefunc_def_s, 1776
zlib_filefunc64_32_def
ioapi.h, 1780
zlib_filefunc64_def
ioapi.h, 1780
zlib_filefunc_def
ioapi.h, 1780