ckb-next

v0.2.8 at branch all-mine

Generated by Doxygen 1.8.6

Sat May 27 2017 17:07:17

Contents

1 ckb-next: RGB Driver for Linux and OS X **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 AnimAddDialog Class Reference 43

12.1.1 Detailed Description 44

12.1.2 Constructor & Destructor Documentation 44

12.1.2.1 AnimAddDialog 45

12.1.2.2 ∼AnimAddDialog 45

12.1.3 Member Function Documentation 45

12.1.3.1 chosenPreset 45

12.1.3.2 chosenScript 46

12.1.3.3 on_animBox_activated . . . 46
12.1.3.4 on_presetBox_activated . . . 47
12.1.3.5 on_previewBox_clicked . . . 48
12.1.4 Field Documentation . . . 48
12.1.4.1 _keys . . . 48
12.1.4.2 _light . . . 48
12.1.4.3 scripts . . . 48
12.1.4.4 showPreview . . . 49
12.1.4.5 ui . . . 49
12.2 Ui::AnimAddDialog Class Reference . . . 49
12.2.1 Detailed Description . . . 50
12.2.2 Member Function Documentation . . . 50
12.2.2.1 retranslateUi . . . 50
12.2.2.2 setupUi . . . 51
12.2.3 Field Documentation . . . 52
12.2.3.1 animBox . . . 52
12.2.3.2 buttonBox . . . 53
12.2.3.3 gridLayout . . . 53
12.2.3.4 horizontalLayout . . . 53
12.2.3.5 horizontalSpacer . . . 53
12.2.3.6 horizontalSpacer_2 . . . 53
12.2.3.7 label . . . 53
12.2.3.8 label_2 . . . 53
12.2.3.9 presetBox . . . 53
12.2.3.10 previewBox . . . 53
12.2.3.11 verticalSpacer_2 . . . 54
12.2.3.12 verticalSpacer_3 . . . 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 . . . 125
12.7.2 Constructor & Destructor Documentation . . . 125
12.7.2.1 CkbSettings . . . 125
12.7.2.2 CkbSettings . . . 126
12.7.2.3 CkbSettings . . . 126
12.7.2.4 ~CkbSettings . . . 126
12.7.3 Member Function Documentation . . . 126

12.7.3.1 beginGroup . . . 126
12.7.3.2 childGroups . . . 127
12.7.3.3 childKeys . . . 127
12.7.3.4 cleanUp . . . 128
12.7.3.5 contains . . . 129
12.7.3.6 containsGroup . . . 130
12.7.3.7 endGroup . . . 130
12.7.3.8 get . . . 131
12.7.3.9 informIfNonWritable . . . 132
12.7.3.10 isBusy . . . 132
12.7.3.11 isWritable . . . 133
12.7.3.12 pwd . . . 133
12.7.3.13 pwd . . . 134
12.7.3.14 remove . . . 135
12.7.3.15 set . . . 136
12.7.3.16 setValue . . . 137
12.7.3.17 setWritable . . . 138
12.7.3.18 value . . . 138
12.7.4 Field Documentation . . . 139
12.7.4.1 _writable . . . 140
12.7.4.2 backing . . . 140
12.7.4.3 groups . . . 140
12.7.4.4 removeCache . . . 140
12.7.4.5 writeCache . . . 140
12.8 CkbSettingsWriter Class Reference . . . 140
12.8.1 Detailed Description . . . 142
12.8.2 Constructor & Destructor Documentation . . . 142
12.8.2.1 CkbSettingsWriter . . . 142
12.8.2.2 ∼CkbSettingsWriter . . . 142
12.8.3 Member Function Documentation . . . 142
12.8.3.1 run . . . 142
12.8.4 Field Documentation . . . 143
12.8.4.1 _backing . . . 143
12.8.4.2 _removals . . . 143
12.8.4.3 _updates . . . 143
12.9 ColorButton Class Reference . . . 143
12.9.1 Detailed Description . . . 146
12.9.2 Constructor & Destructor Documentation . . . 146
12.9.2.1 ColorButton . . . 146
12.9.3 Member Function Documentation . . . 146

12.9.3.1 allowAlpha . . . 146
12.9.3.2 allowAlpha . . . 147
12.9.3.3 bigIcons . . . 147
12.9.3.4 bigIcons . . . 148
12.9.3.5 color . . . 148
12.9.3.6 color . . . 149
12.9.3.7 colorChanged . . . 150
12.9.3.8 pickColor . . . 150
12.9.3.9 setLabel . . . 151
12.9.3.10 setLabel . . . 151
12.9.3.11 updateImage . . . 151
12.9.4 Field Documentation . . . 152
12.9.4.1 _alpha . . . 152
12.9.4.2 _bigIcons . . . 152
12.9.4.3 _color . . . 152
12.9.4.4 _setLabel . . . 152
12.10 ColorMap Class Reference . . . 153
12.10.1 Detailed Description . . . 154
12.10.2 Constructor & Destructor Documentation . . . 154
12.10.2.1 ColorMap . . . 154
12.10.2.2 ~ColorMap . . . 154
12.10.2.3 ColorMap . . . 154
12.10.3 Member Function Documentation . . . 155
12.10.3.1 alloc . . . 155
12.10.3.2 clear . . . 155
12.10.3.3 colorForName . . . 156
12.10.3.4 colorForName . . . 157
12.10.3.5 colors . . . 157
12.10.3.6 colors . . . 158
12.10.3.7 count . . . 158
12.10.3.8 deAlloc . . . 158
12.10.3.9 init . . . 159
12.10.3.10 keyNames . . . 160
12.10.3.11 operator= . . . 160
12.10.4 Field Documentation . . . 161
12.10.4.1 _colors . . . 161
12.10.4.2 _count . . . 161
12.10.4.3 _keyNames . . . 161
12.10.4.4 _mapCount . . . 161
12.11 devcmd.__unnamed__ Struct Reference . . . 162

12.11.1 Detailed Description . . . 163
12.11.2 Field Documentation . . . 163
12.11.2.1 active . . . 163
12.11.2.2 allocprofile . . . 163
12.11.2.3 bind . . . 163
12.11.2.4 dpi . . . 163
12.11.2.5 dpisel . . . 163
12.11.2.6 erase . . . 163
12.11.2.7 eraseprofile . . . 163
12.11.2.8 freeprofile . . . 163
12.11.2.9 fwupdate . . . 163
12.11.2.10 get . . . 163
12.11.2.11 hwload . . . 163
12.11.2.12 hwsave . . . 163
12.11.2.13 iauto . . . 163
12.11.2.14 id . . . 163
12.11.2.15 idle . . . 163
12.11.2.16 inotify . . . 163
12.11.2.17 ioff . . . 163
12.11.2.18 ion . . . 163
12.11.2.19 ilift . . . 163
12.11.2.20 loadprofile . . . 164
12.11.2.21 macro . . . 164
12.11.2.22 name . . . 164
12.11.2.23 notify . . . 164
12.11.2.24 pollrate . . . 164
12.11.2.25 profileid . . . 164
12.11.2.26 profilename . . . 164
12.11.2.27 rebind . . . 164
12.11.2.28 restart . . . 164
12.11.2.29 rgb . . . 164
12.11.2.30 setmodeindex . . . 164
12.11.2.31 snap . . . 164
12.11.2.32 start . . . 164
12.11.2.33 unbind . . . 164
12.11.2.34 updatedpi . . . 164
12.11.2.35 updateindicators . . . 164
12.11.2.36 updatergb . . . 164
12.12 Ui::ExtraSettingsWidget Class Reference . . . 164
12.12.1 Detailed Description . . . 166

12.12.2 Member Function Documentation . . . 167
12.12.2.1 retranslateUi . . . 167
12.12.2.2 setupUi . . . 168
12.12.3 Field Documentation . . . 172
12.12.3.1 animCountLabel . . . 172
12.12.3.2 animPathLabel . . . 172
12.12.3.3 animScanButton . . . 172
12.12.3.4 brightnessBox . . . 172
12.12.3.5 buttonBox . . . 172
12.12.3.6 delayBox . . . 172
12.12.3.7 ditherBox . . . 172
12.12.3.8 fpsBox . . . 172
12.12.3.9 fpsWarnLabel . . . 173
12.12.3.10 gridLayout . . . 173
12.12.3.11 horizontalLayout . . . 173
12.12.3.12 horizontalLayout_2 . . . 173
12.12.3.13 horizontalSpacer . . . 173
12.12.3.14 horizontalSpacer_2 . . . 173
12.12.3.15 horizontalSpacer_3 . . . 173
12.12.3.16 label . . . 173
12.12.3.17 label_10 . . . 173
12.12.3.18 label_11 . . . 174
12.12.3.19 label_2 . . . 174
12.12.3.20 label_3 . . . 174
12.12.3.21 label_5 . . . 174
12.12.3.22 label_6 . . . 174
12.12.3.23 line . . . 174
12.12.3.24 line_2 . . . 174
12.12.3.25 line_3 . . . 174
12.12.3.26 mAccelBox . . . 174
12.12.3.27 osxLabel . . . 175
12.12.3.28 osxLine . . . 175
12.12.3.29 sAccelBox . . . 175
12.12.3.30 sSpeedBox . . . 175
12.12.3.31 sSpeedWidget . . . 175
12.12.3.32 trayBox . . . 175
12.12.3.33 verticalSpacer . . . 175
12.12.3.34 verticalSpacer_10 . . . 175
12.12.3.35 verticalSpacer_11 . . . 175
12.12.3.36 verticalSpacer_2 . . . 176

12.12.3.37 verticalSpacer_3 . . . 176
12.12.3.38 verticalSpacer_4 . . . 176
12.12.3.39 verticalSpacer_5 . . . 176
12.12.3.40 verticalSpacer_6 . . . 176
12.12.3.41 verticalSpacer_7 . . . 176
12.12.3.42 verticalSpacer_8 . . . 176
12.12.3.43 verticalSpacer_9 . . . 176
12.13 ExtraSettingsWidget Class Reference . . . 177
12.13.1 Detailed Description . . . 178
12.13.2 Constructor & Destructor Documentation . . . 179
12.13.2.1 ExtraSettingsWidget . . . 179
12.13.2.2 ~ExtraSettingsWidget . . . 180
12.13.3 Member Function Documentation . . . 180
12.13.3.1 on_animScanButton_clicked . . . 180
12.13.3.2 on_brightnessBox_clicked . . . 181
12.13.3.3 on_delayBox_clicked . . . 181
12.13.3.4 on_ditherBox_clicked . . . 182
12.13.3.5 on_fpsBox_valueChanged . . . 182
12.13.3.6 on_mAccelBox_clicked . . . 182
12.13.3.7 on_sAccelBox_clicked . . . 183
12.13.3.8 on_sSpeedBox_valueChanged . . . 183
12.13.3.9 on_trayBox_clicked . . . 184
12.13.3.10 pollUpdates . . . 184
12.13.4 Field Documentation . . . 185
12.13.4.1 ui . . . 185
12.14 KbFirmware::FW Struct Reference . . . 185
12.14.1 Detailed Description . . . 185
12.14.2 Constructor & Destructor Documentation . . . 186
12.14.2.1 FW . . . 186
12.14.3 Field Documentation . . . 186
12.14.3.1 ckbVersion . . . 186
12.14.3.2 fileName . . . 186
12.14.3.3 forProductID . . . 186
12.14.3.4 fwVersion . . . 186
12.14.3.5 hash . . . 186
12.14.3.6 url . . . 186
12.15 Ui::FwUpgradeDialog Class Reference . . . 186
12.15.1 Detailed Description . . . 188
12.15.2 Member Function Documentation . . . 189
12.15.2.1 retranslateUi . . . 189

12.15.2.2 setupUi . . . 189
12.15.3 Field Documentation . . . 191
12.15.3.1 actionButton . . . 191
12.15.3.2 cancelButton . . . 191
12.15.3.3 curLabel . . . 191
12.15.3.4 devLabel . . . 191
12.15.3.5 gridLayout . . . 192
12.15.3.6 gridLayout_2 . . . 192
12.15.3.7 horizontalSpacer . . . 192
12.15.3.8 horizontalSpacer_2 . . . 192
12.15.3.9 horizontalSpacer_3 . . . 192
12.15.3.10 horizontalSpacer_4 . . . 192
12.15.3.11 label_2 . . . 192
12.15.3.12 label_4 . . . 192
12.15.3.13 newLabel . . . 192
12.15.3.14 progressBar . . . 193
12.15.3.15 statusLabel . . . 193
12.16 FwUpgradeDialog Class Reference . . . 193
12.16.1 Detailed Description . . . 195
12.16.2 Constructor & Destructor Documentation . . . 195
12.16.2.1 FwUpgradeDialog . . . 195
12.16.2.2 ~FwUpgradeDialog . . . 196
12.16.3 Member Function Documentation . . . 196
12.16.3.1 cleanBlob . . . 196
12.16.3.2 closeEvent . . . 197
12.16.3.3 exec . . . 197
12.16.3.4 fwUpdateFinished . . . 198
12.16.3.5 fwUpdateProgress . . . 199
12.16.3.6 on_actionButton_clicked . . . 199
12.16.3.7 on_cancelButton_clicked . . . 200
12.16.3.8 removeDev . . . 200
12.16.3.9 saveBlob . . . 201
12.16.4 Field Documentation . . . 201
12.16.4.1 blob . . . 202
12.16.4.2 evLoop . . . 202
12.16.4.3 exitSuccess . . . 202
12.16.4.4 kb . . . 202
12.16.4.5 savePath . . . 202
12.16.4.6 ui . . . 202
12.17 GradientButton Class Reference . . . 202

12.17.1 Detailed Description . . . 204
12.17.2 Constructor & Destructor Documentation . . . 204
12.17.2.1 GradientButton . . . 204
12.17.3 Member Function Documentation . . . 205
12.17.3.1 fromString . . . 205
12.17.3.2 gradientChanged . . . 206
12.17.3.3 pickGradient . . . 206
12.17.3.4 toString . . . 207
12.17.3.5 updateImage . . . 208
12.17.4 Field Documentation . . . 208
12.17.4.1 _alpha . . . 208
12.17.4.2 _stops . . . 208
12.18 Ui::GradientDialog Class Reference . . . 208
12.18.1 Detailed Description . . . 210
12.18.2 Member Function Documentation . . . 210
12.18.2.1 retranslateUi . . . 210
12.18.2.2 setupUi . . . 211
12.18.3 Field Documentation . . . 213
12.18.3.1 buttonBox . . . 213
12.18.3.2 gridLayout . . . 213
12.18.3.3 gridLayout_2 . . . 213
12.18.3.4 gridLayout_3 . . . 214
12.18.3.5 groupBox_2 . . . 214
12.18.3.6 horizontalLayout . . . 214
12.18.3.7 horizontalLayout_2 . . . 214
12.18.3.8 horizontalSpacer . . . 214
12.18.3.9 horizontalSpacer_2 . . . 214
12.18.3.10 horizontalSpacer_3 . . . 214
12.18.3.11 label . . . 214
12.18.3.12 label_2 . . . 214
12.18.3.13 presetDelete . . . 215
12.18.3.14 presetList . . . 215
12.18.3.15 presetName . . . 215
12.18.3.16 presetSave . . . 215
12.18.3.17 stopBox . . . 215
12.18.3.18 stopColor . . . 215
12.18.3.19 stopOpacity . . . 215
12.18.3.20 stopPos . . . 215
12.18.3.21 verticalSpacer . . . 216
12.18.3.22 verticalSpacer_2 . . . 216

12.18.3.23 widget . . . 216
12.19 GradientDialog Class Reference . . . 216
12.19.1 Detailed Description . . . 219
12.19.2 Constructor & Destructor Documentation . . . 219
12.19.2.1 GradientDialog . . . 219
12.19.2.2 ~GradientDialog . . . 220
12.19.3 Member Function Documentation . . . 220
12.19.3.1 addPreset . . . 220
12.19.3.2 colorChanged . . . 221
12.19.3.3 currentChanged . . . 221
12.19.3.4 getGradient . . . 222
12.19.3.5 makeIcon . . . 223
12.19.3.6 on_presetDelete_clicked . . . 224
12.19.3.7 on_presetList_currentItemChanged . . . 224
12.19.3.8 on_presetName_textEdited . . . 225
12.19.3.9 on_presetSave_clicked . . . 225
12.19.3.10 on_stopOpacity_valueChanged . . . 226
12.19.3.11 on_stopPos_valueChanged . . . 226
12.19.3.12 setPreset . . . 227
12.19.3.13 updatePresets . . . 228
12.19.4 Field Documentation . . . 228
12.19.4.1 currentPreset . . . 228
12.19.4.2 presets . . . 229
12.19.4.3 ui . . . 229
12.20 GradientDialogWidget Class Reference . . . 229
12.20.1 Detailed Description . . . 232
12.20.2 Constructor & Destructor Documentation . . . 232
12.20.2.1 GradientDialogWidget . . . 232
12.20.3 Member Function Documentation . . . 232
12.20.3.1 colorAt . . . 232
12.20.3.2 current . . . 233
12.20.3.3 currentChanged . . . 233
12.20.3.4 fillRect . . . 233
12.20.3.5 makeStops . . . 234
12.20.3.6 mouseMoveEvent . . . 235
12.20.3.7 mousePressEvent . . . 236
12.20.3.8 mouseReleaseEvent . . . 237
12.20.3.9 moveCurrent . . . 237
12.20.3.10 paintEvent . . . 238
12.20.3.11 selectedStop . . . 239

12.20.3.12 selectionColors . . . 240
12.20.3.13 setCurrentColor . . . 241
12.20.3.14 setStops . . . 241
12.20.3.15 stopCount . . . 242
12.20.3.16 stopRect . . . 243
12.20.3.17 stops . . . 243
12.20.4 Field Documentation . . . 244
12.20.4.1 _colors . . . 244
12.20.4.2 _current . . . 244
12.20.4.3 _stops . . . 244
12.20.4.4 selected . . . 244
12.20.4.5 selectedOffset . . . 244
12.20.4.6 selectedPos . . . 244
12.21 JlCompress Class Reference . . . 245
12.21.1 Detailed Description . . . 246
12.21.2 Member Function Documentation . . . 246
12.21.2.1 compressDir . . . 246
12.21.2.2 compressFile . . . 247
12.21.2.3 compressFile . . . 248
12.21.2.4 compressFiles . . . 250
12.21.2.5 compressSubDir . . . 252
12.21.2.6 extractDir . . . 254
12.21.2.7 extractFile . . . 256
12.21.2.8 extractFile . . . 258
12.21.2.9 extractFiles . . . 259
12.21.2.10 getFileList . . . 260
12.21.2.11 removeFile . . . 262
12.22 Kb Class Reference . . . 263
12.22.1 Detailed Description . . . 268
12.22.2 Constructor & Destructor Documentation . . . 268
12.22.2.1 ~Kb . . . 268
12.22.2.2 Kb . . . 269
12.22.3 Member Function Documentation . . . 271
12.22.3.1 appendProfile . . . 271
12.22.3.2 autoSave . . . 272
12.22.3.3 currentBind . . . 272
12.22.3.4 currentLight . . . 273
12.22.3.5 currentMode . . . 274
12.22.3.6 currentPerf . . . 274
12.22.3.7 currentProfile . . . 275

12.22.3.8 deleteHw . . . 275
12.22.3.9 deletePrevious . . . 276
12.22.3.10 dither . . . 276
12.22.3.11 dither . . . 277
12.22.3.12 find . . . 277
12.22.3.13 frameRate . . . 278
12.22.3.14 frameRate . . . 278
12.22.3.15 frameUpdate . . . 279
12.22.3.16 fwUpdate . . . 280
12.22.3.17 fwUpdateFinished . . . 281
12.22.3.18 fwUpdateProgress . . . 281
12.22.3.19 getKeyMap . . . 282
12.22.3.20 getMacroNumber . . . 282
12.22.3.21 getMacroPath . . . 283
12.22.3.22 hwProfile . . . 283
12.22.3.23 hwProfile . . . 284
12.22.3.24 hwSave . . . 284
12.22.3.25 indexOf . . . 286
12.22.3.26 infoUpdated . . . 286
12.22.3.27 isKeyboard . . . 286
12.22.3.28 isMouse . . . 287
12.22.3.29 isOpen . . . 288
12.22.3.30 layout . . . 288
12.22.3.31 layout . . . 289
12.22.3.32 load . . . 289
12.22.3.33 macroDelay . . . 290
12.22.3.34 macroDelay . . . 290
12.22.3.35 matches . . . 291
12.22.3.36 modeChanged . . . 291
12.22.3.37 model . . . 292
12.22.3.38 modeRenamed . . . 292
12.22.3.39 mouseAccel . . . 292
12.22.3.40 mouseAccel . . . 293
12.22.3.41 needsSave . . . 293
12.22.3.42 newMode . . . 293
12.22.3.43 newMode . . . 294
12.22.3.44 newProfile . . . 295
12.22.3.45 newProfile . . . 295
12.22.3.46 profileAdded . . . 296
12.22.3.47 profileChanged . . . 296

12.22.3.48 profileRenamed . . . 297
12.22.3.49 profiles . . . 297
12.22.3.50 profiles . . . 298
12.22.3.51 readNotify . . . 298
12.22.3.52 run . . . 302
12.22.3.53 save . . . 303
12.22.3.54 scrollSpeed . . . 304
12.22.3.55 scrollSpeed . . . 304
12.22.3.56 setCurrentMode . . . 305
12.22.3.57 setCurrentMode . . . 305
12.22.3.58 setCurrentMode . . . 306
12.22.3.59 setCurrentProfile . . . 307
12.22.3.60 updateLayout . . . 308
12.22.3.61 writeProfileHeader . . . 309
12.22.4 Friends And Related Function Documentation . . . 310
12.22.4.1 KbManager . . . 310
12.22.5 Field Documentation . . . 310
12.22.5.1 _currentMode . . . 310
12.22.5.2 _currentProfile . . . 310
12.22.5.3 _delay . . . 310
12.22.5.4 _dither . . . 310
12.22.5.5 _frameRate . . . 310
12.22.5.6 _hwProfile . . . 311
12.22.5.7 _layout . . . 311
12.22.5.8 _model . . . 311
12.22.5.9 _mouseAccel . . . 311
12.22.5.10 _needsSave . . . 311
12.22.5.11 _profiles . . . 311
12.22.5.12 _scrollSpeed . . . 311
12.22.5.13 cmd . . . 311
12.22.5.14 cmdpath . . . 311
12.22.5.15 devpath . . . 312
12.22.5.16 features . . . 312
12.22.5.17 firmware . . . 312
12.22.5.18 fwUpdPath . . . 312
12.22.5.19 hwLoading . . . 312
12.22.5.20 HWMODE_MAX . . . 312
12.22.5.21 hwModeCount . . . 312
12.22.5.22 iState . . . 312
12.22.5.23 lastAutoSave . . . 312

12.22.5.24 macroNumber . . . 313
12.22.5.25 macroPath . . . 313
12.22.5.26 monochrome . . . 313
12.22.5.27 notifyNumber . . . 313
12.22.5.28 notifyPath . . . 313
12.22.5.29 pollrate . . . 313
12.22.5.30 prefsPath . . . 313
12.22.5.31 prevMode . . . 313
12.22.5.32 prevProfile . . . 313
12.22.5.33 usbModel . . . 314
12.22.5.34 usbSerial . . . 314
12.23 KbAnim Class Reference . . . 314
12.23.1 Detailed Description . . . 317
12.23.2 Member Enumeration Documentation . . . 317
12.23.2.1 Mode . . . 317
12.23.3 Constructor & Destructor Documentation . . . 318
12.23.3.1 KbAnim . . . 318
12.23.3.2 KbAnim . . . 319
12.23.3.3 KbAnim . . . 320
12.23.4 Member Function Documentation . . . 320
12.23.4.1 blend . . . 320
12.23.4.2 catchUp . . . 322
12.23.4.3 commitParams . . . 323
12.23.4.4 effectiveParams . . . 324
12.23.4.5 guid . . . 324
12.23.4.6 hasParameter . . . 325
12.23.4.7 isActive . . . 325
12.23.4.8 isRunning . . . 325
12.23.4.9 keypress . . . 326
12.23.4.10 keys . . . 327
12.23.4.11 keys . . . 328
12.23.4.12 map . . . 328
12.23.4.13 map . . . 329
12.23.4.14 mode . . . 329
12.23.4.15 mode . . . 329
12.23.4.16 name . . . 330
12.23.4.17 name . . . 330
12.23.4.18 needsSave . . . 330
12.23.4.19 newId . . . 331
12.23.4.20 opacity . . . 331

12.23.4.21 opacity . . . 331
12.23.4.22 parameter . . . 332
12.23.4.23 parameter . . . 332
12.23.4.24 reInit . . . 333
12.23.4.25 resetParams . . . 333
12.23.4.26 save . . . 334
12.23.4.27 script . . . 335
12.23.4.28 scriptName . . . 335
12.23.4.29 stop . . . 336
12.23.4.30 trigger . . . 337
12.23.4.31 updateParams . . . 338
12.23.5 Field Documentation . . . 339
12.23.5.1 _guid . . . 339
12.23.5.2 _isActive . . . 339
12.23.5.3 _isActiveKp . . . 339
12.23.5.4 _keys . . . 339
12.23.5.5 _map . . . 339
12.23.5.6 _mode . . . 339
12.23.5.7 _name . . . 339
12.23.5.8 _needsSave . . . 340
12.23.5.9 _opacity . . . 340
12.23.5.10 _parameters . . . 340
12.23.5.11 _script . . . 340
12.23.5.12 _scriptGuid . . . 340
12.23.5.13 _scriptName . . . 340
12.23.5.14 _tempParameters . . . 340
12.23.5.15 kpRepeatMsec . . . 340
12.23.5.16 kpRepeatTime . . . 340
12.23.5.17 kpStopTime . . . 341
12.23.5.18 repeatKey . . . 341
12.23.5.19 repeatMsec . . . 341
12.23.5.20 repeatTime . . . 341
12.23.5.21 stopTime . . . 341
12.24 Ui::KbAnimWidget Class Reference . . . 341
12.24.1 Detailed Description . . . 343
12.24.2 Member Function Documentation . . . 343
12.24.2.1 retranslateUi . . . 343
12.24.2.2 setupUi . . . 344
12.24.3 Field Documentation . . . 347
12.24.3.1 aCopyLabel . . . 347

12.24.3.2 aMissingLabel . . . 347
12.24.3.3 aMissingPage . . . 347
12.24.3.4 aNameLabel . . . 347
12.24.3.5 animList . . . 347
12.24.3.6 animPage . . . 348
12.24.3.7 aVerLabel . . . 348
12.24.3.8 blendBox . . . 348
12.24.3.9 deleteButton . . . 348
12.24.3.10 gridLayout . . . 348
12.24.3.11 gridLayout_2 . . . 348
12.24.3.12 gridLayout_3 . . . 348
12.24.3.13 gridLayout_4 . . . 348
12.24.3.14 horizontalLayout . . . 348
12.24.3.15 horizontalSpacer . . . 349
12.24.3.16 horizontalSpacer_2 . . . 349
12.24.3.17 horizontalSpacer_3 . . . 349
12.24.3.18 horizontalSpacer_4 . . . 349
12.24.3.19 horizontalSpacer_5 . . . 349
12.24.3.20 keyButton . . . 349
12.24.3.21 label_5 . . . 349
12.24.3.22 label_6 . . . 349
12.24.3.23 label_7 . . . 349
12.24.3.24 nameBox . . . 350
12.24.3.25 noAnimLabel . . . 350
12.24.3.26 noSelPage . . . 350
12.24.3.27 opacityBox . . . 350
12.24.3.28 propertyButton . . . 350
12.24.3.29 selectionStack . . . 350
12.24.3.30 verticalLayout . . . 350
12.24.3.31 verticalSpacer . . . 350
12.24.3.32 verticalSpacer_2 . . . 350
12.24.3.33 verticalSpacer_3 . . . 351
12.25 KbAnimWidget Class Reference . . . 351
12.25.1 Detailed Description . . . 353
12.25.2 Constructor & Destructor Documentation . . . 353
12.25.2.1 KbAnimWidget . . . 353
12.25.2.2 ~KbAnimWidget . . . 354
12.25.3 Member Function Documentation . . . 354
12.25.3.1 addAnim . . . 354
12.25.3.2 animChanged . . . 355

12.25.3.3 clearSelection . . . 356
12.25.3.4 didUpdateSelection . . . 356
12.25.3.5 duplicateAnim . . . 357
12.25.3.6 on_animList_currentItemChanged . . . 358
12.25.3.7 on_animList_customContextMenuRequested . . . 358
12.25.3.8 on_animList_itemChanged . . . 359
12.25.3.9 on_blendBox_activated . . . 359
12.25.3.10 on_deleteButton_clicked . . . 360
12.25.3.11 on_keyButton_clicked . . . 361
12.25.3.12 on_nameBox_textEdited . . . 361
12.25.3.13 on_opacityBox_valueChanged . . . 362
12.25.3.14 on_propertyButton_clicked . . . 362
12.25.3.15 refreshList . . . 363
12.25.3.16 reorderAnims . . . 364
12.25.3.17 setCurrent . . . 365
12.25.3.18 setLight . . . 366
12.25.3.19 setSelectedKeys . . . 367
12.25.4 Field Documentation . . . 368
12.25.4.1 animations . . . 368
12.25.4.2 current . . . 368
12.25.4.3 light . . . 368
12.25.4.4 noReorder . . . 368
12.25.4.5 selectedKeys . . . 368
12.25.4.6 ui . . . 368
12.26 KbBind Class Reference . . . 369
12.26.1 Detailed Description . . . 372
12.26.2 Constructor & Destructor Documentation . . . 372
12.26.2.1 KbBind . . . 372
12.26.2.2 KbBind . . . 372
12.26.3 Member Function Documentation . . . 373
12.26.3.1 action . . . 373
12.26.3.2 bindAction . . . 374
12.26.3.3 defaultAction . . . 374
12.26.3.4 devParent . . . 375
12.26.3.5 didLoad . . . 375
12.26.3.6 friendlyActionName . . . 376
12.26.3.7 friendlyName . . . 376
12.26.3.8 getMacroNumber . . . 377
12.26.3.9 getMacroPath . . . 378
12.26.3.10 globalRemap . . . 378

12.26.3.11handleNotificationChannel . . . 379
12.26.3.12isISO . . . 380
12.26.3.13isKeyboard . . . 380
12.26.3.14isMouse . . . 381
12.26.3.15keyEvent . . . 381
12.26.3.16layoutChanged . . . 382
12.26.3.17light . . . 383
12.26.3.18load . . . 383
12.26.3.19loadGlobalRemap . . . 384
12.26.3.20map . . . 385
12.26.3.21map . . . 386
12.26.3.22modeParent . . . 386
12.26.3.23needsSave . . . 387
12.26.3.24noAction . . . 387
12.26.3.25noAction . . . 387
12.26.3.26perf . . . 388
12.26.3.27resetAction . . . 389
12.26.3.28resetAction . . . 389
12.26.3.29save . . . 390
12.26.3.30saveGlobalRemap . . . 391
12.26.3.31setAction . . . 392
12.26.3.32setAction . . . 393
12.26.3.33setGlobalRemap . . . 393
12.26.3.34setNeedsUpdate . . . 394
12.26.3.35update . . . 394
12.26.3.36updated . . . 396
12.26.3.37winLock . . . 396
12.26.3.38winLock . . . 397
12.26.4 Friends And Related Function Documentation . . . 397
12.26.4.1 KeyAction . . . 397
12.26.5 Field Documentation . . . 397
12.26.5.1 _bind . . . 397
12.26.5.2 _devParent . . . 397
12.26.5.3 _globalRemap . . . 397
12.26.5.4 _map . . . 397
12.26.5.5 _needsSave . . . 397
12.26.5.6 _needsUpdate . . . 397
12.26.5.7 _winLock . . . 398
12.26.5.8 globalRemapTime . . . 398
12.26.5.9 lastCmd . . . 398

12.26.5.10 lastGlobalRemapTime . . . 398
12.27 Ui::KbBindWidget Class Reference . . . 398
12.27.1 Detailed Description . . . 400
12.27.2 Member Function Documentation . . . 400
12.27.2.1 retranslateUi . . . 400
12.27.2.2 setupUi . . . 401
12.27.3 Field Documentation . . . 403
12.27.3.1 copyButton . . . 403
12.27.3.2 gridLayout . . . 403
12.27.3.3 gridLayout_2 . . . 403
12.27.3.4 horizontalLayout_2 . . . 403
12.27.3.5 horizontalSpacer . . . 403
12.27.3.6 horizontalSpacer_2 . . . 403
12.27.3.7 keyWidget . . . 403
12.27.3.8 label . . . 404
12.27.3.9 label_2 . . . 404
12.27.3.10 line . . . 404
12.27.3.11 line_2 . . . 404
12.27.3.12 rbWidget . . . 404
12.27.3.13 resetButton . . . 404
12.27.3.14 selectLabel . . . 404
12.27.3.15 verticalLayout . . . 404
12.27.3.16 verticalSpacer . . . 404
12.27.3.17 widget . . . 405
12.28 KbBindWidget Class Reference . . . 405
12.28.1 Detailed Description . . . 406
12.28.2 Constructor & Destructor Documentation . . . 407
12.28.2.1 KbBindWidget . . . 407
12.28.2.2 ~KbBindWidget . . . 407
12.28.3 Member Function Documentation . . . 408
12.28.3.1 newLayout . . . 408
12.28.3.2 newSelection . . . 409
12.28.3.3 on_copyButton_clicked . . . 410
12.28.3.4 on_resetButton_clicked . . . 411
12.28.3.5 setBind . . . 412
12.28.3.6 updateBind . . . 413
12.28.3.7 updateSelDisplay . . . 415
12.28.4 Field Documentation . . . 415
12.28.4.1 bind . . . 415
12.28.4.2 currentSelection . . . 415

12.28.4.3 profile . . . 416
12.28.4.4 ui . . . 416
12.29 KbFirmware Class Reference . . . 416
12.29.1 Detailed Description . . . 418
12.29.2 Member Enumeration Documentation . . . 419
12.29.2.1 anonymous enum . . . 419
12.29.3 Constructor & Destructor Documentation . . . 419
12.29.3.1 KbFirmware . . . 419
12.29.3.2 ~KbFirmware . . . 419
12.29.4 Member Function Documentation . . . 419
12.29.4.1 _checkUpdates . . . 419
12.29.4.2 _fileForBoard . . . 420
12.29.4.3 _latestForBoard . . . 421
12.29.4.4 checkUpdates . . . 422
12.29.4.5 dataForBoard . . . 422
12.29.4.6 downloaded . . . 423
12.29.4.7 downloadFinished . . . 424
12.29.4.8 hasDownloaded . . . 424
12.29.4.9 initManager . . . 424
12.29.4.10 processDownload . . . 425
12.29.4.11 versionForBoard . . . 427
12.29.5 Field Documentation . . . 427
12.29.5.1 fwTable . . . 427
12.29.5.2 fwTableHash . . . 427
12.29.5.3 hasGPG . . . 427
12.29.5.4 instance . . . 427
12.29.5.5 lastCheck . . . 428
12.29.5.6 lastFinished . . . 428
12.29.5.7 networkManager . . . 428
12.29.5.8 tableDownload . . . 428
12.30 KbLight Class Reference . . . 428
12.30.1 Detailed Description . . . 431
12.30.2 Member Typedef Documentation . . . 432
12.30.2.1 AnimList . . . 432
12.30.3 Constructor & Destructor Documentation . . . 432
12.30.3.1 KbLight . . . 432
12.30.3.2 KbLight . . . 432
12.30.3.3 ~KbLight . . . 433
12.30.4 Member Function Documentation . . . 433
12.30.4.1 addAnim . . . 433

12.30.4.2 animKeypress . . . 434
12.30.4.3 animList . . . 434
12.30.4.4 animList . . . 435
12.30.4.5 base . . . 435
12.30.4.6 close . . . 436
12.30.4.7 color . . . 437
12.30.4.8 color . . . 438
12.30.4.9 colorMap . . . 438
12.30.4.10 didLoad . . . 439
12.30.4.11 dimming . . . 439
12.30.4.12 dimming . . . 439
12.30.4.13 duplicateAnim . . . 440
12.30.4.14 findAnim . . . 441
12.30.4.15 findAnimIdx . . . 441
12.30.4.16 frameDisplayed . . . 442
12.30.4.17 frameUpdate . . . 442
12.30.4.18 isStarted . . . 444
12.30.4.19 load . . . 444
12.30.4.20 map . . . 446
12.30.4.21 map . . . 446
12.30.4.22 needsSave . . . 447
12.30.4.23 open . . . 448
12.30.4.24 previewAnim . . . 448
12.30.4.25 printRGB . . . 449
12.30.4.26 rebuildBaseMap . . . 450
12.30.4.27 resetIndicators . . . 451
12.30.4.28 restartAnimation . . . 451
12.30.4.29 save . . . 452
12.30.4.30 setIndicator . . . 453
12.30.4.31 shareDimming . . . 454
12.30.4.32 shareDimming . . . 454
12.30.4.33 stopPreview . . . 454
12.30.4.34 updated . . . 455
12.30.5 Field Documentation . . . 455
12.30.5.1 _animList . . . 455
12.30.5.2 _animMap . . . 456
12.30.5.3 _colorMap . . . 456
12.30.5.4 _dimming . . . 456
12.30.5.5 _indicatorList . . . 456
12.30.5.6 _indicatorMap . . . 456

12.30.5.7 _map . . . 456
12.30.5.8 _needsMapRefresh . . . 456
12.30.5.9 _needsSave . . . 456
12.30.5.10 _previewAnim . . . 456
12.30.5.11 _qColorMap . . . 457
12.30.5.12 _start . . . 457
12.30.5.13 lastFrameSignal . . . 457
12.30.5.14 MAX_DIM . . . 457
12.31 Ui::KbLightWidget Class Reference . . . 457
12.31.1 Detailed Description . . . 459
12.31.2 Member Function Documentation . . . 459
12.31.2.1 retranslateUi . . . 459
12.31.2.2 setupUi . . . 460
12.31.3 Field Documentation . . . 463
12.31.3.1 animButton . . . 463
12.31.3.2 animWidget . . . 463
12.31.3.3 bgButton . . . 463
12.31.3.4 brightnessBox . . . 463
12.31.3.5 gridLayout . . . 463
12.31.3.6 gridLayout_2 . . . 464
12.31.3.7 gridLayout_4 . . . 464
12.31.3.8 horizontalLayout . . . 464
12.31.3.9 horizontalLayout_2 . . . 464
12.31.3.10 horizontalLayout_3 . . . 464
12.31.3.11 horizontalSpacer_3 . . . 464
12.31.3.12 horizontalSpacer_4 . . . 464
12.31.3.13 horizontalSpacer_5 . . . 464
12.31.3.14 horizontalSpacer_6 . . . 464
12.31.3.15 keyWidget . . . 465
12.31.3.16 label . . . 465
12.31.3.17 label_2 . . . 465
12.31.3.18 label_3 . . . 465
12.31.3.19 line . . . 465
12.31.3.20 line_2 . . . 465
12.31.3.21 selLabel . . . 465
12.31.3.22 showAnimBox . . . 465
12.31.3.23 verticalLayout . . . 465
12.31.3.24 verticalSpacer . . . 466
12.31.3.25 verticalSpacer_2 . . . 466
12.31.3.26 verticalSpacer_3 . . . 466

12.31.3.27 widget . . . 466
12.32 KbLightWidget Class Reference . . . 466
12.32.1 Detailed Description . . . 469
12.32.2 Constructor & Destructor Documentation . . . 469
12.32.2.1 KbLightWidget . . . 469
12.32.2.2 ~KbLightWidget . . . 470
12.32.3 Member Function Documentation . . . 470
12.32.3.1 changeAnim . . . 470
12.32.3.2 changeAnimKeys . . . 470
12.32.3.3 changeColor . . . 471
12.32.3.4 newSelection . . . 472
12.32.3.5 on_animButton_clicked . . . 473
12.32.3.6 on_bgButton_clicked . . . 474
12.32.3.7 on_brightnessBox_activated . . . 474
12.32.3.8 on_showAnimBox_clicked . . . 475
12.32.3.9 setLight . . . 475
12.32.3.10 setMonochrome . . . 477
12.32.3.11 toggleSidelight . . . 477
12.32.3.12 updateLight . . . 478
12.32.4 Field Documentation . . . 479
12.32.4.1 currentSelection . . . 479
12.32.4.2 light . . . 479
12.32.4.3 ui . . . 479
12.33 KbManager Class Reference . . . 480
12.33.1 Detailed Description . . . 482
12.33.2 Constructor & Destructor Documentation . . . 482
12.33.2.1 KbManager . . . 482
12.33.3 Member Function Documentation . . . 483
12.33.3.1 ckbDaemonVersion . . . 483
12.33.3.2 ckbDaemonVersionF . . . 483
12.33.3.3 ckbGuiVersion . . . 484
12.33.3.4 ckbGuiVersionF . . . 484
12.33.3.5 devices . . . 485
12.33.3.6 eventTimer . . . 485
12.33.3.7 fps . . . 485
12.33.3.8 init . . . 486
12.33.3.9 kbConnected . . . 487
12.33.3.10 kbDisconnected . . . 487
12.33.3.11 kbManager . . . 487
12.33.3.12 parseVersionString . . . 488

12.33.3.13 scanKeyboards . . . 488
12.33.3.14 scanTimer . . . 490
12.33.3.15 stop . . . 490
12.33.3.16 versionUpdated . . . 491
12.33.4 Field Documentation . . . 491
12.33.4.1 _daemonVersion . . . 491
12.33.4.2 _devices . . . 491
12.33.4.3 _eventTimer . . . 491
12.33.4.4 _guiVersion . . . 492
12.33.4.5 _kbManager . . . 492
12.33.4.6 _scanTimer . . . 492
12.34 KbMode Class Reference . . . 492
12.34.1 Detailed Description . . . 495
12.34.2 Constructor & Destructor Documentation . . . 495
12.34.2.1 KbMode . . . 495
12.34.2.2 KbMode . . . 496
12.34.2.3 KbMode . . . 496
12.34.2.4 ~KbMode . . . 497
12.34.3 Member Function Documentation . . . 497
12.34.3.1 bind . . . 497
12.34.3.2 doUpdate . . . 498
12.34.3.3 id . . . 498
12.34.3.4 id . . . 498
12.34.3.5 keyMap . . . 499
12.34.3.6 light . . . 500
12.34.3.7 name . . . 500
12.34.3.8 name . . . 500
12.34.3.9 needsSave . . . 501
12.34.3.10 newId . . . 501
12.34.3.11 perf . . . 502
12.34.3.12 save . . . 503
12.34.3.13 setNeedsSave . . . 503
12.34.3.14 setNeedsUpdate . . . 504
12.34.3.15 updated . . . 504
12.34.4 Field Documentation . . . 505
12.34.4.1 _bind . . . 505
12.34.4.2 _id . . . 505
12.34.4.3 _light . . . 505
12.34.4.4 _name . . . 505
12.34.4.5 _needsSave . . . 505

12.34.4.6 _perf . . . 505
12.35 KbPerf Class Reference . . . 506
12.35.1 Detailed Description . . . 509
12.35.2 Member Enumeration Documentation . . . 509
12.35.2.1 height . . . 509
12.35.2.2 i_hw . . . 510
12.35.2.3 indicator . . . 510
12.35.3 Constructor & Destructor Documentation . . . 510
12.35.3.1 KbPerf . . . 510
12.35.3.2 KbPerf . . . 511
12.35.4 Member Function Documentation . . . 512
12.35.4.1 _curDpi . . . 512
12.35.4.2 angleSnap . . . 512
12.35.4.3 angleSnap . . . 513
12.35.4.4 applyIndicators . . . 513
12.35.4.5 bind . . . 514
12.35.4.6 curDpi . . . 515
12.35.4.7 curDpi . . . 515
12.35.4.8 curDpi . . . 516
12.35.4.9 curDpiIdx . . . 517
12.35.4.10 curDpiIdx . . . 517
12.35.4.11 didLoad . . . 517
12.35.4.12 dpi . . . 518
12.35.4.13 dpi . . . 518
12.35.4.14 dpi . . . 519
12.35.4.15 dpiColor . . . 519
12.35.4.16 dpiColor . . . 520
12.35.4.17 dpiDown . . . 520
12.35.4.18 dpiEnabled . . . 521
12.35.4.19 dpiEnabled . . . 521
12.35.4.20 dpiIndicator . . . 521
12.35.4.21 dpiIndicator . . . 522
12.35.4.22 dpiUp . . . 522
12.35.4.23 getIndicator . . . 523
12.35.4.24 lOpacity . . . 523
12.35.4.25 lOpacity . . . 524
12.35.4.26 liftHeight . . . 524
12.35.4.27 liftHeight . . . 524
12.35.4.28 light . . . 524
12.35.4.29 lightIndicator . . . 525

12.35.4.30load . . . 526
12.35.4.31modeParent . . . 528
12.35.4.32needsSave . . . 528
12.35.4.33operator= . . . 528
12.35.4.34popDpi . . . 529
12.35.4.35pushDpi . . . 530
12.35.4.36pushDpi . . . 530
12.35.4.37pushSniper . . . 531
12.35.4.38save . . . 532
12.35.4.39setIndicator . . . 533
12.35.4.40setNeedsUpdate . . . 533
12.35.4.41settingsUpdated . . . 534
12.35.4.42sniperDpi . . . 534
12.35.4.43sniperDpi . . . 535
12.35.4.44sniperDpi . . . 535
12.35.4.45update . . . 536
12.35.5 Field Documentation . . . 537
12.35.5.1 _angleSnap . . . 537
12.35.5.2 _dpiIndicator . . . 537
12.35.5.3 _iOpacity . . . 537
12.35.5.4 _liftHeight . . . 537
12.35.5.5 _needsSave . . . 537
12.35.5.6 _needsUpdate . . . 538
12.35.5.7 DPI_COUNT . . . 538
12.35.5.8 DPI_MAX . . . 538
12.35.5.9 DPI_MIN . . . 538
12.35.5.10dpiClr . . . 538
12.35.5.11dpiCurIdx . . . 538
12.35.5.12dpiCurX . . . 538
12.35.5.13dpiCurY . . . 538
12.35.5.14dpiLastIdx . . . 538
12.35.5.15dpiOn . . . 539
12.35.5.16dpiX . . . 539
12.35.5.17dpiY . . . 539
12.35.5.18HW_I_COUNT . . . 539
12.35.5.19hwIType . . . 539
12.35.5.20I_COUNT . . . 539
12.35.5.21iColor . . . 539
12.35.5.22iEnable . . . 539
12.35.5.23light100Color . . . 539

12.35.5.24 muteNAColor . . . 540
12.35.5.25 OTHER . . . 540
12.35.5.26 pushedDpis . . . 540
12.35.5.27 runningPushIdx . . . 540
12.35.5.28 SNIPER . . . 540
12.36 KbProfile Class Reference . . . 540
12.36.1 Detailed Description . . . 543
12.36.2 Member Typedef Documentation . . . 543
12.36.2.1 ModeList . . . 543
12.36.3 Constructor & Destructor Documentation . . . 543
12.36.3.1 KbProfile . . . 543
12.36.3.2 KbProfile . . . 544
12.36.3.3 KbProfile . . . 544
12.36.4 Member Function Documentation . . . 545
12.36.4.1 append . . . 545
12.36.4.2 currentMode . . . 545
12.36.4.3 currentMode . . . 546
12.36.4.4 find . . . 546
12.36.4.5 id . . . 547
12.36.4.6 id . . . 547
12.36.4.7 indexOf . . . 548
12.36.4.8 insert . . . 548
12.36.4.9 keyMap . . . 549
12.36.4.10 keyMap . . . 549
12.36.4.11 modeCount . . . 550
12.36.4.12 modes . . . 550
12.36.4.13 modes . . . 551
12.36.4.14 move . . . 551
12.36.4.15 name . . . 552
12.36.4.16 name . . . 552
12.36.4.17 needsSave . . . 553
12.36.4.18 newId . . . 553
12.36.4.19 removeAll . . . 554
12.36.4.20 save . . . 555
12.36.4.21 setNeedsSave . . . 556
12.36.4.22 setNeedsUpdate . . . 556
12.36.5 Field Documentation . . . 557
12.36.5.1 _currentMode . . . 557
12.36.5.2 _id . . . 557
12.36.5.3 _keyMap . . . 557

12.36.5.4 _modes . . . 557
12.36.5.5 _name . . . 557
12.36.5.6 _needsSave . . . 557
12.37 KbProfileDialog Class Reference . . . 558
12.37.1 Detailed Description . . . 559
12.37.2 Constructor & Destructor Documentation . . . 560
12.37.2.1 KbProfileDialog . . . 560
12.37.2.2 ~KbProfileDialog . . . 560
12.37.3 Member Function Documentation . . . 560
12.37.3.1 addNewProfileItem . . . 560
12.37.3.2 on_profileList_currentItemChanged . . . 561
12.37.3.3 on_profileList_customContextMenuRequested . . . 561
12.37.3.4 on_profileList_itemChanged . . . 563
12.37.3.5 on_profileList_itemClicked . . . 564
12.37.3.6 profileList_reordered . . . 565
12.37.3.7 repopulate . . . 565
12.37.4 Field Documentation . . . 566
12.37.4.1 device . . . 566
12.37.4.2 GUID . . . 567
12.37.4.3 NEW_FLAG . . . 567
12.37.4.4 ui . . . 567
12.38 Ui::KbProfileDialog Class Reference . . . 567
12.38.1 Detailed Description . . . 569
12.38.2 Member Function Documentation . . . 569
12.38.2.1 retranslateUi . . . 569
12.38.2.2 setupUi . . . 570
12.38.3 Field Documentation . . . 571
12.38.3.1 buttonBox . . . 571
12.38.3.2 gridLayout . . . 571
12.38.3.3 horizontalSpacer . . . 571
12.38.3.4 horizontalSpacer_2 . . . 571
12.38.3.5 profileList . . . 571
12.39 KbWidget Class Reference . . . 572
12.39.1 Detailed Description . . . 574
12.39.2 Constructor & Destructor Documentation . . . 574
12.39.2.1 KbWidget . . . 574
12.39.2.2 ~KbWidget . . . 576
12.39.3 Member Function Documentation . . . 576
12.39.3.1 addNewModeItem . . . 576
12.39.3.2 devUpdate . . . 577

12.39.3.3 modeChanged . . . 577
12.39.3.4 modeIcon . . . 579
12.39.3.5 modesList_reordered . . . 580
12.39.3.6 modeUpdate . . . 581
12.39.3.7 name . . . 581
12.39.3.8 on_fwUpdButton_clicked . . . 582
12.39.3.9 on_hwSaveButton_clicked . . . 583
12.39.3.10 on_modesList_currentItemChanged . . . 584
12.39.3.11 on_modesList_customContextMenuRequested . . . 585
12.39.3.12 on_modesList_itemChanged . . . 587
12.39.3.13 on_modesList_itemClicked . . . 587
12.39.3.14 on_profileBox_activated . . . 588
12.39.3.15 on_tabWidget_currentChanged . . . 588
12.39.3.16 profileChanged . . . 589
12.39.3.17 showFirstTab . . . 590
12.39.3.18 showFwUpdate . . . 590
12.39.3.19 showLastTab . . . 591
12.39.3.20 updateFwButton . . . 591
12.39.3.21 updateProfileList . . . 592
12.39.4 Field Documentation . . . 593
12.39.4.1 currentMode . . . 593
12.39.4.2 device . . . 594
12.39.4.3 GUID . . . 594
12.39.4.4 hasShownNewFW . . . 594
12.39.4.5 lastAutoSave . . . 594
12.39.4.6 NEW_FLAG . . . 594
12.39.4.7 ui . . . 594
12.40 Ui::KbWidget Class Reference . . . 594
12.40.1 Detailed Description . . . 596
12.40.2 Member Function Documentation . . . 596
12.40.2.1 retranslateUi . . . 596
12.40.2.2 setupUi . . . 597
12.40.3 Field Documentation . . . 600
12.40.3.1 bindTab . . . 600
12.40.3.2 bindWidget . . . 600
12.40.3.3 devTab . . . 600
12.40.3.4 fwLabel . . . 601
12.40.3.5 fwUpdButton . . . 601
12.40.3.6 fwUpdLabel . . . 601
12.40.3.7 fwUpdLayout . . . 601

12.40.3.8 gridLayout . . . 601
12.40.3.9 gridLayout_2 . . . 601
12.40.3.10 gridLayout_3 . . . 601
12.40.3.11 gridLayout_4 . . . 601
12.40.3.12 gridLayout_5 . . . 601
12.40.3.13 gridLayout_7 . . . 602
12.40.3.14 horizontalSpacer_2 . . . 602
12.40.3.15 horizontalSpacer_3 . . . 602
12.40.3.16 hwSaveButton . . . 602
12.40.3.17 kPerfTab . . . 602
12.40.3.18 kPerfWidget . . . 602
12.40.3.19 label_3 . . . 602
12.40.3.20 label_4 . . . 602
12.40.3.21 label_9 . . . 602
12.40.3.22 lightTab . . . 603
12.40.3.23 lightWidget . . . 603
12.40.3.24 modesList . . . 603
12.40.3.25 mPerfTab . . . 603
12.40.3.26 mPerfWidget . . . 603
12.40.3.27 pollLabel . . . 603
12.40.3.28 pollLabel2 . . . 603
12.40.3.29 profileBox . . . 603
12.40.3.30 serialLabel . . . 603
12.40.3.31 tabWidget . . . 604
12.40.3.32 verticalSpacer . . . 604
12.41 Key Struct Reference . . . 604
12.41.1 Detailed Description . . . 605
12.41.2 Member Function Documentation . . . 605
12.41.2.1 friendlyName . . . 605
12.41.2.2 operator bool . . . 606
12.41.2.3 operator! . . . 606
12.41.2.4 storageName . . . 606
12.41.3 Field Documentation . . . 606
12.41.3.1 _friendlyName . . . 606
12.41.3.2 _storageName . . . 606
12.41.3.3 hasLed . . . 606
12.41.3.4 hasScan . . . 607
12.41.3.5 height . . . 607
12.41.3.6 name . . . 607
12.41.3.7 width . . . 607

12.41.3.8 x . . . 607
12.41.3.9 y . . . 607
12.42 KeyAction Class Reference . . . 607
12.42.1 Detailed Description . . . 611
12.42.2 Member Enumeration Documentation . . . 611
12.42.2.1 Type . . . 611
12.42.3 Constructor & Destructor Documentation . . . 612
12.42.3.1 KeyAction . . . 612
12.42.3.2 KeyAction . . . 612
12.42.3.3 ~KeyAction . . . 612
12.42.3.4 KeyAction . . . 612
12.42.4 Member Function Documentation . . . 612
12.42.4.1 adjustDisplay . . . 612
12.42.4.2 animAction . . . 613
12.42.4.3 animInfo . . . 614
12.42.4.4 defaultAction . . . 614
12.42.4.5 dpiAction . . . 615
12.42.4.6 dpiInfo . . . 616
12.42.4.7 driverName . . . 616
12.42.4.8 friendlyName . . . 617
12.42.4.9 isAnim . . . 618
12.42.4.10 isDPI . . . 619
12.42.4.11 isMacro . . . 619
12.42.4.12 isMedia . . . 619
12.42.4.13 isMouse . . . 620
12.42.4.14 isNormal . . . 620
12.42.4.15 isProgram . . . 621
12.42.4.16 isSpecial . . . 621
12.42.4.17 isUnbound . . . 622
12.42.4.18 isValidMacro . . . 622
12.42.4.19 keyEvent . . . 623
12.42.4.20 keyRelease . . . 626
12.42.4.21 lightAction . . . 626
12.42.4.22 lockAction . . . 627
12.42.4.23 macroAction . . . 627
12.42.4.24 macroContent . . . 628
12.42.4.25 macroDisplay . . . 628
12.42.4.26 macroFullLine . . . 629
12.42.4.27 macroLine . . . 630
12.42.4.28 macroTiming . . . 630

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

12.43.2.2 Model . . . 641
12.43.3 Constructor & Destructor Documentation . . . 641
12.43.3.1 KeyMap . . . 641
12.43.3.2 KeyMap . . . 642
12.43.4 Member Function Documentation . . . 642
12.43.4.1 byPosition . . . 642
12.43.4.2 contains . . . 642
12.43.4.3 count . . . 643
12.43.4.4 friendlyName . . . 643
12.43.4.5 fromName . . . 645
12.43.4.6 fromStorage . . . 645
12.43.4.7 getLayout . . . 646
12.43.4.8 getLayout . . . 647
12.43.4.9 getModel . . . 647
12.43.4.10 getModel . . . 648
12.43.4.11 getModel . . . 648
12.43.4.12 height . . . 649
12.43.4.13 isISO . . . 649
12.43.4.14 isISO . . . 649
12.43.4.15 isKeyboard . . . 650
12.43.4.16 isKeyboard . . . 651
12.43.4.17 isMouse . . . 651
12.43.4.18 isMouse . . . 652
12.43.4.19 key . . . 653
12.43.4.20 keys . . . 653
12.43.4.21 layout . . . 653
12.43.4.22 layoutNames . . . 654
12.43.4.23 locale . . . 654
12.43.4.24 map . . . 655
12.43.4.25 model . . . 656
12.43.4.26 modelHeight . . . 656
12.43.4.27 modelWidth . . . 656
12.43.4.28 name . . . 657
12.43.4.29 operator const QHash< QString, Key > & . . . 657
12.43.4.30 operator[] . . . 657
12.43.4.31 positions . . . 658
12.43.4.32 strLayout . . . 658
12.43.4.33 strModel . . . 659
12.43.4.34 toStorage . . . 659
12.43.4.35 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

12.45.3.20k95Label4 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
12.45.3.61modeColorOff . . . 702
12.45.3.62modeColorOn . . . 703
12.45.3.63muteBox . . . 703
12.45.3.64muteColorNA . . . 703
12.45.3.65muteColorOff . . . 703
12.45.3.66muteColorOn . . . 703
12.45.3.67numBox . . . 703
12.45.3.68numColorOff . . . 703
12.45.3.69numColorOn . . . 703
12.45.3.70scrollBox . . . 703
12.45.3.71scrollColorOff . . . 704
12.45.3.72scrollColorOn . . . 704
12.45.3.73verticalSpacer . . . 704
12.45.3.74verticalSpacer_2 . . . 704
12.45.3.75verticalSpacer_3 . . . 704
12.45.3.76verticalSpacer_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 . . . 737
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
12.55.3.40 label_8 . . . 776
12.55.3.41 lHeightBox . . . 776
12.55.3.42 line . . . 776
12.55.3.43 line_2 . . . 776
12.55.3.44 line_3 . . . 777
12.55.3.45 spinBox . . . 777
12.55.3.46 verticalLayout . . . 777
12.55.3.47 verticalSpacer . . . 777
12.55.3.48 verticalSpacer_2 . . . 777
12.55.3.49 verticalSpacer_3 . . . 777
12.55.3.50 xBox0 . . . 777
12.55.3.51 xBox1 . . . 777
12.55.3.52 xBox2 . . . 777
12.55.3.53 xBox3 . . . 778
12.55.3.54 xBox4 . . . 778
12.55.3.55 xBox5 . . . 778
12.55.3.56 xSlider0 . . . 778
12.55.3.57 xSlider1 . . . 778
12.55.3.58 xSlider2 . . . 778
12.55.3.59 xSlider3 . . . 778
12.55.3.60 xSlider4 . . . 778
12.55.3.61 xSlider5 . . . 778
12.55.3.62 xyBox . . . 779
12.55.3.63 yBox0 . . . 779
12.55.3.64 yBox1 . . . 779
12.55.3.65 yBox2 . . . 779
12.55.3.66 yBox3 . . . 779
12.55.3.67 yBox4 . . . 779
12.55.3.68 yBox5 . . . 779
12.55.3.69 ySlider0 . . . 779
12.55.3.70 ySlider1 . . . 779
12.55.3.71 ySlider2 . . . 780
12.55.3.72 ySlider3 . . . 780
12.55.3.73 ySlider4 . . . 780
12.55.3.74 ySlider5 . . . 780
12.56 MPerfWidget 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 RebindWidget Class Reference . . . 939
12.80.1 Detailed Description . . . 943
12.80.2 Constructor & Destructor Documentation . . . 943
12.80.2.1 RebindWidget . . . 943
12.80.2.2 ~RebindWidget . . . 944
12.80.3 Member Function Documentation . . . 944
12.80.3.1 applyChanges . . . 944
12.80.3.2 convertMacroBox . . . 946
12.80.3.3 helpStatus . . . 947
12.80.3.4 on_animBox_currentIndexChanged . . . 948
12.80.3.5 on_animButton_clicked . . . 949
12.80.3.6 on_applyButton_clicked . . . 949
12.80.3.7 on_btnClearMacro_clicked . . . 949
12.80.3.8 on_btnStartMacro_clicked . . . 950

12.80.3.9 on_btnStopMacro_clicked . . . 950
12.80.3.10 on_cancelButton_clicked . . . 951
12.80.3.11 on_dpiBox_currentIndexChanged . . . 952
12.80.3.12 on_dpiButton_clicked . . . 953
12.80.3.13 on_fnBox_currentIndexChanged . . . 953
12.80.3.14 on_fnButton_clicked . . . 954
12.80.3.15 on_lightBox_currentIndexChanged . . . 954
12.80.3.16 on_lightButton_clicked . . . 954
12.80.3.17 on_lockBox_currentIndexChanged . . . 954
12.80.3.18 on_lockButton_clicked . . . 955
12.80.3.19 on_mb2Box_currentIndexChanged . . . 955
12.80.3.20 on_mb2Button_clicked . . . 955
12.80.3.21 on_mbBox_currentIndexChanged . . . 956
12.80.3.22 on_mbButton_clicked . . . 956
12.80.3.23 on_mediaBox_currentIndexChanged . . . 956
12.80.3.24 on_mediaButton_clicked . . . 957
12.80.3.25 on_modBox_currentIndexChanged . . . 957
12.80.3.26 on_modButton_clicked . . . 957
12.80.3.27 on_modeBox_currentIndexChanged . . . 957
12.80.3.28 on_modeButton_clicked . . . 958
12.80.3.29 on_numBox_currentIndexChanged . . . 958
12.80.3.30 on_numButton_clicked . . . 958
12.80.3.31 on_programKpBox_textChanged . . . 959
12.80.3.32 on_programKpButton_clicked . . . 959
12.80.3.33 on_programKpSIBox_clicked . . . 959
12.80.3.34 on_programKrBox_textChanged . . . 960
12.80.3.35 on_programKrButton_clicked . . . 960
12.80.3.36 on_programKrSIBox_clicked . . . 960
12.80.3.37 on_pteMacroBox_textChanged . . . 961
12.80.3.38 on_rb_delay_asTyped_toggled . . . 961
12.80.3.39 on_rb_delay_default_toggled . . . 961
12.80.3.40 on_rb_delay_no_toggled . . . 962
12.80.3.41 on_resetButton_clicked . . . 962
12.80.3.42 on_typingBox_currentIndexChanged . . . 963
12.80.3.43 on_typingButton_clicked . . . 963
12.80.3.44 on_unbindButton_clicked . . . 963
12.80.3.45 on_wheelBox_currentIndexChanged . . . 964
12.80.3.46 on_wheelButton_clicked . . . 964
12.80.3.47 setBind . . . 964
12.80.3.48 setBox . . . 967

12.80.3.49 setCorrectRadioButton . . . 968
12.80.3.50 setSelection . . . 969
12.80.4 Field Documentation . . . 972
12.80.4.1 bind . . . 973
12.80.4.2 firstCall . . . 973
12.80.4.3 fnKeys . . . 973
12.80.4.4 macReader . . . 973
12.80.4.5 mediaKeys . . . 973
12.80.4.6 modKeys . . . 973
12.80.4.7 mouseExtKeys . . . 973
12.80.4.8 mouseKeys . . . 973
12.80.4.9 numKeys . . . 973
12.80.4.10 profile . . . 974
12.80.4.11 selection . . . 974
12.80.4.12 TAB_ANIM . . . 974
12.80.4.13 TAB_KB . . . 974
12.80.4.14 TAB_MACRO . . . 974
12.80.4.15 TAB_MOUSE . . . 974
12.80.4.16 TAB_PROGRAM . . . 974
12.80.4.17 TAB_SPECIAL . . . 974
12.80.4.18 typingKeys . . . 974
12.80.4.19 ui . . . 975
12.80.4.20 wheelKeys . . . 975
12.81 Ui::RebindWidget Class Reference . . . 975
12.81.1 Detailed Description . . . 979
12.81.2 Member Function Documentation . . . 979
12.81.2.1 retranslateUi . . . 979
12.81.2.2 setupUi . . . 982
12.81.3 Field Documentation . . . 992
12.81.3.1 actionTab . . . 992
12.81.3.2 animBox . . . 992
12.81.3.3 animButton . . . 992
12.81.3.4 animKrBox . . . 992
12.81.3.5 animOnceBox . . . 992
12.81.3.6 animTab . . . 992
12.81.3.7 applyButton . . . 993
12.81.3.8 btnClearMacro . . . 993
12.81.3.9 btnStartMacro . . . 993
12.81.3.10 btnStopMacro . . . 993
12.81.3.11 cancelButton . . . 993

12.81.3.12 delayButtons . . . 993
12.81.3.13 dpiBox . . . 993
12.81.3.14 dpiButton . . . 993
12.81.3.15 dpiCustLabel . . . 994
12.81.3.16 dpiCustXBox . . . 994
12.81.3.17 dpiCustYBox . . . 994
12.81.3.18 dpiWarning . . . 994
12.81.3.19 fnBox . . . 994
12.81.3.20 fnButton . . . 994
12.81.3.21 gridLayout . . . 994
12.81.3.22 gridLayout_10 . . . 994
12.81.3.23 gridLayout_2 . . . 995
12.81.3.24 gridLayout_3 . . . 995
12.81.3.25 gridLayout_4 . . . 995
12.81.3.26 gridLayout_5 . . . 995
12.81.3.27 gridLayout_8 . . . 995
12.81.3.28 groupBox . . . 995
12.81.3.29 groupBox_2 . . . 995
12.81.3.30 groupBox_3 . . . 995
12.81.3.31 groupBox_4 . . . 995
12.81.3.32 horizontalLayout . . . 996
12.81.3.33 horizontalLayout_2 . . . 996
12.81.3.34 horizontalLayout_3 . . . 996
12.81.3.35 horizontalSpacer . . . 996
12.81.3.36 horizontalSpacer_10 . . . 996
12.81.3.37 horizontalSpacer_11 . . . 996
12.81.3.38 horizontalSpacer_12 . . . 996
12.81.3.39 horizontalSpacer_13 . . . 996
12.81.3.40 horizontalSpacer_14 . . . 996
12.81.3.41 horizontalSpacer_15 . . . 997
12.81.3.42 horizontalSpacer_16 . . . 997
12.81.3.43 horizontalSpacer_17 . . . 997
12.81.3.44 horizontalSpacer_18 . . . 997
12.81.3.45 horizontalSpacer_19 . . . 997
12.81.3.46 horizontalSpacer_20 . . . 997
12.81.3.47 horizontalSpacer_21 . . . 997
12.81.3.48 horizontalSpacer_22 . . . 997
12.81.3.49 horizontalSpacer_23 . . . 997
12.81.3.50 horizontalSpacer_24 . . . 998
12.81.3.51 horizontalSpacer_25 . . . 998

12.81.3.52 horizontalSpacer_26 . . . 998
12.81.3.53 horizontalSpacer_3 . . . 998
12.81.3.54 horizontalSpacer_4 . . . 998
12.81.3.55 horizontalSpacer_5 . . . 998
12.81.3.56 horizontalSpacer_8 . . . 998
12.81.3.57 keyTab . . . 998
12.81.3.58 layoutWidget . . . 998
12.81.3.59 layoutWidget1 . . . 999
12.81.3.60 layoutWidget_2 . . . 999
12.81.3.61 lbl_macro . . . 999
12.81.3.62 lightBox . . . 999
12.81.3.63 lightButton . . . 999
12.81.3.64 lightWrapBox . . . 999
12.81.3.65 lockBox . . . 999
12.81.3.66 lockButton . . . 999
12.81.3.67 macroTab . . . 1000
12.81.3.68 mb2Box . . . 1000
12.81.3.69 mb2Button . . . 1000
12.81.3.70 mbBox . . . 1000
12.81.3.71 mbButton . . . 1000
12.81.3.72 mediaBox . . . 1000
12.81.3.73 mediaButton . . . 1000
12.81.3.74 modBox . . . 1000
12.81.3.75 modButton . . . 1001
12.81.3.76 modeBox . . . 1001
12.81.3.77 modeButton . . . 1001
12.81.3.78 modeWrapBox . . . 1001
12.81.3.79 mouseTab . . . 1001
12.81.3.80 numBox . . . 1001
12.81.3.81 numButton . . . 1001
12.81.3.82 programKpBox . . . 1002
12.81.3.83 programKpButton . . . 1002
12.81.3.84 programKpExtra . . . 1002
12.81.3.85 programKpModeBox . . . 1002
12.81.3.86 programKpSIBox . . . 1002
12.81.3.87 programKrBox . . . 1002
12.81.3.88 programKrButton . . . 1002
12.81.3.89 programKrExtra . . . 1002
12.81.3.90 programKrModeBox . . . 1003
12.81.3.91 programKrSIBox . . . 1003

12.81.3.92 programTab . . . 1003
12.81.3.93 progTipLabel . . . 1003
12.81.3.94 pteMacroBox . . . 1003
12.81.3.95 pteMacroComment . . . 1003
12.81.3.96 pteMacroText . . . 1003
12.81.3.97 rb_delay_asTyped . . . 1003
12.81.3.98 rb_delay_default . . . 1004
12.81.3.99 rb_delay_no . . . 1004
12.81.3.100 resetButton . . . 1004
12.81.3.101 tabWidget . . . 1004
12.81.3.102 textBuffer . . . 1004
12.81.3.103 typingBox . . . 1004
12.81.3.104 typingButton . . . 1004
12.81.3.105 unbindButton . . . 1004
12.81.3.106 verticalLayout . . . 1005
12.81.3.107 verticalLayout_2 . . . 1005
12.81.3.108 verticalSpacer . . . 1005
12.81.3.109 verticalSpacer_10 . . . 1005
12.81.3.110 verticalSpacer_11 . . . 1005
12.81.3.111 verticalSpacer_2 . . . 1005
12.81.3.112 verticalSpacer_3 . . . 1005
12.81.3.113 verticalSpacer_4 . . . 1005
12.81.3.114 verticalSpacer_5 . . . 1005
12.81.3.115 verticalSpacer_6 . . . 1006
12.81.3.116 verticalSpacer_7 . . . 1006
12.81.3.117 verticalSpacer_8 . . . 1006
12.81.3.118 wheelBox . . . 1006
12.81.3.119 wheelButton . . . 1006
12.82 RListWidget Class Reference . . . 1006
12.82.1 Detailed Description . . . 1008
12.82.2 Constructor & Destructor Documentation . . . 1008
12.82.2.1 RListWidget . . . 1008
12.82.3 Member Function Documentation . . . 1009
12.82.3.1 change . . . 1009
12.82.3.2 enter . . . 1009
12.82.3.3 orderChanged . . . 1010
12.82.3.4 rescanItems . . . 1010
12.82.3.5 timerTick . . . 1011
12.82.4 Field Documentation . . . 1012
12.82.4.1 currentData . . . 1012

12.82.4.2 DATA_ROLE . . . 1012
12.82.4.3 dragged . . . 1012
12.82.4.4 previousItems . . . 1012
12.82.4.5 reorderTimer . . . 1012
12.83 SettingsWidget Class Reference . . . 1012
12.83.1 Detailed Description . . . 1015
12.83.2 Constructor & Destructor Documentation . . . 1015
12.83.2.1 SettingsWidget . . . 1015
12.83.2.2 ~SettingsWidget . . . 1016
12.83.3 Member Function Documentation . . . 1017
12.83.3.1 on_altBox_activated . . . 1017
12.83.3.2 on_autoFWBox_clicked . . . 1017
12.83.3.3 on_capsBox_activated . . . 1017
12.83.3.4 on_ctrlBox_activated . . . 1018
12.83.3.5 on_extraButton_clicked . . . 1018
12.83.3.6 on_layoutBox_activated . . . 1018
12.83.3.7 on_loginItemBox_clicked . . . 1019
12.83.3.8 on_pushButton_clicked . . . 1019
12.83.3.9 on_shiftBox_activated . . . 1020
12.83.3.10 on_winBox_activated . . . 1020
12.83.3.11 pollUpdates . . . 1020
12.83.3.12 setStatus . . . 1021
12.83.3.13 setVersion . . . 1021
12.83.3.14 showLayoutDialog . . . 1022
12.83.3.15 updateModifiers . . . 1022
12.83.4 Friends And Related Function Documentation . . . 1023
12.83.4.1 MainWindow . . . 1023
12.83.5 Field Documentation . . . 1024
12.83.5.1 extra . . . 1024
12.83.5.2 ui . . . 1024
12.84 Ui::SettingsWidget Class Reference . . . 1024
12.84.1 Detailed Description . . . 1026
12.84.2 Member Function Documentation . . . 1026
12.84.2.1 retranslateUi . . . 1026
12.84.2.2 setupUi . . . 1027
12.84.3 Field Documentation . . . 1031
12.84.3.1 altBox . . . 1031
12.84.3.2 altLabel . . . 1031
12.84.3.3 autoFWBox . . . 1031
12.84.3.4 capsBox . . . 1031

12.84.3.5 capsLabel . . . 1032
12.84.3.6 ctrlBox . . . 1032
12.84.3.7 ctrlLabel . . . 1032
12.84.3.8 devicesLabel . . . 1032
12.84.3.9 extraButton . . . 1032
12.84.3.10 gridLayout . . . 1032
12.84.3.11 gridLayout_3 . . . 1032
12.84.3.12 gridLayout_5 . . . 1032
12.84.3.13 horizontalLayout . . . 1032
12.84.3.14 horizontalLayout_2 . . . 1033
12.84.3.15 horizontalSpacer . . . 1033
12.84.3.16 horizontalSpacer_10 . . . 1033
12.84.3.17 horizontalSpacer_2 . . . 1033
12.84.3.18 horizontalSpacer_7 . . . 1033
12.84.3.19 horizontalSpacer_9 . . . 1033
12.84.3.20 label . . . 1033
12.84.3.21 label_2 . . . 1033
12.84.3.22 label_3 . . . 1033
12.84.3.23 label_5 . . . 1034
12.84.3.24 label_6 . . . 1034
12.84.3.25 label_8 . . . 1034
12.84.3.26 layoutBox . . . 1034
12.84.3.27 line . . . 1034
12.84.3.28 line_2 . . . 1034
12.84.3.29 line_3 . . . 1034
12.84.3.30 loginItemBox . . . 1034
12.84.3.31 pushButton . . . 1034
12.84.3.32 shiftBox . . . 1035
12.84.3.33 shiftLabel . . . 1035
12.84.3.34 versionLabel . . . 1035
12.84.3.35 verticalSpacer . . . 1035
12.84.3.36 verticalSpacer_10 . . . 1035
12.84.3.37 verticalSpacer_2 . . . 1035
12.84.3.38 verticalSpacer_3 . . . 1035
12.84.3.39 verticalSpacer_4 . . . 1035
12.84.3.40 verticalSpacer_5 . . . 1035
12.84.3.41 verticalSpacer_6 . . . 1036
12.84.3.42 verticalSpacer_7 . . . 1036
12.84.3.43 verticalSpacer_8 . . . 1036
12.84.3.44 winBox . . . 1036

12.84.3.45winLabel . . . 1036
12.85SGroup Class Reference . . . 1036
12.85.1 Detailed Description . . . 1037
12.85.2 Constructor & Destructor Documentation . . . 1038
12.85.2.1 SGroup . . . 1038
12.85.2.2 ~SGroup . . . 1038
12.85.3 Field Documentation . . . 1038
12.85.3.1 _settings . . . 1038
12.86Ui_AnimAddDialog Class Reference . . . 1039
12.86.1 Detailed Description . . . 1040
12.86.2 Member Function Documentation . . . 1040
12.86.2.1 retranslateUi . . . 1040
12.86.2.2 setupUi . . . 1040
12.86.3 Field Documentation . . . 1042
12.86.3.1 animBox . . . 1042
12.86.3.2 buttonBox . . . 1042
12.86.3.3 gridLayout . . . 1042
12.86.3.4 horizontalLayout . . . 1042
12.86.3.5 horizontalSpacer . . . 1042
12.86.3.6 horizontalSpacer_2 . . . 1043
12.86.3.7 label . . . 1043
12.86.3.8 label_2 . . . 1043
12.86.3.9 presetBox . . . 1043
12.86.3.10previewBox . . . 1043
12.86.3.11verticalSpacer_2 . . . 1043
12.86.3.12verticalSpacer_3 . . . 1043
12.87Ui_AnimSettingDialog Class Reference . . . 1043
12.87.1 Detailed Description . . . 1046
12.87.2 Member Function Documentation . . . 1046
12.87.2.1 retranslateUi . . . 1046
12.87.2.2 setupUi . . . 1047
12.87.3 Field Documentation . . . 1050
12.87.3.1 animName . . . 1050
12.87.3.2 buttonBox . . . 1050
12.87.3.3 delayBox . . . 1051
12.87.3.4 gridLayout . . . 1051
12.87.3.5 gridLayout_2 . . . 1051
12.87.3.6 horizontalSpacer . . . 1051
12.87.3.7 horizontalSpacer_2 . . . 1051
12.87.3.8 horizontalSpacer_3 . . . 1051

12.87.3.9 horizontalSpacer_4 . . . 1051
12.87.3.10 horizontalSpacer_5 . . . 1051
12.87.3.11 horizontalSpacer_6 . . . 1051
12.87.3.12 infoTab . . . 1052
12.87.3.13 kpDelayBox . . . 1052
12.87.3.14 kpModeStopBox . . . 1052
12.87.3.15 kpReleaseBox . . . 1052
12.87.3.16 kpRepeatBox . . . 1052
12.87.3.17 kpRepeatLabel . . . 1052
12.87.3.18 kpRepeatLabel_2 . . . 1052
12.87.3.19 label . . . 1052
12.87.3.20 label_10 . . . 1052
12.87.3.21 label_11 . . . 1053
12.87.3.22 label_12 . . . 1053
12.87.3.23 label_13 . . . 1053
12.87.3.24 label_2 . . . 1053
12.87.3.25 label_3 . . . 1053
12.87.3.26 label_4 . . . 1053
12.87.3.27 label_5 . . . 1053
12.87.3.28 label_6 . . . 1053
12.87.3.29 label_7 . . . 1053
12.87.3.30 label_8 . . . 1054
12.87.3.31 label_9 . . . 1054
12.87.3.32 line . . . 1054
12.87.3.33 line_2 . . . 1054
12.87.3.34 repeatBox . . . 1054
12.87.3.35 repeatLabel . . . 1054
12.87.3.36 repeatLabel_2 . . . 1054
12.87.3.37 sAuthorLabel . . . 1054
12.87.3.38 sDescLabel . . . 1054
12.87.3.39 settingsGrid . . . 1055
12.87.3.40 settingTab . . . 1055
12.87.3.41 sLicenseLabel . . . 1055
12.87.3.42 sNameLabel . . . 1055
12.87.3.43 sVerLabel . . . 1055
12.87.3.44 sYearLabel . . . 1055
12.87.3.45 tabWidget . . . 1055
12.87.3.46 timeGrid . . . 1055
12.87.3.47 timeTab . . . 1055
12.87.3.48 verticalSpacer . . . 1056

12.87.3.49 verticalSpacer_2 . . . 1056
12.87.3.50 verticalSpacer_3 . . . 1056
12.88 Ui_ExtraSettingsWidget Class Reference . . . 1056
12.88.1 Detailed Description . . . 1058
12.88.2 Member Function Documentation . . . 1059
12.88.2.1 retranslateUi . . . 1059
12.88.2.2 setupUi . . . 1060
12.88.3 Field Documentation . . . 1063
12.88.3.1 animCountLabel . . . 1063
12.88.3.2 animPathLabel . . . 1064
12.88.3.3 animScanButton . . . 1064
12.88.3.4 brightnessBox . . . 1064
12.88.3.5 buttonBox . . . 1064
12.88.3.6 delayBox . . . 1064
12.88.3.7 ditherBox . . . 1064
12.88.3.8 fpsBox . . . 1064
12.88.3.9 fpsWarnLabel . . . 1064
12.88.3.10 gridLayout . . . 1064
12.88.3.11 horizontalLayout . . . 1065
12.88.3.12 horizontalLayout_2 . . . 1065
12.88.3.13 horizontalSpacer . . . 1065
12.88.3.14 horizontalSpacer_2 . . . 1065
12.88.3.15 horizontalSpacer_3 . . . 1065
12.88.3.16 label . . . 1065
12.88.3.17 label_10 . . . 1065
12.88.3.18 label_11 . . . 1065
12.88.3.19 label_2 . . . 1065
12.88.3.20 label_3 . . . 1066
12.88.3.21 label_5 . . . 1066
12.88.3.22 label_6 . . . 1066
12.88.3.23 line . . . 1066
12.88.3.24 line_2 . . . 1066
12.88.3.25 line_3 . . . 1066
12.88.3.26 mAccelBox . . . 1066
12.88.3.27 osxLabel . . . 1066
12.88.3.28 osxLine . . . 1066
12.88.3.29 sAccelBox . . . 1067
12.88.3.30 sSpeedBox . . . 1067
12.88.3.31 sSpeedWidget . . . 1067
12.88.3.32 trayBox . . . 1067

12.88.3.33 verticalSpacer . . . 1067
12.88.3.34 verticalSpacer_10 . . . 1067
12.88.3.35 verticalSpacer_11 . . . 1067
12.88.3.36 verticalSpacer_2 . . . 1067
12.88.3.37 verticalSpacer_3 . . . 1067
12.88.3.38 verticalSpacer_4 . . . 1068
12.88.3.39 verticalSpacer_5 . . . 1068
12.88.3.40 verticalSpacer_6 . . . 1068
12.88.3.41 verticalSpacer_7 . . . 1068
12.88.3.42 verticalSpacer_8 . . . 1068
12.88.3.43 verticalSpacer_9 . . . 1068
12.89 Ui_FwUpgradeDialog Class Reference . . . 1068
12.89.1 Detailed Description . . . 1070
12.89.2 Member Function Documentation . . . 1070
12.89.2.1 retranslateUi . . . 1070
12.89.2.2 setupUi . . . 1071
12.89.3 Field Documentation . . . 1072
12.89.3.1 actionButton . . . 1072
12.89.3.2 cancelButton . . . 1073
12.89.3.3 curLabel . . . 1073
12.89.3.4 devLabel . . . 1073
12.89.3.5 gridLayout . . . 1073
12.89.3.6 gridLayout_2 . . . 1073
12.89.3.7 horizontalSpacer . . . 1073
12.89.3.8 horizontalSpacer_2 . . . 1073
12.89.3.9 horizontalSpacer_3 . . . 1073
12.89.3.10 horizontalSpacer_4 . . . 1073
12.89.3.11 label_2 . . . 1074
12.89.3.12 label_4 . . . 1074
12.89.3.13 newLabel . . . 1074
12.89.3.14 progressBar . . . 1074
12.89.3.15 statusLabel . . . 1074
12.90 Ui_GradientDialog Class Reference . . . 1074
12.90.1 Detailed Description . . . 1076
12.90.2 Member Function Documentation . . . 1076
12.90.2.1 retranslateUi . . . 1076
12.90.2.2 setupUi . . . 1077
12.90.3 Field Documentation . . . 1079
12.90.3.1 buttonBox . . . 1079
12.90.3.2 gridLayout . . . 1079

12.90.3.3 gridLayout_2 . . . 1079
12.90.3.4 gridLayout_3 . . . 1079
12.90.3.5 groupBox_2 . . . 1080
12.90.3.6 horizontalLayout . . . 1080
12.90.3.7 horizontalLayout_2 . . . 1080
12.90.3.8 horizontalSpacer . . . 1080
12.90.3.9 horizontalSpacer_2 . . . 1080
12.90.3.10 horizontalSpacer_3 . . . 1080
12.90.3.11 label . . . 1080
12.90.3.12 label_2 . . . 1080
12.90.3.13 presetDelete . . . 1080
12.90.3.14 presetList . . . 1081
12.90.3.15 presetName . . . 1081
12.90.3.16 presetSave . . . 1081
12.90.3.17 stopBox . . . 1081
12.90.3.18 stopColor . . . 1081
12.90.3.19 stopOpacity . . . 1081
12.90.3.20 stopPos . . . 1081
12.90.3.21 verticalSpacer . . . 1081
12.90.3.22 verticalSpacer_2 . . . 1081
12.90.3.23 widget . . . 1082
12.91 Ui_KbAnimWidget Class Reference . . . 1082
12.91.1 Detailed Description . . . 1084
12.91.2 Member Function Documentation . . . 1084
12.91.2.1 retranslateUi . . . 1084
12.91.2.2 setupUi . . . 1084
12.91.3 Field Documentation . . . 1087
12.91.3.1 aCopyLabel . . . 1087
12.91.3.2 aMissingLabel . . . 1087
12.91.3.3 aMissingPage . . . 1087
12.91.3.4 aNameLabel . . . 1087
12.91.3.5 animList . . . 1087
12.91.3.6 animPage . . . 1088
12.91.3.7 aVerLabel . . . 1088
12.91.3.8 blendBox . . . 1088
12.91.3.9 deleteButton . . . 1088
12.91.3.10 gridLayout . . . 1088
12.91.3.11 gridLayout_2 . . . 1088
12.91.3.12 gridLayout_3 . . . 1088
12.91.3.13 gridLayout_4 . . . 1088

12.91.3.14 horizontalLayout . . . 1089
12.91.3.15 horizontalSpacer . . . 1089
12.91.3.16 horizontalSpacer_2 . . . 1089
12.91.3.17 horizontalSpacer_3 . . . 1089
12.91.3.18 horizontalSpacer_4 . . . 1089
12.91.3.19 horizontalSpacer_5 . . . 1089
12.91.3.20 keyButton . . . 1089
12.91.3.21 label_5 . . . 1089
12.91.3.22 label_6 . . . 1089
12.91.3.23 label_7 . . . 1090
12.91.3.24 nameBox . . . 1090
12.91.3.25 noAnimLabel . . . 1090
12.91.3.26 noSelPage . . . 1090
12.91.3.27 opacityBox . . . 1090
12.91.3.28 propertyButton . . . 1090
12.91.3.29 selectionStack . . . 1090
12.91.3.30 verticalLayout . . . 1090
12.91.3.31 verticalSpacer . . . 1090
12.91.3.32 verticalSpacer_2 . . . 1091
12.91.3.33 verticalSpacer_3 . . . 1091
12.92 Ui_KbBindWidget Class Reference . . . 1091
12.92.1 Detailed Description . . . 1092
12.92.2 Member Function Documentation . . . 1093
12.92.2.1 retranslateUi . . . 1093
12.92.2.2 setupUi . . . 1093
12.92.3 Field Documentation . . . 1095
12.92.3.1 copyButton . . . 1095
12.92.3.2 gridLayout . . . 1095
12.92.3.3 gridLayout_2 . . . 1095
12.92.3.4 horizontalLayout_2 . . . 1095
12.92.3.5 horizontalSpacer . . . 1096
12.92.3.6 horizontalSpacer_2 . . . 1096
12.92.3.7 keyWidget . . . 1096
12.92.3.8 label . . . 1096
12.92.3.9 label_2 . . . 1096
12.92.3.10 line . . . 1096
12.92.3.11 line_2 . . . 1096
12.92.3.12 rbWidget . . . 1096
12.92.3.13 resetButton . . . 1096
12.92.3.14 selectLabel . . . 1097

12.92.3.15 verticalLayout . . . 1097
12.92.3.16 verticalSpacer . . . 1097
12.92.3.17 widget . . . 1097
12.93 Ui_KbLightWidget Class Reference . . . 1097
12.93.1 Detailed Description . . . 1099
12.93.2 Member Function Documentation . . . 1099
12.93.2.1 retranslateUi . . . 1099
12.93.2.2 setupUi . . . 1100
12.93.3 Field Documentation . . . 1103
12.93.3.1 animButton . . . 1103
12.93.3.2 animWidget . . . 1103
12.93.3.3 bgButton . . . 1103
12.93.3.4 brightnessBox . . . 1103
12.93.3.5 gridLayout . . . 1103
12.93.3.6 gridLayout_2 . . . 1103
12.93.3.7 gridLayout_4 . . . 1103
12.93.3.8 horizontalLayout . . . 1104
12.93.3.9 horizontalLayout_2 . . . 1104
12.93.3.10 horizontalLayout_3 . . . 1104
12.93.3.11 horizontalSpacer_3 . . . 1104
12.93.3.12 horizontalSpacer_4 . . . 1104
12.93.3.13 horizontalSpacer_5 . . . 1104
12.93.3.14 horizontalSpacer_6 . . . 1104
12.93.3.15 keyWidget . . . 1104
12.93.3.16 label . . . 1104
12.93.3.17 label_2 . . . 1105
12.93.3.18 label_3 . . . 1105
12.93.3.19 line . . . 1105
12.93.3.20 line_2 . . . 1105
12.93.3.21 selLabel . . . 1105
12.93.3.22 showAnimBox . . . 1105
12.93.3.23 verticalLayout . . . 1105
12.93.3.24 verticalSpacer . . . 1105
12.93.3.25 verticalSpacer_2 . . . 1105
12.93.3.26 verticalSpacer_3 . . . 1106
12.93.3.27 widget . . . 1106
12.94 Ui_KbProfileDialog Class Reference . . . 1106
12.94.1 Detailed Description . . . 1107
12.94.2 Member Function Documentation . . . 1107
12.94.2.1 retranslateUi . . . 1107

12.94.2.2 setupUi . . . 1108
12.94.3 Field Documentation . . . 1109
12.94.3.1 buttonBox . . . 1109
12.94.3.2 gridLayout . . . 1109
12.94.3.3 horizontalSpacer . . . 1109
12.94.3.4 horizontalSpacer_2 . . . 1109
12.94.3.5 profileList . . . 1109
12.95 Ui_KbWidget Class Reference . . . 1109
12.95.1 Detailed Description . . . 1111
12.95.2 Member Function Documentation . . . 1111
12.95.2.1 retranslateUi . . . 1111
12.95.2.2 setupUi . . . 1112
12.95.3 Field Documentation . . . 1115
12.95.3.1 bindTab . . . 1115
12.95.3.2 bindWidget . . . 1115
12.95.3.3 devTab . . . 1115
12.95.3.4 fwLabel . . . 1115
12.95.3.5 fwUpdButton . . . 1116
12.95.3.6 fwUpdLabel . . . 1116
12.95.3.7 fwUpdLayout . . . 1116
12.95.3.8 gridLayout . . . 1116
12.95.3.9 gridLayout_2 . . . 1116
12.95.3.10 gridLayout_3 . . . 1116
12.95.3.11 gridLayout_4 . . . 1116
12.95.3.12 gridLayout_5 . . . 1116
12.95.3.13 gridLayout_7 . . . 1116
12.95.3.14 horizontalSpacer_2 . . . 1117
12.95.3.15 horizontalSpacer_3 . . . 1117
12.95.3.16 hwSaveButton . . . 1117
12.95.3.17 kPerfTab . . . 1117
12.95.3.18 kPerfWidget . . . 1117
12.95.3.19 label_3 . . . 1117
12.95.3.20 label_4 . . . 1117
12.95.3.21 label_9 . . . 1117
12.95.3.22 lightTab . . . 1117
12.95.3.23 lightWidget . . . 1118
12.95.3.24 modesList . . . 1118
12.95.3.25 mPerfTab . . . 1118
12.95.3.26 mPerfWidget . . . 1118
12.95.3.27 pollLabel . . . 1118

12.95.3.28 pollLabel2 . . . 1118
12.95.3.29 profileBox . . . 1118
12.95.3.30 serialLabel . . . 1118
12.95.3.31 tabWidget . . . 1118
12.95.3.32 verticalSpacer . . . 1119
12.96 Ui_KPerfWidget Class Reference . . . 1119
12.96.1 Detailed Description . . . 1122
12.96.2 Member Function Documentation . . . 1122
12.96.2.1 retranslateUi . . . 1122
12.96.2.2 setupUi . . . 1123
12.96.3 Field Documentation . . . 1129
12.96.3.1 capsBox . . . 1129
12.96.3.2 capsColorOff . . . 1130
12.96.3.3 capsColorOn . . . 1130
12.96.3.4 copyButton . . . 1130
12.96.3.5 gridLayout . . . 1130
12.96.3.6 horizontalLayout . . . 1130
12.96.3.7 horizontalLayout_2 . . . 1130
12.96.3.8 horizontalSpacer . . . 1130
12.96.3.9 horizontalSpacer_2 . . . 1130
12.96.3.10 horizontalSpacer_3 . . . 1130
12.96.3.11 horizontalSpacer_4 . . . 1131
12.96.3.12 horizontalSpacer_5 . . . 1131
12.96.3.13 horizontalSpacer_6 . . . 1131
12.96.3.14 horizontalSpacer_7 . . . 1131
12.96.3.15 horizontalSpacer_8 . . . 1131
12.96.3.16 intensityBox . . . 1131
12.96.3.17 k95Label1 . . . 1131
12.96.3.18 k95Label2 . . . 1131
12.96.3.19 k95Label3 . . . 1131
12.96.3.20 k95Label4 . . . 1132
12.96.3.21 k95Label5 . . . 1132
12.96.3.22 k95Label6 . . . 1132
12.96.3.23 k95Line . . . 1132
12.96.3.24 k95Spacer . . . 1132
12.96.3.25 label . . . 1132
12.96.3.26 label_10 . . . 1132
12.96.3.27 label_11 . . . 1132
12.96.3.28 label_12 . . . 1132
12.96.3.29 label_14 . . . 1133

12.96.3.30 label_15 . . . 1133
12.96.3.31 label_16 . . . 1133
12.96.3.32 label_17 . . . 1133
12.96.3.33 label_18 . . . 1133
12.96.3.34 label_19 . . . 1133
12.96.3.35 label_2 . . . 1133
12.96.3.36 label_20 . . . 1133
12.96.3.37 label_21 . . . 1133
12.96.3.38 label_22 . . . 1134
12.96.3.39 label_23 . . . 1134
12.96.3.40 label_24 . . . 1134
12.96.3.41 label_3 . . . 1134
12.96.3.42 label_4 . . . 1134
12.96.3.43 label_5 . . . 1134
12.96.3.44 label_6 . . . 1134
12.96.3.45 label_7 . . . 1134
12.96.3.46 label_8 . . . 1134
12.96.3.47 lightBox . . . 1135
12.96.3.48 lightColor1 . . . 1135
12.96.3.49 lightColor2 . . . 1135
12.96.3.50 lightColor3 . . . 1135
12.96.3.51 line . . . 1135
12.96.3.52 line_2 . . . 1135
12.96.3.53 line_3 . . . 1135
12.96.3.54 lockBox . . . 1135
12.96.3.55 lockColorOff . . . 1135
12.96.3.56 lockColorOn . . . 1136
12.96.3.57 macroBox . . . 1136
12.96.3.58 macroColorOff . . . 1136
12.96.3.59 macroColorOn . . . 1136
12.96.3.60 modeBox . . . 1136
12.96.3.61 modeColorOff . . . 1136
12.96.3.62 modeColorOn . . . 1136
12.96.3.63 muteBox . . . 1136
12.96.3.64 muteColorNA . . . 1136
12.96.3.65 muteColorOff . . . 1137
12.96.3.66 muteColorOn . . . 1137
12.96.3.67 numBox . . . 1137
12.96.3.68 numColorOff . . . 1137
12.96.3.69 numColorOn . . . 1137

12.96.3.70 scrollBox . . . 1137
12.96.3.71 scrollColorOff . . . 1137
12.96.3.72 scrollColorOn . . . 1137
12.96.3.73 verticalSpacer . . . 1137
12.96.3.74 verticalSpacer_2 . . . 1138
12.96.3.75 verticalSpacer_3 . . . 1138
12.96.3.76 verticalSpacer_4 . . . 1138
12.97 Ui_LayoutDialog Class Reference . . . 1138
12.97.1 Detailed Description . . . 1140
12.97.2 Member Function Documentation . . . 1140
12.97.2.1 retranslateUi . . . 1140
12.97.2.2 setupUi . . . 1140
12.97.3 Field Documentation . . . 1142
12.97.3.1 buttonBox . . . 1142
12.97.3.2 comboBox . . . 1142
12.97.3.3 gridLayout . . . 1142
12.97.3.4 horizontalSpacer . . . 1142
12.97.3.5 horizontalSpacer_2 . . . 1142
12.97.3.6 label . . . 1143
12.97.3.7 label_2 . . . 1143
12.97.3.8 verticalSpacer . . . 1143
12.97.3.9 verticalSpacer_2 . . . 1143
12.97.3.10 verticalSpacer_3 . . . 1143
12.97.3.11 verticalSpacer_4 . . . 1143
12.98 Ui_MainWindow Class Reference . . . 1143
12.98.1 Detailed Description . . . 1145
12.98.2 Member Function Documentation . . . 1145
12.98.2.1 retranslateUi . . . 1145
12.98.2.2 setupUi . . . 1145
12.98.3 Field Documentation . . . 1146
12.98.3.1 actionAbout . . . 1146
12.98.3.2 actionExit . . . 1146
12.98.3.3 centralWidget . . . 1147
12.98.3.4 gridLayout . . . 1147
12.98.3.5 tabWidget . . . 1147
12.99 Ui_ModeSelectDialog Class Reference . . . 1147
12.99.1 Detailed Description . . . 1148
12.99.2 Member Function Documentation . . . 1148
12.99.2.1 retranslateUi . . . 1148
12.99.2.2 setupUi . . . 1149

12.99.3 Field Documentation . . . 1150
12.99.3.1 buttonBox . . . 1150
12.99.3.2 gridLayout . . . 1150
12.99.3.3 label . . . 1150
12.99.3.4 modeList . . . 1150
12.99.3.5 selAllButton . . . 1150
12.99.3.6 selNoneButton . . . 1151
12.100 Ui_MPerfWidget Class Reference . . . 1151
12.100.1 Detailed Description . . . 1153
12.100.2 Member Function Documentation . . . 1154
12.100.2.1 retranslateUi . . . 1154
12.100.2.2 setupUi . . . 1155
12.100.3 Field Documentation . . . 1162
12.100.3.1 aSnapBox . . . 1162
12.100.3.2 copyButton . . . 1162
12.100.3.3 eBox1 . . . 1162
12.100.3.4 eBox2 . . . 1162
12.100.3.5 eBox3 . . . 1162
12.100.3.6 eBox4 . . . 1163
12.100.3.7 eBox5 . . . 1163
12.100.3.8 gridLayout . . . 1163
12.100.3.9 horizontalLayout . . . 1163
12.100.3.10 horizontalLayout_2 . . . 1163
12.100.3.11 horizontalLayout_4 . . . 1163
12.100.3.12 horizontalSpacer . . . 1163
12.100.3.13 horizontalSpacer_2 . . . 1163
12.100.3.14 horizontalSpacer_3 . . . 1163
12.100.3.15 horizontalSpacer_4 . . . 1164
12.100.3.16 horizontalSpacer_5 . . . 1164
12.100.3.17 horizontalSpacer_6 . . . 1164
12.100.3.18 horizontalSpacer_7 . . . 1164
12.100.3.19 iButton0 . . . 1164
12.100.3.20 iButton1 . . . 1164
12.100.3.21 iButton2 . . . 1164
12.100.3.22 iButton3 . . . 1164
12.100.3.23 iButton4 . . . 1164
12.100.3.24 iButton5 . . . 1165
12.100.3.25 iButtonO . . . 1165
12.100.3.26 indicBox . . . 1165
12.100.3.27 label . . . 1165

12.100.3.29 label_11 . . . 1165
12.100.3.30 label_12 . . . 1165
12.100.3.31 label_13 . . . 1165
12.100.3.32 label_14 . . . 1165
12.100.3.33 label_15 . . . 1165
12.100.3.34 label_2 . . . 1166
12.100.3.35 label_25 . . . 1166
12.100.3.36 label_3 . . . 1166
12.100.3.37 label_4 . . . 1166
12.100.3.38 label_5 . . . 1166
12.100.3.39 label_6 . . . 1166
12.100.3.40 label_7 . . . 1166
12.100.3.41 label_8 . . . 1166
12.100.3.42 lineHeightBox . . . 1166
12.100.3.43 line . . . 1167
12.100.3.44 line_2 . . . 1167
12.100.3.45 line_3 . . . 1167
12.100.3.46 spinBox . . . 1167
12.100.3.47 verticalLayout . . . 1167
12.100.3.48 verticalSpacer . . . 1167
12.100.3.49 verticalSpacer_2 . . . 1167
12.100.3.50 verticalSpacer_3 . . . 1167
12.100.3.51 xBox0 . . . 1167
12.100.3.52 xBox1 . . . 1168
12.100.3.53 xBox2 . . . 1168
12.100.3.54 xBox3 . . . 1168
12.100.3.55 xBox4 . . . 1168
12.100.3.56 xBox5 . . . 1168
12.100.3.57 xSlider0 . . . 1168
12.100.3.58 xSlider1 . . . 1168
12.100.3.59 xSlider2 . . . 1168
12.100.3.60 xSlider3 . . . 1168
12.100.3.61 xSlider4 . . . 1169
12.100.3.62 xSlider5 . . . 1169
12.100.3.63 yBox . . . 1169
12.100.3.64 yBox0 . . . 1169
12.100.3.65 yBox1 . . . 1169
12.100.3.66 yBox2 . . . 1169
12.100.3.67 yBox3 . . . 1169
12.100.3.68 yBox4 . . . 1169

12.100.3.68 yBox5 . . . 1169
12.100.3.69 ySlider0 . . . 1170
12.100.3.70 ySlider1 . . . 1170
12.100.3.71 ySlider2 . . . 1170
12.100.3.72 ySlider3 . . . 1170
12.100.3.73 ySlider4 . . . 1170
12.100.3.74 ySlider5 . . . 1170
12.101 Ui_RebindWidget Class Reference . . . 1170
12.101.1 Detailed Description . . . 1174
12.101.2 Member Function Documentation . . . 1174
12.101.2.1 retranslateUi . . . 1174
12.101.2.2 setupUi . . . 1176
12.101.3 Field Documentation . . . 1186
12.101.3.1 actionTab . . . 1186
12.101.3.2 animBox . . . 1186
12.101.3.3 animButton . . . 1186
12.101.3.4 animKrBox . . . 1187
12.101.3.5 animOnceBox . . . 1187
12.101.3.6 animTab . . . 1187
12.101.3.7 applyButton . . . 1187
12.101.3.8 btnClearMacro . . . 1187
12.101.3.9 btnStartMacro . . . 1187
12.101.3.10 btnStopMacro . . . 1187
12.101.3.11 cancelButton . . . 1187
12.101.3.12 delayButtons . . . 1187
12.101.3.13 dpiBox . . . 1188
12.101.3.14 dpiButton . . . 1188
12.101.3.15 dpiCustLabel . . . 1188
12.101.3.16 dpiCustXBox . . . 1188
12.101.3.17 dpiCustYBox . . . 1188
12.101.3.18 dpiWarning . . . 1188
12.101.3.19 fnBox . . . 1188
12.101.3.20 fnButton . . . 1188
12.101.3.21 gridLayout . . . 1189
12.101.3.22 gridLayout_10 . . . 1189
12.101.3.23 gridLayout_2 . . . 1189
12.101.3.24 gridLayout_3 . . . 1189
12.101.3.25 gridLayout_4 . . . 1189
12.101.3.26 gridLayout_5 . . . 1189
12.101.3.27 gridLayout_8 . . . 1189

12.101.3.28 groupBox . . . 1189
12.101.3.29 groupBox_2 . . . 1189
12.101.3.30 groupBox_3 . . . 1190
12.101.3.31 groupBox_4 . . . 1190
12.101.3.32 horizontalLayout . . . 1190
12.101.3.33 horizontalLayout_2 . . . 1190
12.101.3.34 horizontalLayout_3 . . . 1190
12.101.3.35 horizontalSpacer . . . 1190
12.101.3.36 horizontalSpacer_10 . . . 1190
12.101.3.37 horizontalSpacer_11 . . . 1190
12.101.3.38 horizontalSpacer_12 . . . 1190
12.101.3.39 horizontalSpacer_13 . . . 1191
12.101.3.40 horizontalSpacer_14 . . . 1191
12.101.3.41 horizontalSpacer_15 . . . 1191
12.101.3.42 horizontalSpacer_16 . . . 1191
12.101.3.43 horizontalSpacer_17 . . . 1191
12.101.3.44 horizontalSpacer_18 . . . 1191
12.101.3.45 horizontalSpacer_19 . . . 1191
12.101.3.46 horizontalSpacer_20 . . . 1191
12.101.3.47 horizontalSpacer_21 . . . 1191
12.101.3.48 horizontalSpacer_22 . . . 1192
12.101.3.49 horizontalSpacer_23 . . . 1192
12.101.3.50 horizontalSpacer_24 . . . 1192
12.101.3.51 horizontalSpacer_25 . . . 1192
12.101.3.52 horizontalSpacer_26 . . . 1192
12.101.3.53 horizontalSpacer_3 . . . 1192
12.101.3.54 horizontalSpacer_4 . . . 1192
12.101.3.55 horizontalSpacer_5 . . . 1192
12.101.3.56 horizontalSpacer_8 . . . 1192
12.101.3.57 keyTab . . . 1193
12.101.3.58 layoutWidget . . . 1193
12.101.3.59 layoutWidget1 . . . 1193
12.101.3.60 layoutWidget_2 . . . 1193
12.101.3.61 lbl_macro . . . 1193
12.101.3.62 lightBox . . . 1193
12.101.3.63 lightButton . . . 1193
12.101.3.64 lightWrapBox . . . 1193
12.101.3.65 lockBox . . . 1193
12.101.3.66 lockButton . . . 1194
12.101.3.67 macroTab . . . 1194

12.101.3.68 mb2Box . . . 1194
12.101.3.69 mb2Button . . . 1194
12.101.3.70 mbBox . . . 1194
12.101.3.71 mbButton . . . 1194
12.101.3.72 mediaBox . . . 1194
12.101.3.73 mediaButton . . . 1194
12.101.3.74 modBox . . . 1195
12.101.3.75 modButton . . . 1195
12.101.3.76 modeBox . . . 1195
12.101.3.77 modeButton . . . 1195
12.101.3.78 modeWrapBox . . . 1195
12.101.3.79 mouseTab . . . 1195
12.101.3.80 numBox . . . 1195
12.101.3.81 numButton . . . 1195
12.101.3.82 programKpBox . . . 1196
12.101.3.83 programKpButton . . . 1196
12.101.3.84 programKpExtra . . . 1196
12.101.3.85 programKpModeBox . . . 1196
12.101.3.86 programKpSIBox . . . 1196
12.101.3.87 programKrBox . . . 1196
12.101.3.88 programKrButton . . . 1196
12.101.3.89 programKrExtra . . . 1196
12.101.3.90 programKrModeBox . . . 1196
12.101.3.91 programKrSIBox . . . 1197
12.101.3.92 programTab . . . 1197
12.101.3.93 progTipLabel . . . 1197
12.101.3.94 rateMacroBox . . . 1197
12.101.3.95 rateMacroComment . . . 1197
12.101.3.96 rateMacroText . . . 1197
12.101.3.97 rb_delay_asTyped . . . 1197
12.101.3.98 rb_delay_default . . . 1197
12.101.3.99 rb_delay_no . . . 1198
12.101.3.100 resetButton . . . 1198
12.101.3.101 tabWidget . . . 1198
12.101.3.102 textBuffer . . . 1198
12.101.3.103 typingBox . . . 1198
12.101.3.104 typingButton . . . 1198
12.101.3.105 unbindButton . . . 1198
12.101.3.106 verticalLayout . . . 1198
12.101.3.107 verticalLayout_2 . . . 1199

12.101.3.108 verticalSpacer . . . 1199
12.101.3.109 verticalSpacer_10 . . . 1199
12.101.3.110 verticalSpacer_11 . . . 1199
12.101.3.111 verticalSpacer_2 . . . 1199
12.101.3.112 verticalSpacer_3 . . . 1199
12.101.3.113 verticalSpacer_4 . . . 1199
12.101.3.114 verticalSpacer_5 . . . 1199
12.101.3.115 verticalSpacer_6 . . . 1199
12.101.3.116 verticalSpacer_7 . . . 1200
12.101.3.117 verticalSpacer_8 . . . 1200
12.101.3.118 wheelBox . . . 1200
12.101.3.119 wheelButton . . . 1200
12.102 Ui_SettingsWidget Class Reference . . . 1200
12.102.1 Detailed Description . . . 1202
12.102.2 Member Function Documentation . . . 1203
12.102.2.1 retranslateUi . . . 1203
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 . . . 1208
12.102.3.4 capsBox . . . 1208
12.102.3.5 capsLabel . . . 1208
12.102.3.6 ctrlBox . . . 1208
12.102.3.7 ctrlLabel . . . 1208
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 . . . 1209
12.102.3.13 horizontalLayout . . . 1209
12.102.3.14 horizontalLayout_2 . . . 1209
12.102.3.15 horizontalSpacer . . . 1209
12.102.3.16 horizontalSpacer_10 . . . 1209
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 . . . 1210
12.102.3.22 label_3 . . . 1210

12.102.3.23 label_5 . . . 1210
12.102.3.24 label_6 . . . 1210
12.102.3.25 label_8 . . . 1210
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 . . . 1211
12.102.3.31 pushButton . . . 1211
12.102.3.32 shiftBox . . . 1211
12.102.3.33 shiftLabel . . . 1211
12.102.3.34 versionLabel . . . 1211
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 . . . 1212
12.102.3.40 verticalSpacer_5 . . . 1212
12.102.3.41 verticalSpacer_6 . . . 1212
12.102.3.42 verticalSpacer_7 . . . 1212
12.102.3.43 verticalSpacer_8 . . . 1212
12.102.3.44 winBox . . . 1212
12.102.3.45 winLabel . . . 1212
12.103 UsbId Struct Reference . . . 1212
12.103.1 Detailed Description . . . 1214
12.103.2 Constructor & Destructor Documentation . . . 1214
12.103.2.1 UsbId . . . 1214
12.103.2.2 UsbId . . . 1214
12.103.2.3 UsbId . . . 1214
12.103.3 Member Function Documentation . . . 1214
12.103.3.1 guidString . . . 1214
12.103.3.2 guidString . . . 1214
12.103.3.3 hwModifiedString . . . 1215
12.103.3.4 hwModifiedString . . . 1215
12.103.3.5 modifiedString . . . 1215
12.103.3.6 modifiedString . . . 1216
12.103.3.7 newGuid . . . 1216
12.103.3.8 newModified . . . 1216
12.103.4 Field Documentation . . . 1217
12.103.4.1 guid . . . 1217

12.103.4.2 hwModified . . . 1217
12.103.4.3 modified . . . 1217

13 File Documentation **1219**

13.1 BUILD.md File Reference . . . 1219
13.2 DAEMON.md File Reference . . . 1219
13.3 README.md File Reference . . . 1219
13.4 ROADMAP.md File Reference . . . 1219
13.5 src/ckb-daemon/command.c File Reference . . . 1219
13.5.1 Macro Definition Documentation . . . 1220
13.5.1.1 TRY_WITH_RESET . . . 1220
13.5.2 Function Documentation . . . 1220
13.5.2.1 readcmd . . . 1220
13.5.3 Variable Documentation . . . 1224
13.5.3.1 cmd_strings . . . 1224
13.6 src/ckb-daemon/command.h File Reference . . . 1224
13.6.1 Data Structure Documentation . . . 1226
13.6.1.1 union devcmd . . . 1226
13.6.2 Macro Definition Documentation . . . 1226
13.6.2.1 CMD_COUNT . . . 1226
13.6.2.2 CMD_DEV_COUNT . . . 1227
13.6.3 Typedef Documentation . . . 1227
13.6.3.1 cmdhandler . . . 1227
13.6.3.2 cmdhandler_io . . . 1227
13.6.3.3 cmdhandler_mac . . . 1227
13.6.3.4 devcmd . . . 1227
13.6.4 Enumeration Type Documentation . . . 1227
13.6.4.1 cmd . . . 1227
13.6.5 Function Documentation . . . 1229
13.6.5.1 readcmd . . . 1229
13.7 src/ckb-daemon/device.c File Reference . . . 1233
13.7.1 Function Documentation . . . 1234
13.7.1.1 _start_dev . . . 1234
13.7.1.2 start_dev . . . 1235
13.7.2 Variable Documentation . . . 1236
13.7.2.1 devlistmutex . . . 1236
13.7.2.2 devmutex . . . 1236
13.7.2.3 hwload_mode . . . 1236
13.7.2.4 inputmutex . . . 1236
13.7.2.5 keyboard . . . 1236

13.7.2.6 macromutex . . . 1236
13.8 src/ckb-daemon/device.h File Reference . . . 1237
13.8.1 Macro Definition Documentation . . . 1238
13.8.1.1 ACT_LIGHT . . . 1238
13.8.1.2 ACT_LOCK . . . 1238
13.8.1.3 ACT_M1 . . . 1238
13.8.1.4 ACT_M2 . . . 1238
13.8.1.5 ACT_M3 . . . 1238
13.8.1.6 ACT_MR_RING . . . 1238
13.8.1.7 ACT_NEXT . . . 1239
13.8.1.8 ACT_NEXT_NOWRAP . . . 1239
13.8.1.9 DEV_MAX . . . 1239
13.8.1.10 dmutex . . . 1239
13.8.1.11 imutex . . . 1239
13.8.1.12 IN_CORSAIR . . . 1239
13.8.1.13 IN_HID . . . 1239
13.8.1.14 IS_CONNECTED . . . 1239
13.8.1.15 mmutex . . . 1239
13.8.1.16 setactive . . . 1239
13.8.2 Function Documentation . . . 1240
13.8.2.1 cmd_active_kb . . . 1240
13.8.2.2 cmd_active_mouse . . . 1240
13.8.2.3 cmd_idle_kb . . . 1240
13.8.2.4 cmd_idle_mouse . . . 1241
13.8.2.5 cmd_pollrate . . . 1241
13.8.2.6 setactive_kb . . . 1241
13.8.2.7 setactive_mouse . . . 1243
13.8.2.8 setmodeindex_nrgb . . . 1244
13.8.2.9 start_dev . . . 1245
13.8.2.10 start_kb_nrgb . . . 1245
13.8.3 Variable Documentation . . . 1245
13.8.3.1 devmutex . . . 1245
13.8.3.2 inputmutex . . . 1246
13.8.3.3 keyboard . . . 1246
13.8.3.4 macromutex . . . 1246
13.9 src/ckb-daemon/device_keyboard.c File Reference . . . 1246
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 . . . 1251
13.11 src/ckb-daemon/device_vtable.c File Reference . . . 1253
13.11.1 Function Documentation . . . 1253
13.11.1.1 cmd_io_none . . . 1253
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 . . . 1254
13.11.1.6 loadprofile_none . . . 1254
13.11.2 Variable Documentation . . . 1254
13.11.2.1 vtable_keyboard . . . 1254
13.11.2.2 vtable_keyboard_nonrgb . . . 1254
13.11.2.3 vtable_mouse . . . 1255
13.12 src/ckb-daemon/devnode.c File Reference . . . 1255
13.12.1 Data Structure Documentation . . . 1256
13.12.1.1 struct _readlines_ctx . . . 1256
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 . . . 1257
13.12.3.2 _mknotifynode . . . 1259
13.12.3.3 _rmnotifynode . . . 1260
13.12.3.4 _updateconnected . . . 1260
13.12.3.5 mkdevpath . . . 1261
13.12.3.6 mkfwnode . . . 1262
13.12.3.7 mknotifynode . . . 1263
13.12.3.8 readlines . . . 1263
13.12.3.9 readlines_ctx_free . . . 1264
13.12.3.10 readlines_ctx_init . . . 1265
13.12.3.11 rm_recursive . . . 1265
13.12.3.12 rmdevpath . . . 1266
13.12.3.13 rmnotifynode . . . 1267

13.12.3.14 updateconnected . . . 1267
13.12.4 Variable Documentation . . . 1268
13.12.4.1 devpath . . . 1268
13.12.4.2 gid . . . 1268
13.13 src/ckb-daemon/devnode.h File Reference . . . 1268
13.13.1 Macro Definition Documentation . . . 1270
13.13.1.1 S_CUSTOM . . . 1270
13.13.1.2 S_CUSTOM_R . . . 1270
13.13.1.3 S_READ . . . 1270
13.13.1.4 S_READDIR . . . 1270
13.13.1.5 S_READWRITE . . . 1270
13.13.2 Typedef Documentation . . . 1270
13.13.2.1 readlines_ctx . . . 1270
13.13.3 Function Documentation . . . 1270
13.13.3.1 mkdevpath . . . 1270
13.13.3.2 mkfwnode . . . 1271
13.13.3.3 mknotifynode . . . 1272
13.13.3.4 readlines . . . 1273
13.13.3.5 readlines_ctx_free . . . 1273
13.13.3.6 readlines_ctx_init . . . 1274
13.13.3.7 rmdevpath . . . 1274
13.13.3.8 rmnotifynode . . . 1275
13.13.3.9 updateconnected . . . 1276
13.13.4 Variable Documentation . . . 1276
13.13.4.1 devpath . . . 1276
13.13.4.2 gid . . . 1276
13.14 src/ckb-daemon/dpi.c File Reference . . . 1276
13.14.1 Function Documentation . . . 1277
13.14.1.1 cmd_dpi . . . 1277
13.14.1.2 cmd_dpisel . . . 1278
13.14.1.3 cmd_lift . . . 1278
13.14.1.4 cmd_snap . . . 1278
13.14.1.5 loaddpi . . . 1278
13.14.1.6 printdpi . . . 1279
13.14.1.7 savedpi . . . 1280
13.14.1.8 updatedpi . . . 1281
13.15 src/ckb-daemon/dpi.h File Reference . . . 1281
13.15.1 Function Documentation . . . 1282
13.15.1.1 cmd_dpi . . . 1282
13.15.1.2 cmd_dpisel . . . 1283

13.15.1.3 cmd_lift . . . 1283
13.15.1.4 cmd_snap . . . 1283
13.15.1.5 loaddpi . . . 1284
13.15.1.6 printdpi . . . 1285
13.15.1.7 savedpi . . . 1285
13.15.1.8 updatedpi . . . 1286
13.16 src/ckb-daemon/extra_mac.c File Reference . . . 1286
13.17 src/ckb-daemon/firmware.c File Reference . . . 1287
13.17.1 Macro Definition Documentation . . . 1287
13.17.1.1 FW_MAXSIZE . . . 1287
13.17.1.2 FW_NOFILE . . . 1288
13.17.1.3 FW_OK . . . 1288
13.17.1.4 FW_USBFAIL . . . 1288
13.17.1.5 FW_WRONGDEV . . . 1288
13.17.2 Function Documentation . . . 1288
13.17.2.1 cmd_fwupdate . . . 1288
13.17.2.2 fwupdate . . . 1289
13.17.2.3 getfwversion . . . 1291
13.18 src/ckb-daemon/firmware.h File Reference . . . 1292
13.18.1 Function Documentation . . . 1292
13.18.1.1 cmd_fwupdate . . . 1292
13.18.1.2 getfwversion . . . 1293
13.19 src/ckb-daemon/includes.h File Reference . . . 1294
13.19.1 Macro Definition Documentation . . . 1296
13.19.1.1 __FILE_NOPATH__ . . . 1296
13.19.1.2 ckb_err . . . 1296
13.19.1.3 ckb_err_fn . . . 1296
13.19.1.4 ckb_err_nofile . . . 1296
13.19.1.5 ckb_fatal . . . 1296
13.19.1.6 ckb_fatal_fn . . . 1296
13.19.1.7 ckb_fatal_nofile . . . 1296
13.19.1.8 ckb_info . . . 1296
13.19.1.9 ckb_info_fn . . . 1297
13.19.1.10 ckb_info_nofile . . . 1297
13.19.1.11 ckb_s_err . . . 1297
13.19.1.12 ckb_s_out . . . 1297
13.19.1.13 ckb_warn . . . 1297
13.19.1.14 ckb_warn_fn . . . 1297
13.19.1.15 ckb_warn_nofile . . . 1297
13.19.1.16 INDEX_OF . . . 1297

13.19.1.17 timespec_eq . . . 1297
13.19.1.18 timespec_ge . . . 1298
13.19.1.19 timespec_gt . . . 1298
13.19.1.20 timespec_le . . . 1298
13.19.1.21 timespec_lt . . . 1298
13.19.2 Typedef Documentation . . . 1298
13.19.2.1 uchar . . . 1298
13.19.2.2 ushort . . . 1298
13.19.3 Function Documentation . . . 1298
13.19.3.1 timespec_add . . . 1298
13.20 src/ckb-daemon/input.c File Reference . . . 1298
13.20.1 Macro Definition Documentation . . . 1299
13.20.1.1 IS_WHEEL . . . 1299
13.20.2 Function Documentation . . . 1299
13.20.2.1 _cmd_macro . . . 1299
13.20.2.2 cmd_bind . . . 1301
13.20.2.3 cmd_macro . . . 1302
13.20.2.4 cmd_rebind . . . 1302
13.20.2.5 cmd_unbind . . . 1303
13.20.2.6 freebind . . . 1303
13.20.2.7 initbind . . . 1303
13.20.2.8 inputupdate . . . 1304
13.20.2.9 inputupdate_keys . . . 1305
13.20.2.10 macromask . . . 1307
13.20.2.11 updateindicators_kb . . . 1308
13.21 src/ckb-daemon/input.h File Reference . . . 1308
13.21.1 Macro Definition Documentation . . . 1309
13.21.1.1 IS_MOD . . . 1309
13.21.2 Function Documentation . . . 1310
13.21.2.1 cmd_bind . . . 1310
13.21.2.2 cmd_macro . . . 1310
13.21.2.3 cmd_rebind . . . 1310
13.21.2.4 cmd_unbind . . . 1311
13.21.2.5 freebind . . . 1311
13.21.2.6 initbind . . . 1311
13.21.2.7 inputupdate . . . 1312
13.21.2.8 os_inputclose . . . 1313
13.21.2.9 os_inputopen . . . 1313
13.21.2.10 os_keypress . . . 1314
13.21.2.11 os_mousemove . . . 1315

13.21.2.12 os_setupindicators . . . 1316
13.21.2.13 updateindicators_kb . . . 1317
13.22 src/ckb-daemon/input_linux.c File Reference . . . 1317
13.22.1 Function Documentation . . . 1318
13.22.1.1 _ledthread . . . 1318
13.22.1.2 isync . . . 1319
13.22.1.3 os_inputclose . . . 1319
13.22.1.4 os_inputopen . . . 1320
13.22.1.5 os_keypress . . . 1321
13.22.1.6 os_mousemove . . . 1322
13.22.1.7 os_setupindicators . . . 1323
13.22.1.8 uinputopen . . . 1323
13.23 src/ckb-daemon/input_mac.c File Reference . . . 1324
13.24 src/ckb-daemon/input_mac_mouse.c File Reference . . . 1325
13.25 src/ckb-daemon/keymap.c File Reference . . . 1325
13.25.1 Macro Definition Documentation . . . 1326
13.25.1.1 BUTTON_HID_COUNT . . . 1326
13.25.2 Function Documentation . . . 1326
13.25.2.1 corsair_kbcopy . . . 1326
13.25.2.2 corsair_mousecopy . . . 1326
13.25.2.3 hid_kb_translate . . . 1327
13.25.2.4 hid_mouse_translate . . . 1328
13.25.3 Variable Documentation . . . 1329
13.25.3.1 keymap . . . 1329
13.26 src/ckb-daemon/keymap_mac.h File Reference . . . 1329
13.27 src/ckb-daemon/led.c File Reference . . . 1330
13.27.1 Function Documentation . . . 1331
13.27.1.1 cmd_iauto . . . 1331
13.27.1.2 cmd_inotify . . . 1331
13.27.1.3 cmd_ioff . . . 1332
13.27.1.4 cmd_ion . . . 1332
13.27.1.5 cmd_rgb . . . 1332
13.27.1.6 has_key . . . 1333
13.27.1.7 iselect . . . 1333
13.27.1.8 printrgb . . . 1334
13.28 src/ckb-daemon/led.h File Reference . . . 1336
13.28.1 Function Documentation . . . 1336
13.28.1.1 cmd_iauto . . . 1336
13.28.1.2 cmd_inotify . . . 1337
13.28.1.3 cmd_ioff . . . 1337

13.28.1.4 cmd_ion . . . 1338
13.28.1.5 cmd_rgb . . . 1338
13.28.1.6 loadrgb_kb . . . 1339
13.28.1.7 loadrgb_mouse . . . 1341
13.28.1.8 printrgb . . . 1341
13.28.1.9 savergb_kb . . . 1343
13.28.1.10 savergb_mouse . . . 1344
13.28.1.11 updatergb_kb . . . 1344
13.28.1.12 updatergb_mouse . . . 1346
13.29 src/ckb-daemon/led_keyboard.c File Reference . . . 1347
13.29.1 Macro Definition Documentation . . . 1370
13.29.1.1 BR1 . . . 1370
13.29.1.2 BR2 . . . 1370
13.29.1.3 BR4 . . . 1370
13.29.1.4 O0 . . . 1370
13.29.1.5 O1 . . . 1370
13.29.1.6 O2 . . . 1370
13.29.1.7 O3 . . . 1370
13.29.1.8 O4 . . . 1370
13.29.1.9 O5 . . . 1370
13.29.1.10 O6 . . . 1370
13.29.1.11 O7 . . . 1370
13.29.1.12 O8 . . . 1370
13.29.2 Function Documentation . . . 1371
13.29.2.1 loadrgb_kb . . . 1371
13.29.2.2 makergb_512 . . . 1373
13.29.2.3 makergb_full . . . 1373
13.29.2.4 ordered8to3 . . . 1374
13.29.2.5 quantize8to3 . . . 1374
13.29.2.6 rgbcmp . . . 1375
13.29.2.7 savergb_kb . . . 1375
13.29.2.8 updatergb_kb . . . 1377
13.29.3 Variable Documentation . . . 1378
13.29.3.1 bit_reverse_table . . . 1379
13.30 src/ckb-daemon/led_mouse.c File Reference . . . 1380
13.30.1 Function Documentation . . . 1380
13.30.1.1 isblack . . . 1380
13.30.1.2 loadrgb_mouse . . . 1381
13.30.1.3 rgbcmp . . . 1381
13.30.1.4 savergb_mouse . . . 1382

13.30.1.5 updatergb_mouse . . . 1382
13.31 src/ckb-daemon/main.c File Reference . . . 1383
13.31.1 Function Documentation . . . 1384
13.31.1.1 localecase . . . 1384
13.31.1.2 main . . . 1385
13.31.1.3 quit . . . 1387
13.31.1.4 quitWithLock . . . 1388
13.31.1.5 restart . . . 1389
13.31.1.6 sighandler . . . 1390
13.31.1.7 sighandler2 . . . 1391
13.31.1.8 timespec_add . . . 1391
13.31.2 Variable Documentation . . . 1392
13.31.2.1 features_mask . . . 1392
13.31.2.2 hwload_mode . . . 1392
13.31.2.3 main_ac . . . 1392
13.31.2.4 main_av . . . 1392
13.31.2.5 reset_stop . . . 1392
13.32 src/ckb-gradient/main.c File Reference . . . 1392
13.32.1 Data Structure Documentation . . . 1393
13.32.1.1 struct keyAnim . . . 1393
13.32.2 Macro Definition Documentation . . . 1394
13.32.2.1 HOLD . . . 1394
13.32.2.2 NONE . . . 1394
13.32.3 Function Documentation . . . 1394
13.32.3.1 ckb_frame . . . 1395
13.32.3.2 ckb_info . . . 1395
13.32.3.3 ckb_init . . . 1396
13.32.3.4 ckb_keypress . . . 1396
13.32.3.5 ckb_parameter . . . 1397
13.32.3.6 ckb_start . . . 1397
13.32.3.7 ckb_time . . . 1398
13.32.4 Variable Documentation . . . 1398
13.32.4.1 anim . . . 1398
13.32.4.2 animcolor . . . 1398
13.32.4.3 kphold . . . 1398
13.32.4.4 kprelease . . . 1398
13.32.4.5 randomize . . . 1398
13.33 src/ckb-heat/main.c File Reference . . . 1399
13.33.1 Data Structure Documentation . . . 1399
13.33.1.1 struct keyanim . . . 1399

13.33.2 Function Documentation . . . 1400
13.33.2.1 anim_add . . . 1400
13.33.2.2 anim_remove . . . 1401
13.33.2.3 ckb_frame . . . 1401
13.33.2.4 ckb_info . . . 1402
13.33.2.5 ckb_init . . . 1402
13.33.2.6 ckb_keypress . . . 1403
13.33.2.7 ckb_parameter . . . 1403
13.33.2.8 ckb_start . . . 1403
13.33.2.9 ckb_time . . . 1404
13.33.3 Variable Documentation . . . 1404
13.33.3.1 animcolor . . . 1404
13.33.3.2 anims . . . 1404
13.33.3.3 ffade . . . 1404
13.33.3.4 pressestofull . . . 1404
13.33.3.5 randomBright . . . 1404
13.34 src/ckb-mviz/main.c File Reference . . . 1404
13.34.1 Function Documentation . . . 1405
13.34.1.1 anim_add . . . 1405
13.34.1.2 anim_remove . . . 1406
13.34.1.3 ckb_frame . . . 1406
13.34.1.4 ckb_info . . . 1406
13.34.1.5 ckb_init . . . 1407
13.34.1.6 ckb_keypress . . . 1407
13.34.1.7 ckb_parameter . . . 1407
13.34.1.8 ckb_start . . . 1407
13.34.1.9 ckb_time . . . 1408
13.34.1.10 getFreqDec . . . 1408
13.34.1.11 max . . . 1409
13.34.1.12 min . . . 1409
13.34.2 Variable Documentation . . . 1410
13.34.2.1 animcolor . . . 1410
13.34.2.2 gcounter . . . 1410
13.34.2.3 inbuf . . . 1410
13.34.2.4 outbuf . . . 1410
13.34.2.5 pas . . . 1410
13.34.2.6 power . . . 1410
13.34.2.7 powers . . . 1410
13.35 src/ckb-pinwheel/main.c File Reference . . . 1410
13.35.1 Macro Definition Documentation . . . 1411

13.35.1.1 ANGLE . . . 1411
13.35.2 Function Documentation . . . 1412
13.35.2.1 ckb_frame . . . 1412
13.35.2.2 ckb_info . . . 1412
13.35.2.3 ckb_init . . . 1413
13.35.2.4 ckb_keypress . . . 1413
13.35.2.5 ckb_parameter . . . 1413
13.35.2.6 ckb_start . . . 1414
13.35.2.7 ckb_time . . . 1414
13.35.3 Variable Documentation . . . 1414
13.35.3.1 animcolor . . . 1414
13.35.3.2 animlength . . . 1414
13.35.3.3 counter_clock . . . 1414
13.35.3.4 frame . . . 1414
13.35.3.5 symmetric . . . 1414
13.35.3.6 x . . . 1415
13.35.3.7 x_offset . . . 1415
13.35.3.8 y . . . 1415
13.35.3.9 y_offset . . . 1415
13.36 src/ckb-rain/main.c File Reference . . . 1415
13.36.1 Macro Definition Documentation . . . 1416
13.36.1.1 DROP_MAX . . . 1416
13.36.2 Function Documentation . . . 1416
13.36.2.1 ckb_frame . . . 1416
13.36.2.2 ckb_info . . . 1417
13.36.2.3 ckb_init . . . 1418
13.36.2.4 ckb_keypress . . . 1418
13.36.2.5 ckb_parameter . . . 1418
13.36.2.6 ckb_start . . . 1419
13.36.2.7 ckb_time . . . 1419
13.36.2.8 drop_add . . . 1419
13.36.3 Variable Documentation . . . 1420
13.36.3.1 aa . . . 1420
13.36.3.2 ab . . . 1420
13.36.3.3 ag . . . 1420
13.36.3.4 ar . . . 1420
13.36.3.5 drop . . . 1420
13.36.3.6 maxsize . . . 1421
13.36.3.7 period . . . 1421
13.36.3.8 spawn . . . 1421

13.36.3.9 speed . . . 1421
13.36.3.10 tick . . . 1421
13.37 src/ckb-random/main.c File Reference . . . 1421
13.37.1 Data Structure Documentation . . . 1422
13.37.1.1 struct rgb . . . 1422
13.37.2 Function Documentation . . . 1423
13.37.2.1 ckb_frame . . . 1423
13.37.2.2 ckb_info . . . 1423
13.37.2.3 ckb_init . . . 1424
13.37.2.4 ckb_keypress . . . 1424
13.37.2.5 ckb_parameter . . . 1424
13.37.2.6 ckb_start . . . 1424
13.37.2.7 ckb_time . . . 1425
13.37.2.8 newtarget . . . 1425
13.37.3 Variable Documentation . . . 1426
13.37.3.1 current . . . 1426
13.37.3.2 fadein . . . 1426
13.37.3.3 phase . . . 1426
13.37.3.4 target . . . 1426
13.37.3.5 useopacity . . . 1426
13.38 src/ckb-ripple/main.c File Reference . . . 1426
13.38.1 Macro Definition Documentation . . . 1428
13.38.1.1 ANIM_MAX . . . 1428
13.38.2 Function Documentation . . . 1428
13.38.2.1 anim_add . . . 1428
13.38.2.2 anim_remove . . . 1428
13.38.2.3 ckb_frame . . . 1428
13.38.2.4 ckb_info . . . 1429
13.38.2.5 ckb_init . . . 1430
13.38.2.6 ckb_keypress . . . 1430
13.38.2.7 ckb_parameter . . . 1430
13.38.2.8 ckb_start . . . 1431
13.38.2.9 ckb_time . . . 1431
13.38.3 Variable Documentation . . . 1431
13.38.3.1 anim . . . 1432
13.38.3.2 animcolor . . . 1432
13.38.3.3 animlength . . . 1432
13.38.3.4 kbsize . . . 1432
13.38.3.5 kprelease . . . 1432
13.38.3.6 randomize . . . 1432

13.38.3.7 symmetric . . . 1432
13.38.3.8 x_offset . . . 1432
13.38.3.9 y_offset . . . 1432
13.39 src/ckb-wave/main.c File Reference . . . 1432
13.39.1 Macro Definition Documentation . . . 1434
13.39.1.1 ANIM_MAX . . . 1434
13.39.2 Function Documentation . . . 1434
13.39.2.1 anim_add . . . 1434
13.39.2.2 anim_remove . . . 1434
13.39.2.3 ckb_frame . . . 1434
13.39.2.4 ckb_info . . . 1435
13.39.2.5 ckb_init . . . 1436
13.39.2.6 ckb_keypress . . . 1437
13.39.2.7 ckb_parameter . . . 1437
13.39.2.8 ckb_start . . . 1438
13.39.2.9 ckb_time . . . 1439
13.39.3 Variable Documentation . . . 1440
13.39.3.1 angle . . . 1440
13.39.3.2 anim . . . 1440
13.39.3.3 animcolor . . . 1440
13.39.3.4 animlength . . . 1440
13.39.3.5 kprelease . . . 1440
13.39.3.6 left . . . 1440
13.39.3.7 symmetric . . . 1440
13.39.3.8 top . . . 1440
13.39.3.9 width . . . 1440
13.40 src/ckb-daemon/notify.c File Reference . . . 1440
13.40.1 Macro Definition Documentation . . . 1441
13.40.1.1 HW_STANDARD . . . 1441
13.40.1.2 HWMODE_OR_RETURN . . . 1441
13.40.2 Function Documentation . . . 1442
13.40.2.1 _cmd_get . . . 1442
13.40.2.2 cmd_get . . . 1444
13.40.2.3 cmd_notify . . . 1445
13.40.2.4 cmd_restart . . . 1445
13.40.2.5 nprintf . . . 1446
13.40.2.6 nprintind . . . 1447
13.40.2.7 nprintkey . . . 1447
13.40.2.8 restart . . . 1448
13.41 src/ckb-daemon/notify.h File Reference . . . 1449

13.41.1 Function Documentation . . . 1450
13.41.1.1 cmd_get . . . 1450
13.41.1.2 cmd_notify . . . 1451
13.41.1.3 cmd_restart . . . 1451
13.41.1.4 nprintf . . . 1451
13.41.1.5 nprintind . . . 1452
13.41.1.6 nprintkey . . . 1453
13.42 src/ckb-daemon/os.h File Reference . . . 1453
13.42.1 Macro Definition Documentation . . . 1454
13.42.1.1 _DEFAULT_SOURCE . . . 1454
13.42.1.2 _GNU_SOURCE . . . 1454
13.42.1.3 euid_guard_start . . . 1454
13.42.1.4 euid_guard_stop . . . 1454
13.42.1.5 UINPUT_VERSION . . . 1455
13.43 src/ckb-daemon/profile.c File Reference . . . 1455
13.43.1 Function Documentation . . . 1456
13.43.1.1 _freeprofile . . . 1456
13.43.1.2 allocprofile . . . 1456
13.43.1.3 cmd_erase . . . 1457
13.43.1.4 cmd_eraseprofile . . . 1458
13.43.1.5 cmd_id . . . 1458
13.43.1.6 cmd_name . . . 1459
13.43.1.7 cmd_profileid . . . 1459
13.43.1.8 cmd_profilename . . . 1460
13.43.1.9 freemode . . . 1460
13.43.1.10 freeprofile . . . 1461
13.43.1.11 gethwmodename . . . 1461
13.43.1.12 gethwprofilename . . . 1462
13.43.1.13 getid . . . 1463
13.43.1.14 getmodename . . . 1463
13.43.1.15 getprofilename . . . 1464
13.43.1.16 hwtonative . . . 1465
13.43.1.17 initmode . . . 1465
13.43.1.18 loadprofile . . . 1466
13.43.1.19 nativetohw . . . 1466
13.43.1.20 printname . . . 1467
13.43.1.21 setid . . . 1468
13.43.1.22 u16dec . . . 1468
13.43.1.23 u16enc . . . 1469
13.43.1.24 urldecode2 . . . 1470

13.43.1.25 urlencode2 . . . 1470
13.43.2 Variable Documentation . . . 1471
13.43.2.1 utf16to8 . . . 1471
13.43.2.2 utf8to16 . . . 1471
13.44 src/ckb-daemon/profile.h File Reference . . . 1471
13.44.1 Macro Definition Documentation . . . 1472
13.44.1.1 hwloadprofile . . . 1472
13.44.2 Function Documentation . . . 1472
13.44.2.1 allocprofile . . . 1472
13.44.2.2 cmd_erase . . . 1473
13.44.2.3 cmd_eraseprofile . . . 1474
13.44.2.4 cmd_hwload_kb . . . 1474
13.44.2.5 cmd_hwload_mouse . . . 1475
13.44.2.6 cmd_hwsave_kb . . . 1476
13.44.2.7 cmd_hwsave_mouse . . . 1477
13.44.2.8 cmd_id . . . 1478
13.44.2.9 cmd_name . . . 1478
13.44.2.10 cmd_profileid . . . 1479
13.44.2.11 cmd_profilename . . . 1479
13.44.2.12 freeprofile . . . 1480
13.44.2.13 gethwmodename . . . 1480
13.44.2.14 gethwprofilename . . . 1481
13.44.2.15 getid . . . 1482
13.44.2.16 getmodename . . . 1482
13.44.2.17 getprofilename . . . 1483
13.44.2.18 hwtonative . . . 1484
13.44.2.19 loadprofile . . . 1484
13.44.2.20 nativetohw . . . 1485
13.44.2.21 setid . . . 1485
13.45 src/ckb-daemon/profile_keyboard.c File Reference . . . 1486
13.45.1 Function Documentation . . . 1486
13.45.1.1 cmd_hwload_kb . . . 1486
13.45.1.2 cmd_hwsave_kb . . . 1487
13.45.1.3 hwloadmode . . . 1488
13.46 src/ckb-daemon/profile_mouse.c File Reference . . . 1489
13.46.1 Function Documentation . . . 1489
13.46.1.1 cmd_hwload_mouse . . . 1490
13.46.1.2 cmd_hwsave_mouse . . . 1491
13.47 src/ckb-daemon/structures.h File Reference . . . 1491
13.47.1 Data Structure Documentation . . . 1493

13.47.1.1 struct usbid . . . 1493
13.47.1.2 struct macroaction . . . 1494
13.47.1.3 struct keymacro . . . 1495
13.47.1.4 struct binding . . . 1496
13.47.1.5 struct dpiset . . . 1497
13.47.1.6 struct lighting . . . 1498
13.47.1.7 struct usbmode . . . 1499
13.47.1.8 struct usbprofile . . . 1500
13.47.1.9 struct hwprofile . . . 1501
13.47.1.10 struct usbinput . . . 1502
13.47.1.11 struct usbdevice . . . 1503
13.47.2 Macro Definition Documentation . . . 1505
13.47.2.1 CLEAR_KEYBIT . . . 1505
13.47.2.2 DPI_COUNT . . . 1505
13.47.2.3 FEAT_ADJRATE . . . 1505
13.47.2.4 FEAT_ANSI . . . 1505
13.47.2.5 FEAT_BIND . . . 1505
13.47.2.6 FEAT_COMMON . . . 1505
13.47.2.7 FEAT_FWUPDATE . . . 1505
13.47.2.8 FEAT_FWVERSION . . . 1506
13.47.2.9 FEAT_HWLOAD . . . 1506
13.47.2.10 FEAT_ISO . . . 1506
13.47.2.11 FEAT_LMASK . . . 1506
13.47.2.12 FEAT_MONOCHROME . . . 1506
13.47.2.13 FEAT_MOUSEACCEL . . . 1506
13.47.2.14 FEAT_NOTIFY . . . 1506
13.47.2.15 FEAT_POLLRATE . . . 1506
13.47.2.16 FEAT_RGB . . . 1506
13.47.2.17 FEAT_STD_NRGB . . . 1507
13.47.2.18 FEAT_STD_RGB . . . 1507
13.47.2.19 HAS_ANY_FEATURE . . . 1507
13.47.2.20 HAS_FEATURES . . . 1507
13.47.2.21 HWMODE_K70 . . . 1507
13.47.2.22 HWMODE_K95 . . . 1507
13.47.2.23 HWMODE_MAX . . . 1507
13.47.2.24 I_CAPS . . . 1507
13.47.2.25 I_NUM . . . 1507
13.47.2.26 I_SCROLL . . . 1507
13.47.2.27 IFACE_MAX . . . 1508
13.47.2.28 KB_NAME_LEN . . . 1508

13.47.2.29 LIFT_MAX . . . 1508
13.47.2.30 LIFT_MIN . . . 1508
13.47.2.31 MACRO_MAX . . . 1508
13.47.2.32 MD_NAME_LEN . . . 1508
13.47.2.33 MODE_COUNT . . . 1508
13.47.2.34 MSG_SIZE . . . 1508
13.47.2.35 NEEDS_FW_UPDATE . . . 1508
13.47.2.36 OUTFIFO_MAX . . . 1509
13.47.2.37 PR_NAME_LEN . . . 1509
13.47.2.38 SCROLL_ACCELERATED . . . 1509
13.47.2.39 SCROLL_MAX . . . 1509
13.47.2.40 SCROLL_MIN . . . 1509
13.47.2.41 SERIAL_LEN . . . 1509
13.47.2.42 SET_KEYBIT . . . 1509
13.47.3 Variable Documentation . . . 1509
13.47.3.1 vtable_keyboard . . . 1509
13.47.3.2 vtable_keyboard_nonrgb . . . 1509
13.47.3.3 vtable_mouse . . . 1510
13.48 src/ckb-daemon/usb.c File Reference . . . 1510
13.48.1 Function Documentation . . . 1511
13.48.1.1 _resetusb . . . 1511
13.48.1.2 _setupusb . . . 1511
13.48.1.3 _usbrecv . . . 1516
13.48.1.4 _usbsend . . . 1517
13.48.1.5 closeusb . . . 1518
13.48.1.6 devmain . . . 1520
13.48.1.7 get_vtable . . . 1522
13.48.1.8 product_str . . . 1523
13.48.1.9 revertusb . . . 1524
13.48.1.10 setupusb . . . 1525
13.48.1.11 usb_tryreset . . . 1526
13.48.1.12 vendor_str . . . 1527
13.48.2 Variable Documentation . . . 1528
13.48.2.1 features_mask . . . 1528
13.48.2.2 hwload_mode . . . 1528
13.48.2.3 reset_stop . . . 1528
13.48.2.4 usbmutex . . . 1528
13.49 src/ckb-daemon/usb.h File Reference . . . 1529
13.49.1 Detailed Description . . . 1532
13.49.2 Macro Definition Documentation . . . 1533

13.49.2.1 DELAY_LONG . . . 1533
13.49.2.2 DELAY_MEDIUM . . . 1533
13.49.2.3 DELAY_SHORT . . . 1533
13.49.2.4 IS_FULLRANGE . . . 1533
13.49.2.5 IS_K65 . . . 1533
13.49.2.6 IS_K70 . . . 1533
13.49.2.7 IS_K95 . . . 1533
13.49.2.8 IS_M65 . . . 1534
13.49.2.9 IS_MONOCHROME . . . 1534
13.49.2.10 IS_MONOCHROME_DEV . . . 1534
13.49.2.11 IS_MOUSE . . . 1534
13.49.2.12 IS_MOUSE_DEV . . . 1534
13.49.2.13 IS_RGB . . . 1534
13.49.2.14 IS_RGB_DEV . . . 1534
13.49.2.15 IS_SABRE . . . 1534
13.49.2.16 IS_SCIMITAR . . . 1534
13.49.2.17 IS_STRAFE . . . 1535
13.49.2.18 NK95_HWOFF . . . 1535
13.49.2.19 NK95_HWON . . . 1535
13.49.2.20 NK95_M1 . . . 1535
13.49.2.21 NK95_M2 . . . 1535
13.49.2.22 NK95_M3 . . . 1535
13.49.2.23 nk95cmd . . . 1535
13.49.2.24 P_K65 . . . 1535
13.49.2.25 P_K65_LUX . . . 1536
13.49.2.26 P_K65_LUX_STR . . . 1536
13.49.2.27 P_K65_NRGB . . . 1536
13.49.2.28 P_K65_NRGB_STR . . . 1536
13.49.2.29 P_K65_RFIRE . . . 1536
13.49.2.30 P_K65_RFIRE_STR . . . 1536
13.49.2.31 P_K65_STR . . . 1536
13.49.2.32 P_K70 . . . 1536
13.49.2.33 P_K70_LUX . . . 1536
13.49.2.34 P_K70_LUX_NRGB . . . 1536
13.49.2.35 P_K70_LUX_NRGB_STR . . . 1536
13.49.2.36 P_K70_LUX_STR . . . 1537
13.49.2.37 P_K70_NRGB . . . 1537
13.49.2.38 P_K70_NRGB_STR . . . 1537
13.49.2.39 P_K70_RFIRE . . . 1537
13.49.2.40 P_K70_RFIRE_NRGB . . . 1537

13.49.2.41 P_K70_RFIRE_NRGB_STR . . . 1537
13.49.2.42 P_K70_RFIRE_STR . . . 1537
13.49.2.43 P_K70_STR . . . 1537
13.49.2.44 P_K95 . . . 1537
13.49.2.45 P_K95_NRGB . . . 1537
13.49.2.46 P_K95_NRGB_STR . . . 1537
13.49.2.47 P_K95_PLATINUM . . . 1538
13.49.2.48 P_K95_PLATINUM_STR . . . 1538
13.49.2.49 P_K95_STR . . . 1538
13.49.2.50 P_M65 . . . 1538
13.49.2.51 P_M65_PRO . . . 1538
13.49.2.52 P_M65_PRO_STR . . . 1538
13.49.2.53 P_M65_STR . . . 1538
13.49.2.54 P_SABRE_L . . . 1538
13.49.2.55 P_SABRE_L_STR . . . 1538
13.49.2.56 P_SABRE_N . . . 1538
13.49.2.57 P_SABRE_N_STR . . . 1538
13.49.2.58 P_SABRE_O . . . 1539
13.49.2.59 P_SABRE_O2 . . . 1539
13.49.2.60 P_SABRE_O2_STR . . . 1539
13.49.2.61 P_SABRE_O_STR . . . 1539
13.49.2.62 P_SCIMITAR . . . 1539
13.49.2.63 P_SCIMITAR_PRO . . . 1539
13.49.2.64 P_SCIMITAR_PRO_STR . . . 1539
13.49.2.65 P_SCIMITAR_STR . . . 1539
13.49.2.66 P_STRAFE . . . 1539
13.49.2.67 P_STRAFE_NRGB . . . 1539
13.49.2.68 P_STRAFE_NRGB_STR . . . 1540
13.49.2.69 P_STRAFE_STR . . . 1540
13.49.2.70 resetusb . . . 1540
13.49.2.71 USB_DELAY_DEFAULT . . . 1540
13.49.2.72 usbrecv . . . 1540
13.49.2.73 usbsend . . . 1540
13.49.2.74 V_CORSAIR . . . 1540
13.49.2.75 V_CORSAIR_STR . . . 1541
13.49.3 Function Documentation . . . 1541
13.49.3.1 _nk95cmd . . . 1541
13.49.3.2 _resetusb . . . 1542
13.49.3.3 _usbrecv . . . 1543
13.49.3.4 _usbsend . . . 1544

13.49.3.5 closeusb . . . 1546
13.49.3.6 os_closeusb . . . 1548
13.49.3.7 os_inputmain . . . 1549
13.49.3.8 os_resetusb . . . 1552
13.49.3.9 os_sendindicators . . . 1553
13.49.3.10 os_setupusb . . . 1554
13.49.3.11 os_usbrecv . . . 1556
13.49.3.12 os_usbsend . . . 1559
13.49.3.13 product_str . . . 1561
13.49.3.14 revertusb . . . 1562
13.49.3.15 setupusb . . . 1563
13.49.3.16 usb_tryreset . . . 1564
13.49.3.17 usbkill . . . 1566
13.49.3.18 usbmain . . . 1566
13.49.3.19 vendor_str . . . 1568
13.50 src/ckb-daemon/usb_linux.c File Reference . . . 1568
13.50.1 Data Structure Documentation . . . 1570
13.50.1.1 struct _model . . . 1570
13.50.2 Macro Definition Documentation . . . 1570
13.50.2.1 DEBUG . . . 1570
13.50.2.2 N_MODELS . . . 1570
13.50.2.3 TEST_RESET . . . 1570
13.50.3 Function Documentation . . . 1571
13.50.3.1 _nk95cmd . . . 1571
13.50.3.2 os_closeusb . . . 1572
13.50.3.3 os_inputmain . . . 1573
13.50.3.4 os_resetusb . . . 1576
13.50.3.5 os_sendindicators . . . 1577
13.50.3.6 os_setupusb . . . 1578
13.50.3.7 os_usbrecv . . . 1579
13.50.3.8 os_usbsend . . . 1581
13.50.3.9 strtrim . . . 1583
13.50.3.10 udev_enum . . . 1584
13.50.3.11 usb_add_device . . . 1585
13.50.3.12 usb_rm_device . . . 1587
13.50.3.13 usbadd . . . 1588
13.50.3.14 usbclaim . . . 1590
13.50.3.15 usbkill . . . 1591
13.50.3.16 usbmain . . . 1591
13.50.3.17 usbunclaim . . . 1593

13.50.4 Variable Documentation . . . 1594
13.50.4.1 kbsyspath . . . 1594
13.50.4.2 models . . . 1594
13.50.4.3 udev . . . 1595
13.50.4.4 udevthread . . . 1595
13.50.4.5 usbthread . . . 1595
13.51 src/ckb-daemon/usb_mac.c File Reference . . . 1595
13.52 src/ckb-mviz/_kiss_fft_guts.h File Reference . . . 1596
13.52.1 Data Structure Documentation . . . 1597
13.52.1.1 struct kiss_fft_state . . . 1597
13.52.2 Macro Definition Documentation . . . 1598
13.52.2.1 C_ADD . . . 1598
13.52.2.2 C_ADDTO . . . 1598
13.52.2.3 C_FIXDIV . . . 1598
13.52.2.4 C_MUL . . . 1598
13.52.2.5 C_MULBYSCALAR . . . 1598
13.52.2.6 C_SUB . . . 1599
13.52.2.7 C_SUBFROM . . . 1599
13.52.2.8 CHECK_OVERFLOW_OP . . . 1599
13.52.2.9 HALF_OF . . . 1599
13.52.2.10 kf_cexp . . . 1599
13.52.2.11 KISS_FFT_COS . . . 1599
13.52.2.12 KISS_FFT_SIN . . . 1600
13.52.2.13 KISS_FFT_TMP_ALLOC . . . 1600
13.52.2.14 KISS_FFT_TMP_FREE . . . 1600
13.52.2.15 MAXFACTORS . . . 1600
13.52.2.16 pcpx . . . 1600
13.52.2.17 S_MUL . . . 1600
13.53 src/ckb-mviz/kiss_fft.c File Reference . . . 1600
13.53.1 Function Documentation . . . 1601
13.53.1.1 kf_bfly2 . . . 1601
13.53.1.2 kf_bfly3 . . . 1602
13.53.1.3 kf_bfly4 . . . 1603
13.53.1.4 kf_bfly5 . . . 1604
13.53.1.5 kf_bfly_generic . . . 1605
13.53.1.6 kf_factor . . . 1606
13.53.1.7 kf_work . . . 1606
13.53.1.8 kiss_fft . . . 1608
13.53.1.9 kiss_fft_alloc . . . 1609
13.53.1.10 kiss_fft_cleanup . . . 1610

13.53.1.11 kiss_fft_next_fast_size . . . 1611
13.53.1.12 kiss_fft_stride . . . 1611
13.54 src/ckb-mviz/kiss_fft.h File Reference . . . 1612
13.54.1 Data Structure Documentation . . . 1614
13.54.1.1 struct kiss_fft_cpx . . . 1614
13.54.2 Macro Definition Documentation . . . 1614
13.54.2.1 KISS_FFT_FREE . . . 1614
13.54.2.2 kiss_fft_free . . . 1614
13.54.2.3 KISS_FFT_MALLOC . . . 1614
13.54.2.4 kiss_fft_scalar . . . 1615
13.54.2.5 kiss_fftr_next_fast_size_real . . . 1615
13.54.3 Typedef Documentation . . . 1615
13.54.3.1 kiss_fft_cfg . . . 1615
13.54.4 Function Documentation . . . 1615
13.54.4.1 kiss_fft . . . 1615
13.54.4.2 kiss_fft_alloc . . . 1616
13.54.4.3 kiss_fft_cleanup . . . 1617
13.54.4.4 kiss_fft_next_fast_size . . . 1617
13.54.4.5 kiss_fft_stride . . . 1618
13.55 src/ckb-mviz/kiss_fftr.c File Reference . . . 1619
13.55.1 Data Structure Documentation . . . 1620
13.55.1.1 struct kiss_fftr_state . . . 1620
13.55.2 Function Documentation . . . 1621
13.55.2.1 kiss_fftr . . . 1621
13.55.2.2 kiss_fftr_alloc . . . 1622
13.55.2.3 kiss_fftri . . . 1623
13.56 src/ckb-mviz/kiss_fftr.h File Reference . . . 1624
13.56.1 Macro Definition Documentation . . . 1625
13.56.1.1 kiss_fftr_free . . . 1625
13.56.2 Typedef Documentation . . . 1625
13.56.2.1 kiss_fftr_cfg . . . 1625
13.56.3 Function Documentation . . . 1625
13.56.3.1 kiss_fftr . . . 1625
13.56.3.2 kiss_fftr_alloc . . . 1627
13.56.3.3 kiss_fftri . . . 1627
13.57 src/ckb/animadddialog.cpp File Reference . . . 1628
13.58 src/ckb/animadddialog.h File Reference . . . 1629
13.59 src/ckb/animscript.cpp File Reference . . . 1629
13.59.1 Function Documentation . . . 1630
13.59.1.1 urlParam . . . 1630

13.59.2 Variable Documentation . . . 1630
13.59.2.1 ONE_DAY . . . 1630
13.60 src/ckb/animscript.h File Reference . . . 1631
13.60.1 Data Structure Documentation . . . 1631
13.60.1.1 struct AnimScript::Param . . . 1631
13.61 src/ckb/animsettingdialog.cpp File Reference . . . 1632
13.61.1 Function Documentation . . . 1633
13.61.1.1 angleFlip . . . 1633
13.62 src/ckb/animsettingdialog.h File Reference . . . 1634
13.63 src/ckb/autorun.cpp File Reference . . . 1635
13.63.1 Variable Documentation . . . 1635
13.63.1.1 settingPath . . . 1635
13.64 src/ckb/autorun.h File Reference . . . 1636
13.65 src/ckb/ckb-anim.h File Reference . . . 1636
13.65.1 Data Structure Documentation . . . 1639
13.65.1.1 struct ckb_key . . . 1639
13.65.1.2 struct ckb_runctx . . . 1640
13.65.1.3 struct ckb_gradient . . . 1641
13.65.2 Macro Definition Documentation . . . 1641
13.65.2.1 CKB_CONTAINER . . . 1641
13.65.2.2 CKB_COPYRIGHT . . . 1641
13.65.2.3 CKB_DESCRIPTION . . . 1642
13.65.2.4 CKB_DOWN . . . 1642
13.65.2.5 CKB_GRAD_MAX . . . 1642
13.65.2.6 CKB_GUID . . . 1642
13.65.2.7 CKB_KEYCLEAR . . . 1642
13.65.2.8 CKB_KEYNAME_MAX . . . 1642
13.65.2.9 CKB_KP_NAME . . . 1642
13.65.2.10 CKB_KP_NONE . . . 1642
13.65.2.11 CKB_KP_POSITION . . . 1642
13.65.2.12 CKB_KPMODE . . . 1643
13.65.2.13 CKB_LICENSE . . . 1643
13.65.2.14 CKB_LIVEPARAMS . . . 1643
13.65.2.15 CKB_MAX_WORD . . . 1643
13.65.2.16 CKB_NAME . . . 1643
13.65.2.17 CKB_PARAM . . . 1643
13.65.2.18 CKB_PARAM_AGRADIENT . . . 1643
13.65.2.19 CKB_PARAM_ANGLE . . . 1643
13.65.2.20 CKB_PARAM_ARGB . . . 1643
13.65.2.21 CKB_PARAM_BOOL . . . 1644

13.65.2.22 CKB_PARAM_DOUBLE . . . 1644
13.65.2.23 CKB_PARAM_GRADIENT . . . 1644
13.65.2.24 CKB_PARAM_LABEL . . . 1644
13.65.2.25 CKB_PARAM_LONG . . . 1644
13.65.2.26 CKB_PARAM_RGB . . . 1644
13.65.2.27 CKB_PARAM_STRING . . . 1644
13.65.2.28 CKB_PARSE_AGRADIENT . . . 1644
13.65.2.29 CKB_PARSE_ANGLE . . . 1644
13.65.2.30 CKB_PARSE_ARGB . . . 1645
13.65.2.31 CKB_PARSE_BOOL . . . 1645
13.65.2.32 CKB_PARSE_DOUBLE . . . 1645
13.65.2.33 CKB_PARSE_GRADIENT . . . 1645
13.65.2.34 CKB_PARSE_LONG . . . 1645
13.65.2.35 CKB_PARSE_RGB . . . 1645
13.65.2.36 CKB_PARSE_STRING . . . 1645
13.65.2.37 CKB_PREEMPT . . . 1645
13.65.2.38 CKB_PRESET_END . . . 1645
13.65.2.39 CKB_PRESET_PARAM . . . 1646
13.65.2.40 CKB_PRESET_START . . . 1646
13.65.2.41 CKB_REAL_ANGLE . . . 1646
13.65.2.42 CKB_REPEAT . . . 1646
13.65.2.43 CKB_TIME_ABSOLUTE . . . 1646
13.65.2.44 CKB_TIME_DURATION . . . 1646
13.65.2.45 CKB_TIMEMODE . . . 1646
13.65.2.46 CKB_UP . . . 1646
13.65.2.47 CKB_VERSION . . . 1646
13.65.2.48 FALSE . . . 1647
13.65.2.49 M_PI . . . 1647
13.65.2.50 TRUE . . . 1647
13.65.3 Function Documentation . . . 1647
13.65.3.1 ckb_alpha_blend . . . 1647
13.65.3.2 ckb_frame . . . 1647
13.65.3.3 ckb_getline . . . 1648
13.65.3.4 ckb_grad_color . . . 1649
13.65.3.5 ckb_info . . . 1650
13.65.3.6 ckb_init . . . 1651
13.65.3.7 ckb_keypress . . . 1651
13.65.3.8 ckb_parameter . . . 1653
13.65.3.9 ckb_read_params . . . 1653
13.65.3.10 ckb_scan_grad . . . 1654

13.65.3.11 ckb_start . . . 1655
13.65.3.12 ckb_time . . . 1656
13.65.3.13 main . . . 1656
13.65.3.14 printurl . . . 1659
13.65.3.15 urldecode . . . 1659
13.66 src/ckb/ckbsettings.cpp File Reference . . . 1660
13.66.1 Macro Definition Documentation . . . 1661
13.66.1.1 lockMutex . . . 1661
13.66.1.2 lockMutexCache . . . 1661
13.66.1.3 lockMutexStatic . . . 1661
13.66.1.4 lockMutexStatic2 . . . 1661
13.66.2 Function Documentation . . . 1661
13.66.2.1 cacheWritesInProgress . . . 1661
13.66.2.2 globalSettings . . . 1661
13.66.2.3 settingsCacheMutex . . . 1663
13.66.2.4 settingsMutex . . . 1663
13.66.3 Variable Documentation . . . 1663
13.66.3.1 _globalSettings . . . 1663
13.66.3.2 globalCache . . . 1663
13.66.3.3 globalThread . . . 1663
13.67 src/ckb/ckbsettings.h File Reference . . . 1663
13.68 src/ckb/ckbsettingswriter.cpp File Reference . . . 1664
13.68.1 Macro Definition Documentation . . . 1665
13.68.1.1 lockMutex . . . 1665
13.68.1.2 lockMutexCache . . . 1665
13.68.1.3 lockMutexStatic . . . 1665
13.68.1.4 lockMutexStatic2 . . . 1665
13.68.2 Variable Documentation . . . 1666
13.68.2.1 cacheWritesInProgress . . . 1666
13.68.2.2 settingsCacheMutex . . . 1666
13.68.2.3 settingsMutex . . . 1666
13.69 src/ckb/ckbsettingswriter.h File Reference . . . 1666
13.70 src/ckb/colorbutton.cpp File Reference . . . 1666
13.71 src/ckb/colorbutton.h File Reference . . . 1667
13.72 src/ckb/colormap.cpp File Reference . . . 1668
13.72.1 Function Documentation . . . 1668
13.72.1.1 qs_strcmp . . . 1668
13.73 src/ckb/colormap.h File Reference . . . 1669
13.73.1 Typedef Documentation . . . 1670
13.73.1.1 QColorMap . . . 1670

13.73.1.2 QColorMapIterator . . . 1670
13.73.1.3 QMutableColorMapIterator . . . 1670
13.74 src/ckb/extrasettingswidget.cpp File Reference . . . 1670
13.74.1 Variable Documentation . . . 1670
13.74.1.1 lastSharedDimming . . . 1670
13.75 src/ckb/extrasettingswidget.h File Reference . . . 1671
13.76 src/ckb/firmware_special.h File Reference . . . 1671
13.76.1 Data Structure Documentation . . . 1673
13.76.1.1 struct firmwareSpecial . . . 1673
13.76.2 Macro Definition Documentation . . . 1673
13.76.2.1 P_K70_LUX_NRGB . . . 1673
13.76.2.2 V_CORSAIR . . . 1673
13.76.3 Variable Documentation . . . 1673
13.76.3.1 specials . . . 1673
13.77 src/ckb/fwupgradedialog.cpp File Reference . . . 1674
13.77.1 Data Structure Documentation . . . 1674
13.77.1.1 struct KbId . . . 1674
13.77.2 Function Documentation . . . 1675
13.77.2.1 DIALOG_HEIGHT_MAX . . . 1675
13.77.2.2 verifyFw . . . 1675
13.77.3 Variable Documentation . . . 1676
13.77.3.1 DIALOG_HEIGHT_MIN . . . 1676
13.77.3.2 DIALOG_WIDTH . . . 1676
13.77.3.3 ids . . . 1676
13.78 src/ckb/fwupgradedialog.h File Reference . . . 1676
13.79 src/ckb/gradientbutton.cpp File Reference . . . 1677
13.80 src/ckb/gradientbutton.h File Reference . . . 1678
13.81 src/ckb/gradientdialog.cpp File Reference . . . 1679
13.81.1 Variable Documentation . . . 1679
13.81.1.1 prefsPath . . . 1679
13.82 src/ckb/gradientdialog.h File Reference . . . 1679
13.83 src/ckb/gradientdialogwidget.cpp File Reference . . . 1680
13.84 src/ckb/gradientdialogwidget.h File Reference . . . 1680
13.85 src/ckb/kb.cpp File Reference . . . 1681
13.85.1 Variable Documentation . . . 1682
13.85.1.1 activeDevices . . . 1682
13.85.1.2 notifyPathMutex . . . 1682
13.85.1.3 notifyPaths . . . 1682
13.86 src/ckb/kb.h File Reference . . . 1682
13.87 src/ckb/kbanim.cpp File Reference . . . 1683

13.87.1 Typedef Documentation . . . 1684
13.87.1.1 blendFunc . . . 1684
13.87.2 Function Documentation . . . 1684
13.87.2.1 blendAdd . . . 1684
13.87.2.2 blendDivide . . . 1684
13.87.2.3 blendMultiply . . . 1684
13.87.2.4 blendNormal . . . 1685
13.87.2.5 blendSubtract . . . 1685
13.87.3 Variable Documentation . . . 1685
13.87.3.1 functions . . . 1685
13.88 src/ckb/kbanim.h File Reference . . . 1685
13.89 src/ckb/kbanimwidget.cpp File Reference . . . 1686
13.90 src/ckb/kbanimwidget.h File Reference . . . 1686
13.91 src/ckb/kbbind.cpp File Reference . . . 1687
13.92 src/ckb/kbbind.h File Reference . . . 1688
13.93 src/ckb/kbbindwidget.cpp File Reference . . . 1688
13.94 src/ckb/kbbindwidget.h File Reference . . . 1689
13.95 src/ckb/kbfirmware.cpp File Reference . . . 1689
13.95.1 Macro Definition Documentation . . . 1690
13.95.1.1 CHECKFORGPG . . . 1690
13.95.2 Function Documentation . . . 1690
13.95.2.1 tableName . . . 1690
13.95.3 Variable Documentation . . . 1691
13.95.3.1 AUTO_CHECK_TIME . . . 1691
13.96 src/ckb/kbfirmware.h File Reference . . . 1691
13.97 src/ckb/kblight.cpp File Reference . . . 1692
13.97.1 Function Documentation . . . 1692
13.97.1.1 lToS . . . 1692
13.97.1.2 monoRgb . . . 1693
13.97.1.3 sToL . . . 1694
13.97.2 Variable Documentation . . . 1694
13.97.2.1 _shareDimming . . . 1694
13.97.2.2 activeLights . . . 1694
13.98 src/ckb/kblight.h File Reference . . . 1694
13.99 src/ckb/kblightwidget.cpp File Reference . . . 1695
13.100 src/ckb/kblightwidget.h File Reference . . . 1695
13.101 src/ckb/kbmanager.cpp File Reference . . . 1696
13.101.1 Variable Documentation . . . 1697
13.101.1.1 devpath . . . 1697
13.102 src/ckb/kbmanager.h File Reference . . . 1697

13.102.1 Macro Definition Documentation . . . 1698
13.102.1.1 DAEMON_UNAVAILABLE_STR . . . 1698
13.103 src/ckb/kbmode.cpp File Reference . . . 1698
13.104 src/ckb/kbmode.h File Reference . . . 1699
13.105 src/ckb/kbperf.cpp File Reference . . . 1700
13.105.1 Macro Definition Documentation . . . 1700
13.105.1.1 map_last . . . 1700
13.106 src/ckb/kbperf.h File Reference . . . 1700
13.107 src/ckb/kbprofile.cpp File Reference . . . 1701
13.108 src/ckb/kbprofile.h File Reference . . . 1701
13.109 src/ckb/kbprofiledialog.cpp File Reference . . . 1702
13.110 src/ckb/kbprofiledialog.h File Reference . . . 1702
13.111 src/ckb/kbwidget.cpp File Reference . . . 1703
13.112 src/ckb/kbwidget.h File Reference . . . 1704
13.113 src/ckb/keyaction.cpp File Reference . . . 1704
13.113.1 Variable Documentation . . . 1705
13.113.1.1 ANIM_KRSTOP . . . 1705
13.113.1.2 ANIM_ONCE . . . 1705
13.114 src/ckb/keyaction.h File Reference . . . 1705
13.115 src/ckb/keymap.cpp File Reference . . . 1706
13.115.1 Data Structure Documentation . . . 1708
13.115.1.1 struct KeyPatch . . . 1708
13.115.2 Macro Definition Documentation . . . 1709
13.115.2.1 ANSI_ENTER_H . . . 1709
13.115.2.2 ANSI_ENTER_W . . . 1709
13.115.2.3 ANSI_ENTER_X . . . 1709
13.115.2.4 ANSI_ENTER_Y . . . 1709
13.115.2.5 ANSI_LSHIFT_W . . . 1710
13.115.2.6 ANSI_LSHIFT_X . . . 1710
13.115.2.7 K65_HEIGHT . . . 1710
13.115.2.8 K65_TOP_COUNT . . . 1710
13.115.2.9 K65_WIDTH . . . 1710
13.115.2.10 K70_HEIGHT . . . 1710
13.115.2.11 K70_WIDTH . . . 1710
13.115.2.12 K70_X_START . . . 1710
13.115.2.13 K95_HEIGHT . . . 1710
13.115.2.14 K95_WIDTH . . . 1710
13.115.2.15 KEYCOUNT_K95 . . . 1711
13.115.2.16 KEYCOUNT_M65 . . . 1711
13.115.2.17 KEYCOUNT_SABRE . . . 1711

13.115.2.18 KEYCOUNT_SCIM . . . 1711
13.115.2.19 KSTRAFE_HEIGHT . . . 1711
13.115.2.20 KSTRAFE_WIDTH . . . 1711
13.115.2.21 KSTRAFE_X_START . . . 1711
13.115.2.22 M65_HEIGHT . . . 1711
13.115.2.23 M65_WIDTH . . . 1711
13.115.2.24 N_LAYOUTS . . . 1712
13.115.2.25 N_MODELS . . . 1712
13.115.2.26 NS . . . 1712
13.115.2.27 patch . . . 1712
13.115.2.28 PATCH_COUNT . . . 1712
13.115.2.29 SABRE_HEIGHT . . . 1712
13.115.2.30 SABRE_WIDTH . . . 1712
13.115.2.31 SCIM_HEIGHT . . . 1712
13.115.2.32 SCIM_WIDTH . . . 1712
13.115.3 Function Documentation . . . 1712
13.115.3.1 _patch . . . 1712
13.115.3.2 getMap . . . 1713
13.115.3.3 patchANSI . . . 1715
13.115.3.4 patchISO . . . 1716
13.115.4 Variable Documentation . . . 1716
13.115.4.1 K65TopRow . . . 1716
13.115.4.2 K95BaseMap . . . 1716
13.115.4.3 K95Keys . . . 1717
13.115.4.4 KStrafeKeys . . . 1717
13.115.4.5 M65Keys . . . 1718
13.115.4.6 patchDE . . . 1718
13.115.4.7 patchDK . . . 1718
13.115.4.8 patchDvorak . . . 1718
13.115.4.9 patchES . . . 1719
13.115.4.10 patchEU . . . 1719
13.115.4.11 patchFR . . . 1719
13.115.4.12 patchIT . . . 1719
13.115.4.13 patchMX . . . 1719
13.115.4.14 patchNO . . . 1720
13.115.4.15 patchSE . . . 1720
13.115.4.16 SabreKeys . . . 1720
13.115.4.17 ScimKeys . . . 1720
13.115.4.18 StandardMaps . . . 1721
13.116 src/ckb/keymap.h File Reference . . . 1721

13.117 src/ckb-daemon/keymap.h File Reference . . . 1721
13.117.1 Data Structure Documentation . . . 1723
13.117.1.1 struct key . . . 1723
13.117.2 Macro Definition Documentation . . . 1724
13.117.2.1 BTN_WHEELDOWN . . . 1724
13.117.2.2 BTN_WHEELUP . . . 1724
13.117.2.3 KEY_BACKSLASH_ISO . . . 1724
13.117.2.4 KEY_CORSAIR . . . 1724
13.117.2.5 KEY_NONE . . . 1724
13.117.2.6 KEY_UNBOUND . . . 1724
13.117.2.7 LED_DPI . . . 1724
13.117.2.8 LED_MOUSE . . . 1724
13.117.2.9 MOUSE_BUTTON_FIRST . . . 1725
13.117.2.10 MOUSE_EXTRA_FIRST . . . 1725
13.117.2.11 N_BUTTONS_EXTENDED . . . 1725
13.117.2.12 N_BUTTONS_HW . . . 1725
13.117.2.13 N_KEY_ZONES . . . 1725
13.117.2.14 N_KEYBYTES_EXTENDED . . . 1725
13.117.2.15 N_KEYBYTES_HW . . . 1725
13.117.2.16 N_KEYBYTES_INPUT . . . 1725
13.117.2.17 N_KEYS_EXTENDED . . . 1725
13.117.2.18 N_KEYS_EXTRA . . . 1725
13.117.2.19 N_KEYS_HW . . . 1726
13.117.2.20 N_KEYS_INPUT . . . 1726
13.117.2.21 N_MOUSE_ZONES . . . 1726
13.117.2.22 N_MOUSE_ZONES_EXTENDED . . . 1726
13.117.2.23 SCAN_KBD . . . 1726
13.117.2.24 SCAN_MOUSE . . . 1726
13.117.2.25 SCAN_SILENT . . . 1726
13.117.3 Function Documentation . . . 1726
13.117.3.1 corsair_kbcopy . . . 1726
13.117.3.2 corsair_mousecopy . . . 1727
13.117.3.3 hid_kb_translate . . . 1727
13.117.3.4 hid_mouse_translate . . . 1729
13.117.4 Variable Documentation . . . 1730
13.117.4.1 keymap . . . 1730
13.118 src/ckb/keywidget.cpp File Reference . . . 1730
13.118.1 Function Documentation . . . 1731
13.118.1.1 monoRgb . . . 1731
13.118.2 Variable Documentation . . . 1731

13.118.2.1 KEY_SIZE . . . 1731
13.118.2.2 m65Overlay . . . 1732
13.118.2.3 sabOverlay . . . 1732
13.118.2.4 scimOverlay . . . 1732
13.119 src/ckb/keywidget.h File Reference . . . 1732
13.120 src/ckb/kperfwidget.cpp File Reference . . . 1733
13.121 src/ckb/kperfwidget.h File Reference . . . 1733
13.121.1 Data Structure Documentation . . . 1734
13.121.1.1 struct KPerfWidget::IndicatorUi . . . 1734
13.122 src/ckb/layoutdialog.cpp File Reference . . . 1735
13.123 src/ckb/layoutdialog.h File Reference . . . 1736
13.124 src/ckb/macroreader.cpp File Reference . . . 1737
13.125 src/ckb/macroreader.h File Reference . . . 1737
13.126 src/ckb/main.cpp File Reference . . . 1738
13.126.1 Macro Definition Documentation . . . 1739
13.126.1.1 SHMEM_SIZE . . . 1739
13.126.1.2 SHMEM_SIZE_V015 . . . 1739
13.126.2 Enumeration Type Documentation . . . 1739
13.126.2.1 CommandLineParseResults . . . 1739
13.126.3 Function Documentation . . . 1740
13.126.3.1 appShare . . . 1740
13.126.3.2 isRunning . . . 1740
13.126.3.3 main . . . 1741
13.126.3.4 parseCommandLine . . . 1742
13.126.3.5 pidActive . . . 1744
13.127 src/ckb/mainwindow.cpp File Reference . . . 1744
13.127.1 Variable Documentation . . . 1745
13.127.1.1 appShare . . . 1745
13.127.1.2 configLabel . . . 1745
13.128 src/ckb/mainwindow.h File Reference . . . 1745
13.129 src/ckb/media.h File Reference . . . 1746
13.129.1 Macro Definition Documentation . . . 1747
13.129.1.1 ENUM_C . . . 1747
13.129.1.2 ENUM_END_C . . . 1747
13.129.1.3 EXTERN_C . . . 1747
13.129.2 Enumeration Type Documentation . . . 1747
13.129.2.1 muteState . . . 1747
13.129.3 Function Documentation . . . 1747
13.129.3.1 getMuteState . . . 1747
13.130 src/ckb/media_linux.cpp File Reference . . . 1748

13.130.1 Function Documentation . . . 1748
13.130.1.1 getMuteState . . . 1748
13.130.2 Variable Documentation . . . 1749
13.130.2.1 muteProcess . . . 1749
13.131 src/ckb/media_mac.m File Reference . . . 1749
13.131.1 Function Documentation . . . 1749
13.131.1.1 disableAppNap . . . 1750
13.131.1.2 getMuteState . . . 1750
13.132 src/ckb/modeselectdialog.cpp File Reference . . . 1751
13.133 src/ckb/modeselectdialog.h File Reference . . . 1751
13.134 src/ckb/mperfwidget.cpp File Reference . . . 1752
13.134.1 Macro Definition Documentation . . . 1753
13.134.1.1 SET_END . . . 1753
13.134.1.2 SET_START . . . 1753
13.134.2 Function Documentation . . . 1753
13.134.2.1 dpiExp . . . 1753
13.134.2.2 dpiLog . . . 1754
13.134.2.3 dpiRound . . . 1754
13.134.3 Variable Documentation . . . 1754
13.134.3.1 DPI_BASE . . . 1754
13.134.3.2 xyLinkPath . . . 1755
13.135 src/ckb/mperfwidget.h File Reference . . . 1755
13.135.1 Data Structure Documentation . . . 1756
13.135.1.1 struct MPerfWidget::DpiUi . . . 1756
13.136 src/ckb/quazip/crypt.h File Reference . . . 1757
13.136.1 Macro Definition Documentation . . . 1758
13.136.1.1 CRC32 . . . 1758
13.136.1.2 zdecode . . . 1758
13.136.1.3 zencode . . . 1758
13.136.2 Function Documentation . . . 1758
13.136.2.1 decrypt_byte . . . 1758
13.136.2.2 init_keys . . . 1758
13.136.2.3 update_keys . . . 1759
13.137 src/ckb/quazip/ioapi.h File Reference . . . 1760
13.137.1 Data Structure Documentation . . . 1762
13.137.1.1 struct zlib_filefunc_def_s . . . 1762
13.137.1.2 struct zlib_filefunc64_def_s . . . 1762
13.137.1.3 struct zlib_filefunc64_32_def_s . . . 1763
13.137.2 Macro Definition Documentation . . . 1763
13.137.2.1 __USE_FILE_OFFSET64 . . . 1763

13.137.2.2 __USE_LARGEFILE64 . . . 1763
13.137.2.3 _FILE_OFFSET_BIT . . . 1764
13.137.2.4 _LARGEFILE64_SOURCE . . . 1764
13.137.2.5 OF . . . 1764
13.137.2.6 ZCALLBACK . . . 1764
13.137.2.7 ZCLOSE64 . . . 1764
13.137.2.8 ZERROR64 . . . 1764
13.137.2.9 ZFAKECLOSE64 . . . 1764
13.137.2.10 ZLIB_FILEFUNC_MODE_CREATE . . . 1764
13.137.2.11 ZLIB_FILEFUNC_MODE_EXISTING . . . 1764
13.137.2.12 ZLIB_FILEFUNC_MODE_READ . . . 1764
13.137.2.13 ZLIB_FILEFUNC_MODE_READWRITEFILTER . . . 1765
13.137.2.14 ZLIB_FILEFUNC_MODE_WRITE . . . 1765
13.137.2.15 ZLIB_FILEFUNC_SEEK_CUR . . . 1765
13.137.2.16 ZLIB_FILEFUNC_SEEK_END . . . 1765
13.137.2.17 ZLIB_FILEFUNC_SEEK_SET . . . 1765
13.137.2.18 ZOPEN64 . . . 1765
13.137.2.19 ZREAD64 . . . 1765
13.137.2.20 ZSEEK64 . . . 1765
13.137.2.21 ZTELL64 . . . 1766
13.137.2.22 ZWRITE64 . . . 1766
13.137.3 Typedef Documentation . . . 1766
13.137.3.1 _Z_OF . . . 1766
13.137.3.2 zlib_filefunc64_32_def . . . 1766
13.137.3.3 zlib_filefunc64_def . . . 1766
13.137.3.4 zlib_filefunc_def . . . 1766
13.137.3.5 ZPOS64_T . . . 1766
13.137.4 Function Documentation . . . 1766
13.137.4.1 _Z_OF . . . 1766
13.137.4.2 _Z_OF . . . 1766
13.137.4.3 _Z_OF . . . 1766
13.137.4.4 _Z_OF . . . 1766
13.137.4.5 _Z_OF . . . 1766
13.137.4.6 fill_zlib_filefunc64_32_def_from_filefunc32 . . . 1767
13.138 src/ckb/quazip/JlCompress.cpp File Reference . . . 1767
13.138.1 Function Documentation . . . 1768
13.138.1.1 copyData . . . 1768
13.139 src/ckb/quazip/JlCompress.h File Reference . . . 1769
13.140 src/ckb/quazip/qioapi.cpp File Reference . . . 1769
13.140.1 Macro Definition Documentation . . . 1771

13.140.1.1 SEEK_CUR . . . 1771
13.140.1.2 SEEK_END . . . 1771
13.140.1.3 SEEK_SET . . . 1771
13.140.2 Function Documentation . . . 1771
13.140.2.1 call_zopen64 . . . 1771
13.140.2.2 call_zseek64 . . . 1771
13.140.2.3 call_ztell64 . . . 1771
13.140.2.4 fill_qiodevice64_filefunc . . . 1772
13.140.2.5 fill_qiodevice_filefunc . . . 1773
13.140.2.6 fill_zlib_filefunc64_32_def_from_filefunc32 . . . 1774
13.140.2.7 qiodevice64_seek_file_func . . . 1775
13.140.2.8 qiodevice64_tell_file_func . . . 1776
13.140.2.9 qiodevice_close_file_func . . . 1776
13.140.2.10 qiodevice_error_file_func . . . 1777
13.140.2.11 qiodevice_fakeclose_file_func . . . 1777
13.140.2.12 qiodevice_open_file_func . . . 1778
13.140.2.13 qiodevice_read_file_func . . . 1779
13.140.2.14 qiodevice_seek_file_func . . . 1779
13.140.2.15 qiodevice_tell_file_func . . . 1780
13.140.2.16 qiodevice_write_file_func . . . 1781
13.141 src/ckb/quazip/quaadler32.cpp File Reference . . . 1781
13.142 src/ckb/quazip/quaadler32.h File Reference . . . 1782
13.143 src/ckb/quazip/quachecksum32.h File Reference . . . 1783
13.144 src/ckb/quazip/quacrc32.cpp File Reference . . . 1784
13.145 src/ckb/quazip/quacrc32.h File Reference . . . 1785
13.146 src/ckb/quazip/quagzipfile.cpp File Reference . . . 1786
13.147 src/ckb/quazip/quagzipfile.h File Reference . . . 1787
13.148 src/ckb/quazip/quaziodevice.cpp File Reference . . . 1788
13.148.1 Macro Definition Documentation . . . 1789
13.148.1.1 QUAZIO_INBUFSIZE . . . 1789
13.148.1.2 QUAZIO_OUTBUFSIZE . . . 1789
13.149 src/ckb/quazip/quaziodevice.h File Reference . . . 1789
13.150 src/ckb/quazip/quazip.cpp File Reference . . . 1790
13.150.1 Function Documentation . . . 1791
13.150.1.1 QuaZip_getFileInfo . . . 1791
13.150.1.2 QuaZip_getFileInfo . . . 1791
13.150.1.3 QuaZip_getFileInfo . . . 1792
13.150.1.4 QuaZip_getFileInfo . . . 1792
13.151 src/ckb/quazip/quazip.h File Reference . . . 1792
13.151.1 Macro Definition Documentation . . . 1793

13.151.1.1 UNZ_OPENERROR . . . 1793
13.152 src/ckb/quazip/quazip_global.h File Reference . . . 1793
13.152.1 Macro Definition Documentation . . . 1794
13.152.1.1 QUAZIP_EXPORT . . . 1794
13.152.1.2 QUAZIP_EXTRA_NTFS_MAGIC . . . 1794
13.152.1.3 QUAZIP_EXTRA_NTFS_TIME_MAGIC . . . 1794
13.152.1.4 UNUSED . . . 1795
13.153 src/ckb/quazip/quazipdir.cpp File Reference . . . 1795
13.153.1 Function Documentation . . . 1795
13.153.1.1 QuaZipDir_convertInfoList . . . 1795
13.153.1.2 QuaZipDir_convertInfoList . . . 1795
13.153.1.3 QuaZipDir_convertInfoList . . . 1796
13.153.1.4 QuaZipDir_getFileInfo . . . 1796
13.154 src/ckb/quazip/quazipdir.h File Reference . . . 1797
13.155 src/ckb/quazip/quazipfile.cpp File Reference . . . 1797
13.156 src/ckb/quazip/quazipfile.h File Reference . . . 1798
13.157 src/ckb/quazip/quazipfileinfo.cpp File Reference . . . 1799
13.157.1 Function Documentation . . . 1799
13.157.1.1 getNTFSTime . . . 1800
13.157.1.2 permissionsFromExternalAttr . . . 1801
13.158 src/ckb/quazip/quazipfileinfo.h File Reference . . . 1801
13.159 src/ckb/quazip/quazipnewinfo.cpp File Reference . . . 1802
13.159.1 Function Documentation . . . 1803
13.159.1.1 QuaZipNewInfo_init . . . 1803
13.159.1.2 QuaZipNewInfo_setPermissions . . . 1804
13.159.1.3 setNTFSTime . . . 1804
13.160 src/ckb/quazip/quazipnewinfo.h File Reference . . . 1806
13.161 src/ckb/quazip/unzip.c File Reference . . . 1807
13.161.1 Data Structure Documentation . . . 1810
13.161.1.1 struct unz_file_info64_internal_s . . . 1810
13.161.1.2 struct file_in_zip64_read_info_s . . . 1811
13.161.1.3 struct unz64_s . . . 1811
13.161.2 Macro Definition Documentation . . . 1812
13.161.2.1 ALLOC . . . 1812
13.161.2.2 BUFREADCOMMENT . . . 1813
13.161.2.3 CASESENSITIVITYDEFAULT_NO . . . 1813
13.161.2.4 CASESENSITIVITYDEFAULTVALUE . . . 1813
13.161.2.5 local . . . 1813
13.161.2.6 SIZECENTRALDIRITEM . . . 1813
13.161.2.7 SIZEZIPLOCALHEADER . . . 1813

13.161.2.8 STRCMPCASENOSENTIVEFUNCTION . . . 1813
13.161.2.9 TRYFREE . . . 1813
13.161.2.10 UNZ_BUFSIZE . . . 1813
13.161.2.11 UNZ_MAXFILENAMEINZIP . . . 1814
13.161.3 Typedef Documentation . . . 1814
13.161.3.1 unz_file_info64_internal . . . 1814
13.161.3.2 z_crc_t . . . 1814
13.161.4 Function Documentation . . . 1814
13.161.4.1 _Z_OF . . . 1814
13.161.4.2 _Z_OF . . . 1814
13.161.4.3 _Z_OF . . . 1814
13.161.4.4 _Z_OF . . . 1814
13.161.4.5 _Z_OF . . . 1814
13.161.4.6 strcmpcasenosensitive_internal . . . 1814
13.161.4.7 unz64local_CheckCurrentFileCoherencyHeader . . . 1814
13.161.4.8 unz64local_DosDateToTmuDate . . . 1816
13.161.4.9 unz64local_getByte . . . 1817
13.161.4.10 unz64local_GetCurrentFileInfoInternal . . . 1818
13.161.4.11 unz64local_getLong . . . 1821
13.161.4.12 unz64local_getLong64 . . . 1822
13.161.4.13 unz64local_getShort . . . 1824
13.161.4.14 unz64local_SearchCentralDir . . . 1825
13.161.4.15 unz64local_SearchCentralDir64 . . . 1826
13.161.4.16 unzClearFlags . . . 1827
13.161.4.17 unzClose . . . 1828
13.161.4.18 unzCloseCurrentFile . . . 1829
13.161.4.19 unzeof . . . 1830
13.161.4.20 unzGetCurrentFileInfo . . . 1830
13.161.4.21 unzGetCurrentFileInfo64 . . . 1831
13.161.4.22 unzGetCurrentFileZStreamPos64 . . . 1832
13.161.4.23 unzGetFilePos . . . 1832
13.161.4.24 unzGetFilePos64 . . . 1833
13.161.4.25 unzGetGlobalComment . . . 1833
13.161.4.26 unzGetGlobalInfo . . . 1834
13.161.4.27 unzGetGlobalInfo64 . . . 1834
13.161.4.28 unzGetLocalExtrafield . . . 1835
13.161.4.29 unzGetOffset . . . 1836
13.161.4.30 unzGetOffset64 . . . 1836
13.161.4.31 unzGoToFilePos . . . 1837
13.161.4.32 unzGoToFilePos64 . . . 1837

13.161.4.33 unzGoToFirstFile . . . 1838
13.161.4.34 unzGoToNextFile . . . 1839
13.161.4.35 unzLocateFile . . . 1840
13.161.4.36 unzOpen . . . 1841
13.161.4.37 unzOpen2 . . . 1841
13.161.4.38 unzOpen2_64 . . . 1842
13.161.4.39 unzOpen64 . . . 1843
13.161.4.40 unzOpenCurrentFile . . . 1844
13.161.4.41 unzOpenCurrentFile2 . . . 1844
13.161.4.42 unzOpenCurrentFile3 . . . 1844
13.161.4.43 unzOpenCurrentFilePassword . . . 1847
13.161.4.44 unzOpenInternal . . . 1848
13.161.4.45 unzReadCurrentFile . . . 1851
13.161.4.46 unzSetFlags . . . 1854
13.161.4.47 unzSetOffset . . . 1855
13.161.4.48 unzSetOffset64 . . . 1855
13.161.4.49 unzStringFileNameCompare . . . 1856
13.161.4.50 unztell . . . 1856
13.161.4.51 unztell64 . . . 1857
13.161.5 Variable Documentation . . . 1857
13.161.5.1 unz_copyright . . . 1857
13.162 src/ckb/quazip/unzip.h File Reference . . . 1858
13.162.1 Data Structure Documentation . . . 1860
13.162.1.1 struct tm_unz_s . . . 1860
13.162.1.2 struct unz_global_info64_s . . . 1860
13.162.1.3 struct unz_global_info_s . . . 1861
13.162.1.4 struct unz_file_info64_s . . . 1862
13.162.1.5 struct unz_file_info_s . . . 1863
13.162.1.6 struct unz_file_pos_s . . . 1865
13.162.1.7 struct unz64_file_pos_s . . . 1866
13.162.2 Macro Definition Documentation . . . 1866
13.162.2.1 UNZ_AUTO_CLOSE . . . 1866
13.162.2.2 UNZ_BADZIPFILE . . . 1866
13.162.2.3 UNZ_CRCERROR . . . 1866
13.162.2.4 UNZ_DEFAULT_FLAGS . . . 1867
13.162.2.5 UNZ_END_OF_LIST_OF_FILE . . . 1867
13.162.2.6 UNZ_EOF . . . 1867
13.162.2.7 UNZ_ERRNO . . . 1867
13.162.2.8 UNZ_INTERNALERROR . . . 1867
13.162.2.9 UNZ_OK . . . 1867

13.162.2.10 UNZ_PARAMERROR . . . 1867
13.162.2.11 UNZ_BZIP2ERR . . . 1868
13.162.3 Typedef Documentation . . . 1868
13.162.3.1 tm_unz . . . 1868
13.162.3.2 unz64_file_pos . . . 1868
13.162.3.3 unz_file_info . . . 1868
13.162.3.4 unz_file_info64 . . . 1868
13.162.3.5 unz_file_pos . . . 1868
13.162.3.6 unz_global_info . . . 1868
13.162.3.7 unz_global_info64 . . . 1868
13.162.3.8 unzFile . . . 1868
13.162.4 Function Documentation . . . 1868
13.162.4.1 ZEXPORT . . . 1868
13.162.4.2 ZEXPORT . . . 1868
13.162.4.3 ZEXPORT . . . 1868
13.162.4.4 ZEXPORT . . . 1868
13.162.4.5 ZEXPORT . . . 1868
13.162.4.6 ZEXPORT . . . 1868
13.162.4.7 ZEXPORT . . . 1868
13.162.4.8 ZEXPORT . . . 1868
13.162.4.9 ZEXPORT . . . 1868
13.162.4.10 ZEXPORT . . . 1868
13.162.4.11 ZEXPORT . . . 1869
13.162.4.12 ZEXPORT . . . 1869
13.162.4.13 ZEXPORT . . . 1869
13.162.4.14 ZEXPORT . . . 1869
13.162.4.15 ZEXPORT . . . 1869
13.162.4.16 unzClearFlags . . . 1869
13.162.4.17 unzGetFilePos . . . 1869
13.162.4.18 unzGetFilePos64 . . . 1870
13.162.4.19 unzGetOffset . . . 1870
13.162.4.20 unzGetOffset64 . . . 1871
13.162.4.21 unzGoToFilePos . . . 1871
13.162.4.22 unzGoToFilePos64 . . . 1872
13.162.4.23 unzOpenInternal . . . 1873
13.162.4.24 unzSetFlags . . . 1876
13.162.4.25 unzSetOffset . . . 1877
13.162.4.26 unzSetOffset64 . . . 1877
13.163 src/ckb/quazip/zip.c File Reference . . . 1878
13.163.1 Data Structure Documentation . . . 1881

13.163.1.1 struct linkedlist_datablock_internal_s . . . 1881
13.163.1.2 struct linkedlist_data_s . . . 1882
13.163.1.3 struct curfile64_info . . . 1883
13.163.1.4 struct zip64_internal . . . 1884
13.163.2 Macro Definition Documentation . . . 1884
13.163.2.1 ALLOC . . . 1885
13.163.2.2 BUFREADCOMMENT . . . 1885
13.163.2.3 CENTRALHEADERMAGIC . . . 1885
13.163.2.4 CRC_LOCALHEADER_OFFSET . . . 1885
13.163.2.5 DESCRIPTORHEADERMAGIC . . . 1885
13.163.2.6 ENDHEADERMAGIC . . . 1885
13.163.2.7 FLAG_LOCALHEADER_OFFSET . . . 1885
13.163.2.8 INCLUDECRYPTINGCODE_IFCRYPTALLOWED . . . 1885
13.163.2.9 local . . . 1885
13.163.2.10 LOCALHEADERMAGIC . . . 1885
13.163.2.11 MAKEULONG64 . . . 1886
13.163.2.12 SEEK_CUR . . . 1886
13.163.2.13 SEEK_END . . . 1886
13.163.2.14 SEEK_SET . . . 1886
13.163.2.15 SIZECENTRALHEADER . . . 1886
13.163.2.16 SIZEDATA_INDATABLOCK . . . 1886
13.163.2.17 TRYFREE . . . 1886
13.163.2.18 VERSIONMADEBY . . . 1886
13.163.2.19 Z_BUFSIZE . . . 1886
13.163.2.20 Z_MAXFILENAMEINZIP . . . 1886
13.163.2.21 ZIP64ENDHEADERMAGIC . . . 1887
13.163.2.22 ZIP64ENDLOCHEADERMAGIC . . . 1887
13.163.3 Typedef Documentation . . . 1887
13.163.3.1 linkedlist_data . . . 1887
13.163.3.2 linkedlist_datablock_internal . . . 1887
13.163.3.3 z_crc_t . . . 1887
13.163.4 Function Documentation . . . 1887
13.163.4.1 _Z_OF . . . 1887
13.163.4.2 _Z_OF . . . 1887
13.163.4.3 _Z_OF . . . 1887
13.163.4.4 _Z_OF . . . 1887
13.163.4.5 _Z_OF . . . 1887
13.163.4.6 _Z_OF . . . 1887
13.163.4.7 add_data_in_datablock . . . 1887
13.163.4.8 allocate_new_datablock . . . 1889

13.163.4.9 free_datablock . . . 1889
13.163.4.10 free_linkedlist . . . 1890
13.163.4.11 init_linkedlist . . . 1890
13.163.4.12 loadCentralDirectoryRecord . . . 1891
13.163.4.13 Write_EndOfCentralDirectoryRecord . . . 1894
13.163.4.14 Write_GlobalComment . . . 1896
13.163.4.15 Write_LocalFileHeader . . . 1896
13.163.4.16 Write_Zip64EndOfCentralDirectoryLocator . . . 1898
13.163.4.17 Write_Zip64EndOfCentralDirectoryRecord . . . 1899
13.163.4.18 zip64FlushWriteBuffer . . . 1901
13.163.4.19 zip64local_getByte . . . 1901
13.163.4.20 zip64local_getLong . . . 1902
13.163.4.21 zip64local_getLong64 . . . 1903
13.163.4.22 zip64local_getShort . . . 1904
13.163.4.23 zip64local_putValue . . . 1905
13.163.4.24 zip64local_putValue_inmemory . . . 1906
13.163.4.25 zip64local_SearchCentralDir . . . 1906
13.163.4.26 zip64local_SearchCentralDir64 . . . 1907
13.163.4.27 zip64local_TmzDateToDosDate . . . 1909
13.163.4.28 zipClearFlags . . . 1910
13.163.4.29 zipClose . . . 1910
13.163.4.30 zipCloseFileInZip . . . 1912
13.163.4.31 zipCloseFileInZipRaw . . . 1913
13.163.4.32 zipCloseFileInZipRaw64 . . . 1914
13.163.4.33 zipOpen . . . 1918
13.163.4.34 zipOpen2 . . . 1918
13.163.4.35 zipOpen2_64 . . . 1919
13.163.4.36 zipOpen3 . . . 1920
13.163.4.37 zipOpen64 . . . 1922
13.163.4.38 zipOpenNewFileInZip . . . 1923
13.163.4.39 zipOpenNewFileInZip2 . . . 1923
13.163.4.40 zipOpenNewFileInZip2_64 . . . 1924
13.163.4.41 zipOpenNewFileInZip3 . . . 1924
13.163.4.42 zipOpenNewFileInZip3_64 . . . 1925
13.163.4.43 zipOpenNewFileInZip4 . . . 1925
13.163.4.44 zipOpenNewFileInZip4_64 . . . 1926
13.163.4.45 zipOpenNewFileInZip64 . . . 1930
13.163.4.46 zipRemoveExtraInfoBlock . . . 1930
13.163.4.47 zipSetFlags . . . 1931
13.163.4.48 zipWriteInFileInZip . . . 1932

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13.164.2.1 APPEND_STATUS_ADDINZIP . . . 1938
13.164.2.2 APPEND_STATUS_CREATE . . . 1938
13.164.2.3 APPEND_STATUS_CREATEAFTER . . . 1939
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13.164.2.5 Z_BZIP2ED . . . 1939
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13.164.2.9 ZIP_EOF . . . 1939
13.164.2.10 ZIP_ERRNO . . . 1939
13.164.2.11 ZIP_INTERNALERROR . . . 1939
13.164.2.12 ZIP_OK . . . 1940
13.164.2.13 ZIP_PARAMERROR . . . 1940
13.164.2.14 ZIP_SEQUENTIAL . . . 1940
13.164.2.15 ZIP_WRITE_DATA_DESCRIPTOR . . . 1940
13.164.3 Typedef Documentation . . . 1940
13.164.3.1 tm_zip . . . 1940
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13.164.4 Function Documentation . . . 1940
13.164.4.1 _Z_OF . . . 1940
13.164.4.2 _Z_OF . . . 1940
13.164.4.3 _Z_OF . . . 1940
13.164.4.4 _Z_OF . . . 1941
13.164.4.5 _Z_OF . . . 1941
13.164.4.6 _Z_OF . . . 1941
13.164.4.7 _Z_OF . . . 1941
13.164.4.8 _Z_OF . . . 1941
13.164.4.9 _Z_OF . . . 1941
13.164.4.10 _Z_OF . . . 1941
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13.202 src/ckb/release/moc_rebindwidget.cpp File Reference . . . 2035
13.202.1 Data Structure Documentation . . . 2036
13.202.1.1 struct qt_meta_stringdata_RebindWidget_t . . . 2036
13.202.2 Macro Definition Documentation . . . 2037
13.202.2.1 QT_MOC_LITERAL . . . 2037
13.202.3 Variable Documentation . . . 2037
13.202.3.1 qt_meta_data_RebindWidget . . . 2037
13.202.3.2 qt_meta_stringdata_RebindWidget . . . 2037
13.203 src/ckb/release/moc_rlistwidget.cpp File Reference . . . 2038
13.203.1 Data Structure Documentation . . . 2038
13.203.1.1 struct qt_meta_stringdata_RListWidget_t . . . 2038
13.203.2 Macro Definition Documentation . . . 2039
13.203.2.1 QT_MOC_LITERAL . . . 2039
13.203.3 Variable Documentation . . . 2039
13.203.3.1 qt_meta_data_RListWidget . . . 2039
13.203.3.2 qt_meta_stringdata_RListWidget . . . 2039
13.204 src/ckb/release/moc_settingswidget.cpp File Reference . . . 2040
13.204.1 Data Structure Documentation . . . 2041
13.204.1.1 struct qt_meta_stringdata_SettingsWidget_t . . . 2041
13.204.2 Macro Definition Documentation . . . 2041
13.204.2.1 QT_MOC_LITERAL . . . 2041
13.204.3 Variable Documentation . . . 2042
13.204.3.1 qt_meta_data_SettingsWidget . . . 2042
13.204.3.2 qt_meta_stringdata_SettingsWidget . . . 2042

13.205 src/ckb/release/qrc_binary.cpp File Reference . . . 2042
13.205.1 Macro Definition Documentation . . . 2043
13.205.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2043
13.205.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2043
13.205.2 Function Documentation . . . 2043
13.205.2.1 qCleanupResources_binary . . . 2043
13.205.2.2 qInitResources_binary . . . 2044
13.205.2.3 qRegisterResourceData . . . 2044
13.205.2.4 qUnregisterResourceData . . . 2044
13.205.3 Variable Documentation . . . 2045
13.205.3.1 qt_resource_data . . . 2045
13.205.3.2 qt_resource_name . . . 2045
13.205.3.3 qt_resource_struct . . . 2045
13.206 src/ckb/release/qrc_image.cpp File Reference . . . 2045
13.206.1 Macro Definition Documentation . . . 2046
13.206.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2046
13.206.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2046
13.206.2 Function Documentation . . . 2046
13.206.2.1 qCleanupResources_image . . . 2046
13.206.2.2 qInitResources_image . . . 2046
13.206.2.3 qRegisterResourceData . . . 2047
13.206.2.4 qUnregisterResourceData . . . 2047
13.206.3 Variable Documentation . . . 2047
13.206.3.1 qt_resource_data . . . 2047
13.206.3.2 qt_resource_name . . . 2047
13.206.3.3 qt_resource_struct . . . 2048
13.207 src/ckb/release/qrc_text.cpp File Reference . . . 2048
13.207.1 Macro Definition Documentation . . . 2048
13.207.1.1 QT_RCC_MANGLE_NAMESPACE . . . 2048
13.207.1.2 QT_RCC_PREPEND_NAMESPACE . . . 2048
13.207.2 Function Documentation . . . 2048
13.207.2.1 qCleanupResources_text . . . 2048
13.207.2.2 qInitResources_text . . . 2049
13.207.2.3 qRegisterResourceData . . . 2049
13.207.2.4 qUnregisterResourceData . . . 2050
13.207.3 Variable Documentation . . . 2050
13.207.3.1 qt_resource_data . . . 2050
13.207.3.2 qt_resource_name . . . 2050
13.207.3.3 qt_resource_struct . . . 2050
13.208 src/ckb/rlistwidget.cpp File Reference . . . 2051

13.209 src/ckb/rlistwidget.h File Reference . . . 2051
13.210 src/ckb/settingswidget.cpp File Reference . . . 2052
13.210.1 Function Documentation . . . 2053
13.210.1.1 right . . . 2053
13.210.2 Variable Documentation . . . 2053
13.210.2.1 devpath . . . 2053
13.210.2.2 modKeys . . . 2053
13.210.2.3 modNames . . . 2054
13.211 src/ckb/settingswidget.h File Reference . . . 2054
13.212 src/ckb/ui_animadddialog.h File Reference . . . 2055
13.213 src/ckb/ui_animsettingdialog.h File Reference . . . 2055
13.214 src/ckb/ui_extrasettingswidget.h File Reference . . . 2056
13.215 src/ckb/ui_fwupgradedialog.h File Reference . . . 2057
13.216 src/ckb/ui_gradientdialog.h File Reference . . . 2058
13.217 src/ckb/ui_kbanimwidget.h File Reference . . . 2059
13.218 src/ckb/ui_kbbindwidget.h File Reference . . . 2060
13.219 src/ckb/ui_kblightwidget.h File Reference . . . 2061
13.220 src/ckb/ui_kbprofiledialog.h File Reference . . . 2062
13.221 src/ckb/ui_kbwidget.h File Reference . . . 2063
13.222 src/ckb/ui_kperfwidget.h File Reference . . . 2064
13.223 src/ckb/ui_layoutdialog.h File Reference . . . 2065
13.224 src/ckb/ui_mainwindow.h File Reference . . . 2066
13.225 src/ckb/ui_modeselectdialog.h File Reference . . . 2067
13.226 src/ckb/ui_mperfwidget.h File Reference . . . 2068
13.227 src/ckb/ui_rebindwidget.h File Reference . . . 2069
13.228 src/ckb/ui_settingswidget.h File Reference . . . 2070

Index **2072**

Chapter 1

ckb-next: RGB Driver for Linux and OS X

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"
- ckb testing repository (updated more frequently, but may be unstable)

Device Support

Keyboards

- K65 RGB
- K70
- K70 RGB
- K70 LUX RGB
- K95*
- K95 RGB
- Strafe
- Strafe RGB
- = hardware playback not supported. Settings will be saved to software only.

Mice

- M65 RGB
- M65 PRO RGB
- Sabre RGB
- Scimitar RGB

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-git` - based on `master` branch (more stable)
  - `aur/ckb-next-latest-git` - based on `testing` branch (less stable but fresher)

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 5.8 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 Qt5 from here: `http://www.qt.io/download-open-source/`

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

- Key macros (G-Keys also); Have a look at `https://youtu.be/qhrKP03_NrM` for a short video tutorial
- Key macro delays: Handle delays between keystrokes when playing a macro

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
- **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`
- 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.

OS X/macOS

- **"ckb.pkg" can't be opened because it is from an unidentified developer** Open `System Preferences > Security & Privacy > General` and click `Open Anyway`.
- **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 notifications.
- `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).
- `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() funtion, 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 Kb::Kb (QObject ∗parent, const QString &path)

Is adding notifyX 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 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?

lae. 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 . . . 1568
_readlines_ctx . . . 1255
AutoRun . . . 120
binding . . . 1491
ckb_gradient . . . 1636
ckb_key . . . 1636
ckb_runctx . . . 1636
CkbSettings . . . 124
ColorMap . . . 153
curfile64_info . . . 1878
devcmd . . . 1224
devcmd.__unnamed__ . . . 162
dpiset . . . 1491
MPerfWidget::DpiUi . . . 780
file_in_zip64_read_info_s . . . 1807
firmwareSpecial . . . 1671
KbFirmware::FW . . . 185
hwprofile . . . 1491
KPerfWidget::IndicatorUi . . . 704
JlCompress . . . 245
KbId . . . 1674
Key . . . 604
key . . . 1721
keyAnim . . . 1392
keyanim . . . 1399
keymacro . . . 1491
KeyMap . . . 637
KeyPatch . . . 1706
kiss_fft_cpx . . . 1612
kiss_fft_state . . . 1596
kiss_fftr_state . . . 1619
lighting . . . 1491
linkedlist_data_s . . . 1878
linkedlist_datablock_internal_s . . . 1878
macroaction . . . 1491
AnimScript::Param . . . 54
GradientDialog::Preset . . . 798
QDialog . . . 800

- AnimAddDialog . . . 43
- AnimSettingDialog . . . 99
- ExtraSettingsWidget . . . 177
- FwUpgradeDialog . . . 193
- GradientDialog . . . 216
- KbProfileDialog . . . 558
- 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 . . . 140
- KbAnim . . . 314
- KbBind . . . 369
- KbFirmware . . . 416
- KbLight . . . 428
- KbManager . . . 480
- KbMode . . . 492
- KbPerf . . . 506
- KbProfile . . . 540
- KeyAction . . . 607

QPushButton . . . 806
- ColorButton . . . 143
- GradientButton . . . 202

qt_meta_stringdata_AnimAddDialog_t . . . 1946
qt_meta_stringdata_AnimScript_t . . . 1949
qt_meta_stringdata_AnimSettingDialog_t . . . 1952
qt_meta_stringdata_CkbSettingsWriter_t . . . 1955
qt_meta_stringdata_ColorButton_t . . . 1957
qt_meta_stringdata_ExtraSettingsWidget_t . . . 1959
qt_meta_stringdata_FwUpgradeDialog_t . . . 1962
qt_meta_stringdata_GradientButton_t . . . 1965
qt_meta_stringdata_GradientDialog_t . . . 1968
qt_meta_stringdata_GradientDialogWidget_t . . . 1971
qt_meta_stringdata_Kb_t . . . 1973
qt_meta_stringdata_KbAnim_t . . . 1976
qt_meta_stringdata_KbAnimWidget_t . . . 1978
qt_meta_stringdata_KbBind_t . . . 1981
qt_meta_stringdata_KbBindWidget_t . . . 1983
qt_meta_stringdata_KbFirmware_t . . . 1985
qt_meta_stringdata_KbLight_t . . . 1988
qt_meta_stringdata_KbLightWidget_t . . . 1991
qt_meta_stringdata_KbManager_t . . . 1994
qt_meta_stringdata_KbMode_t . . . 1996
qt_meta_stringdata_KbPerf_t . . . 1998
qt_meta_stringdata_KbProfile_t . . . 2001
qt_meta_stringdata_KbProfileDialog_t . . . 2003
qt_meta_stringdata_KbWidget_t . . . 2006
qt_meta_stringdata_KeyAction_t . . . 2008

qt_meta_stringdata_KeyWidget_t . . . 2010
qt_meta_stringdata_KPerfWidget_t . . . 2012
qt_meta_stringdata_LayoutDialog_t . . . 2015
qt_meta_stringdata_MacroReader_t . . . 2018
qt_meta_stringdata_MacroReaderThread_t . . . 2018
qt_meta_stringdata_MainWindow_t . . . 2022
qt_meta_stringdata_ModeSelectDialog_t . . . 2024
qt_meta_stringdata_MPerfWidget_t . . . 2026
qt_meta_stringdata_QuaGzipFile_t . . . 2029
qt_meta_stringdata_QuaZIODevice_t . . . 2031
qt_meta_stringdata_QuaZipFile_t . . . 2033
qt_meta_stringdata_RebindWidget_t . . . 2035
qt_meta_stringdata_RListWidget_t . . . 2038
qt_meta_stringdata_SettingsWidget_t . . . 2040
QThread . . . 807
  Kb . . . 263
  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 . . . 229
  KbAnimWidget . . . 351
  KbBindWidget . . . 405
  KbLightWidget . . . 466
  KbWidget . . . 572
  KeyWidget . . . 661
  KPerfWidget . . . 704
  MPerfWidget . . . 780
  RebindWidget . . . 939
  SettingsWidget . . . 1012
rgb . . . 1421
SGroup . . . 1036
tm_unz_s . . . 1858
tm_zip_s . . . 1934
Ui_AnimAddDialog . . . 1039
  Ui::AnimAddDialog . . . 49
Ui_AnimSettingDialog . . . 1043
  Ui::AnimSettingDialog . . . 86
Ui_ExtraSettingsWidget . . . 1056
  Ui::ExtraSettingsWidget . . . 164
Ui_FwUpgradeDialog . . . 1068
  Ui::FwUpgradeDialog . . . 186
Ui_GradientDialog . . . 1074
  Ui::GradientDialog . . . 208
Ui_KbAnimWidget . . . 1082
  Ui::KbAnimWidget . . . 341
Ui_KbBindWidget . . . 1091

Ui::KbBindWidget . . . 398
Ui_KbLightWidget . . . 1097
Ui::KbLightWidget . . . 457
Ui_KbProfileDialog . . . 1106
Ui::KbProfileDialog . . . 567
Ui_KbWidget . . . 1109
Ui::KbWidget . . . 594
Ui_KPerfWidget . . . 1119
Ui::KPerfWidget . . . 684
Ui_LayoutDialog . . . 1138
Ui::LayoutDialog . . . 717
Ui_MainWindow . . . 1143
Ui::MainWindow . . . 733
Ui_ModeSelectDialog . . . 1147
Ui::ModeSelectDialog . . . 752
Ui_MPerfWidget . . . 1151
Ui::MPerfWidget . . . 760
Ui_RebindWidget . . . 1170
Ui::RebindWidget . . . 975
Ui_SettingsWidget . . . 1200
Ui::SettingsWidget . . . 1024
unz64_file_pos_s . . . 1858
unz64_s . . . 1807
unz_file_info64_internal_s . . . 1807
unz_file_info64_s . . . 1858
unz_file_info_s . . . 1858
unz_file_pos_s . . . 1858
unz_global_info64_s . . . 1858
unz_global_info_s . . . 1858
usbdevice . . . 1491
UsbId . . . 1212
usbid . . . 1491
usbinput . . . 1491
usbmode . . . 1491
usbprofile . . . 1491
zip64_internal . . . 1878
zip_fileinfo . . . 1934
zlib_filefunc64_32_def_s . . . 1760
zlib_filefunc64_def_s . . . 1760
zlib_filefunc_def_s . . . 1760

Chapter 9

Data Structure Index

9.1 Data Structures

Here are the data structures with brief descriptions:

AnimAddDialog 43
Ui::AnimAddDialog 49
AnimScript 54
Ui::AnimSettingDialog 86
AnimSettingDialog 99
AutoRun 120
CkbSettings 124
CkbSettingsWriter 140
ColorButton 143
ColorMap 153
devcmd.__unnamed__ 162
Ui::ExtraSettingsWidget 164
ExtraSettingsWidget 177
KbFirmware::FW 185
Ui::FwUpgradeDialog 186
FwUpgradeDialog 193
GradientButton 202
Ui::GradientDialog 208
GradientDialog 216
GradientDialogWidget 229
JlCompress
Utility class for typical operations 245
Kb 263
KbAnim 314
Ui::KbAnimWidget 341
KbAnimWidget 351
KbBind 369
Ui::KbBindWidget 398
KbBindWidget 405
KbFirmware 416
KbLight 428
Ui::KbLightWidget 457
KbLightWidget 466
KbManager 480
KbMode 492
KbPerf 506
KbProfile 540
KbProfileDialog 558

Ui::KbProfileDialog . . . 567
KbWidget . . . 572
Ui::KbWidget . . . 594
Key . . . 604
KeyAction . . . 607
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
RebindWidget . . . 939
Ui::RebindWidget . . . 975
RListWidget . . . 1006
SettingsWidget . . . 1012
Ui::SettingsWidget . . . 1024
SGroup . . . 1036
Ui_AnimAddDialog . . . 1039
Ui_AnimSettingDialog . . . 1043
Ui_ExtraSettingsWidget . . . 1056
Ui_FwUpgradeDialog . . . 1068
Ui_GradientDialog . . . 1074
Ui_KbAnimWidget . . . 1082
Ui_KbBindWidget . . . 1091
Ui_KbLightWidget . . . 1097
Ui_KbProfileDialog . . . 1106
Ui_KbWidget . . . 1109
Ui_KPerfWidget . . . 1119
Ui_LayoutDialog . . . 1138
Ui_MainWindow . . . 1143
Ui_ModeSelectDialog . . . 1147
Ui_MPerfWidget . . . 1151
Ui_RebindWidget . . . 1170
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 . . . 1219
src/ckb-daemon/command.h . . . 1224
src/ckb-daemon/device.c . . . 1233
src/ckb-daemon/device.h . . . 1237
src/ckb-daemon/device_keyboard.c . . . 1246
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 . . . 1268
src/ckb-daemon/dpi.c . . . 1276
src/ckb-daemon/dpi.h . . . 1281
src/ckb-daemon/extra_mac.c . . . 1286
src/ckb-daemon/firmware.c . . . 1287
src/ckb-daemon/firmware.h . . . 1292
src/ckb-daemon/includes.h . . . 1294
src/ckb-daemon/input.c . . . 1298
src/ckb-daemon/input.h . . . 1308
src/ckb-daemon/input_linux.c . . . 1317
src/ckb-daemon/input_mac.c . . . 1324
src/ckb-daemon/input_mac_mouse.c . . . 1325
src/ckb-daemon/keymap.c . . . 1325
src/ckb-daemon/keymap.h . . . 1721
src/ckb-daemon/keymap_mac.h . . . 1329
src/ckb-daemon/led.c . . . 1330
src/ckb-daemon/led.h . . . 1336
src/ckb-daemon/led_keyboard.c . . . 1347
src/ckb-daemon/led_mouse.c . . . 1380
src/ckb-daemon/main.c . . . 1383
src/ckb-daemon/notify.c . . . 1440
src/ckb-daemon/notify.h . . . 1449
src/ckb-daemon/os.h . . . 1453
src/ckb-daemon/profile.c . . . 1455
src/ckb-daemon/profile.h . . . 1471
src/ckb-daemon/profile_keyboard.c . . . 1486
src/ckb-daemon/profile_mouse.c . . . 1489
src/ckb-daemon/structures.h . . . 1491
src/ckb-daemon/usb.c . . . 1510

src/ckb-daemon/usb.h
Definitions for using USB interface . . . 1529
src/ckb-daemon/usb_linux.c . . . 1568
src/ckb-daemon/usb_mac.c . . . 1595
src/ckb-gradient/main.c . . . 1392
src/ckb-heat/main.c . . . 1399
src/ckb-mviz/_kiss_fft_guts.h . . . 1596
src/ckb-mviz/kiss_fft.c . . . 1600
src/ckb-mviz/kiss_fft.h . . . 1612
src/ckb-mviz/kiss_fftr.c . . . 1619
src/ckb-mviz/kiss_fftr.h . . . 1624
src/ckb-mviz/main.c . . . 1404
src/ckb-pinwheel/main.c . . . 1410
src/ckb-rain/main.c . . . 1415
src/ckb-random/main.c . . . 1421
src/ckb-ripple/main.c . . . 1426
src/ckb-wave/main.c . . . 1432
src/ckb/animadddialog.cpp . . . 1628
src/ckb/animadddialog.h . . . 1629
src/ckb/animscript.cpp . . . 1629
src/ckb/animscript.h . . . 1631
src/ckb/animsettingdialog.cpp . . . 1632
src/ckb/animsettingdialog.h . . . 1634
src/ckb/autorun.cpp . . . 1635
src/ckb/autorun.h . . . 1636
src/ckb/ckb-anim.h . . . 1636
src/ckb/ckbsettings.cpp . . . 1660
src/ckb/ckbsettings.h . . . 1663
src/ckb/ckbsettingswriter.cpp . . . 1664
src/ckb/ckbsettingswriter.h . . . 1666
src/ckb/colorbutton.cpp . . . 1666
src/ckb/colorbutton.h . . . 1667
src/ckb/colormap.cpp . . . 1668
src/ckb/colormap.h . . . 1669
src/ckb/extrasettingswidget.cpp . . . 1670
src/ckb/extrasettingswidget.h . . . 1671
src/ckb/firmware_special.h . . . 1671
src/ckb/fwupgradedialog.cpp . . . 1674
src/ckb/fwupgradedialog.h . . . 1676
src/ckb/gradientbutton.cpp . . . 1677
src/ckb/gradientbutton.h . . . 1678
src/ckb/gradientdialog.cpp . . . 1679
src/ckb/gradientdialog.h . . . 1679
src/ckb/gradientdialogwidget.cpp . . . 1680
src/ckb/gradientdialogwidget.h . . . 1680
src/ckb/kb.cpp . . . 1681
src/ckb/kb.h . . . 1682
src/ckb/kbanim.cpp . . . 1683
src/ckb/kbanim.h . . . 1685
src/ckb/kbanimwidget.cpp . . . 1686
src/ckb/kbanimwidget.h . . . 1686
src/ckb/kbbind.cpp . . . 1687
src/ckb/kbbind.h . . . 1688
src/ckb/kbbindwidget.cpp . . . 1688
src/ckb/kbbindwidget.h . . . 1689
src/ckb/kbfirmware.cpp . . . 1689
src/ckb/kbfirmware.h . . . 1691
src/ckb/kblight.cpp . . . 1692

src/ckb/kblight.h . . . 1694
src/ckb/kblightwidget.cpp . . . 1695
src/ckb/kblightwidget.h . . . 1695
src/ckb/kbmanager.cpp . . . 1696
src/ckb/kbmanager.h . . . 1697
src/ckb/kbmode.cpp . . . 1698
src/ckb/kbmode.h . . . 1699
src/ckb/kbperf.cpp . . . 1700
src/ckb/kbperf.h . . . 1700
src/ckb/kbprofile.cpp . . . 1701
src/ckb/kbprofile.h . . . 1701
src/ckb/kbprofiledialog.cpp . . . 1702
src/ckb/kbprofiledialog.h . . . 1702
src/ckb/kbwidget.cpp . . . 1703
src/ckb/kbwidget.h . . . 1704
src/ckb/keyaction.cpp . . . 1704
src/ckb/keyaction.h . . . 1705
src/ckb/keymap.cpp . . . 1706
src/ckb/keymap.h . . . 1721
src/ckb/keywidget.cpp . . . 1730
src/ckb/keywidget.h . . . 1732
src/ckb/kperfwidget.cpp . . . 1733
src/ckb/kperfwidget.h . . . 1733
src/ckb/layoutdialog.cpp . . . 1735
src/ckb/layoutdialog.h . . . 1736
src/ckb/macroreader.cpp . . . 1737
src/ckb/macroreader.h . . . 1737
src/ckb/main.cpp . . . 1738
src/ckb/mainwindow.cpp . . . 1744
src/ckb/mainwindow.h . . . 1745
src/ckb/media.h . . . 1746
src/ckb/media_linux.cpp . . . 1748
src/ckb/media_mac.m . . . 1749
src/ckb/modeselectdialog.cpp . . . 1751
src/ckb/modeselectdialog.h . . . 1751
src/ckb/mperfwidget.cpp . . . 1752
src/ckb/mperfwidget.h . . . 1755
src/ckb/rebindwidget.cpp . . . 1945
src/ckb/rebindwidget.h . . . 1945
src/ckb/rlistwidget.cpp . . . 2051
src/ckb/rlistwidget.h . . . 2051
src/ckb/settingswidget.cpp . . . 2052
src/ckb/settingswidget.h . . . 2054
src/ckb/ui_animadddialog.h . . . 2055
src/ckb/ui_animsettingdialog.h . . . 2055
src/ckb/ui_extrasettingswidget.h . . . 2056
src/ckb/ui_fwupgradedialog.h . . . 2057
src/ckb/ui_gradientdialog.h . . . 2058
src/ckb/ui_kbanimwidget.h . . . 2059
src/ckb/ui_kbbindwidget.h . . . 2060
src/ckb/ui_kblightwidget.h . . . 2061
src/ckb/ui_kbprofiledialog.h . . . 2062
src/ckb/ui_kbwidget.h . . . 2063
src/ckb/ui_kperfwidget.h . . . 2064
src/ckb/ui_layoutdialog.h . . . 2065
src/ckb/ui_mainwindow.h . . . 2066
src/ckb/ui_modeselectdialog.h . . . 2067
src/ckb/ui_mperfwidget.h . . . 2068

src/ckb/ui_rebindwidget.h . . . 2069
src/ckb/ui_settingswidget.h . . . 2070
src/ckb/quazip/crypt.h . . . 1757
src/ckb/quazip/ioapi.h . . . 1760
src/ckb/quazip/JlCompress.cpp . . . 1767
src/ckb/quazip/JlCompress.h . . . 1769
src/ckb/quazip/qioapi.cpp . . . 1769
src/ckb/quazip/quaadler32.cpp . . . 1781
src/ckb/quazip/quaadler32.h . . . 1782
src/ckb/quazip/quachecksum32.h . . . 1783
src/ckb/quazip/quacrc32.cpp . . . 1784
src/ckb/quazip/quacrc32.h . . . 1785
src/ckb/quazip/quagzipfile.cpp . . . 1786
src/ckb/quazip/quagzipfile.h . . . 1787
src/ckb/quazip/quaziodevice.cpp . . . 1788
src/ckb/quazip/quaziodevice.h . . . 1789
src/ckb/quazip/quazip.cpp . . . 1790
src/ckb/quazip/quazip.h . . . 1792
src/ckb/quazip/quazip_global.h . . . 1793
src/ckb/quazip/quazipdir.cpp . . . 1795
src/ckb/quazip/quazipdir.h . . . 1797
src/ckb/quazip/quazipfile.cpp . . . 1797
src/ckb/quazip/quazipfile.h . . . 1798
src/ckb/quazip/quazipfileinfo.cpp . . . 1799
src/ckb/quazip/quazipfileinfo.h . . . 1801
src/ckb/quazip/quazipnewinfo.cpp . . . 1802
src/ckb/quazip/quazipnewinfo.h . . . 1806
src/ckb/quazip/unzip.c . . . 1807
src/ckb/quazip/unzip.h . . . 1858
src/ckb/quazip/zip.c . . . 1878
src/ckb/quazip/zip.h . . . 1934
src/ckb/release/moc_animadddialog.cpp . . . 1946
src/ckb/release/moc_animscript.cpp . . . 1949
src/ckb/release/moc_animsettingdialog.cpp . . . 1952
src/ckb/release/moc_ckbsettingswriter.cpp . . . 1955
src/ckb/release/moc_colorbutton.cpp . . . 1957
src/ckb/release/moc_extrasettingswidget.cpp . . . 1959
src/ckb/release/moc_fwupgradedialog.cpp . . . 1962
src/ckb/release/moc_gradientbutton.cpp . . . 1965
src/ckb/release/moc_gradientdialog.cpp . . . 1968
src/ckb/release/moc_gradientdialogwidget.cpp . . . 1971
src/ckb/release/moc_kb.cpp . . . 1973
src/ckb/release/moc_kbanim.cpp . . . 1976
src/ckb/release/moc_kbanimwidget.cpp . . . 1978
src/ckb/release/moc_kbbind.cpp . . . 1981
src/ckb/release/moc_kbbindwidget.cpp . . . 1983
src/ckb/release/moc_kbfirmware.cpp . . . 1985
src/ckb/release/moc_kblight.cpp . . . 1988
src/ckb/release/moc_kblightwidget.cpp . . . 1991
src/ckb/release/moc_kbmanager.cpp . . . 1994
src/ckb/release/moc_kbmode.cpp . . . 1996
src/ckb/release/moc_kbperf.cpp . . . 1998
src/ckb/release/moc_kbprofile.cpp . . . 2001
src/ckb/release/moc_kbprofiledialog.cpp . . . 2003
src/ckb/release/moc_kbwidget.cpp . . . 2006
src/ckb/release/moc_keyaction.cpp . . . 2008
src/ckb/release/moc_keywidget.cpp . . . 2010
src/ckb/release/moc_kperfwidget.cpp . . . 2012

src/ckb/release/moc_layoutdialog.cpp 2015
src/ckb/release/moc_macroreader.cpp 2018
src/ckb/release/moc_mainwindow.cpp 2022
src/ckb/release/moc_modeselectdialog.cpp 2024
src/ckb/release/moc_mperfwidget.cpp 2026
src/ckb/release/moc_quagzipfile.cpp 2029
src/ckb/release/moc_quaziodevice.cpp 2031
src/ckb/release/moc_quazipfile.cpp 2033
src/ckb/release/moc_rebindwidget.cpp 2035
src/ckb/release/moc_rlistwidget.cpp 2038
src/ckb/release/moc_settingswidget.cpp 2040
src/ckb/release/qrc_binary.cpp 2042
src/ckb/release/qrc_image.cpp 2045
src/ckb/release/qrc_text.cpp 2048

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 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

12.1.1 Detailed Description

Definition at line 12 of file animadddialog.h.

12.1.2 Constructor & Destructor Documentation

12.1.2.1 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:

12.1.2.2 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:

12.1.3 Member Function Documentation

12.1.3.1 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:

12.1.3.2 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:

12.1.3.3 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:

12.1.3.4 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:

12.1.3.5 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:

12.1.4 Field Documentation

12.1.4.1 QStringList AnimAddDialog::_keys [private]

Definition at line 33 of file animadddialog.h.

Referenced by on_presetBox_activated().

12.1.4.2 KbLight* AnimAddDialog::_light [private]

Definition at line 32 of file animadddialog.h.

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

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

Definition at line 30 of file animadddialog.h.

Referenced by AnimAddDialog(), and chosenScript().

12.1.4.4 bool AnimAddDialog::showPreview [private]

Definition at line 34 of file animadddialog.h.

Referenced by on_presetBox_activated(), and on_previewBox_clicked().

12.1.4.5 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

12.2 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

12.2.1 Detailed Description

Definition at line 146 of file ui_animadddialog.h.

12.2.2 Member Function Documentation

12.2.2.1 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:

12.2.2.2 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:

12.2.3 Field Documentation

12.2.3.1 QComboBox* Ui_AnimAddDialog::animBox [inherited]

Definition at line 35 of file ui_animadddialog.h.

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

12.2.3.2 QDialogButtonBox* Ui_AnimAddDialog::buttonBox [inherited]

Definition at line 33 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.3 QGridLayout* Ui_AnimAddDialog::gridLayout [inherited]

Definition at line 31 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.4 QHBoxLayout* Ui_AnimAddDialog::horizontalLayout [inherited]

Definition at line 32 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.5 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer [inherited]

Definition at line 41 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.6 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer_2 [inherited]

Definition at line 34 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.7 QLabel* Ui_AnimAddDialog::label [inherited]

Definition at line 38 of file ui_animadddialog.h.

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

12.2.3.8 QLabel* Ui_AnimAddDialog::label_2 [inherited]

Definition at line 36 of file ui_animadddialog.h.

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

12.2.3.9 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().

12.2.3.10 QCheckBox* Ui_AnimAddDialog::previewBox [inherited]

Definition at line 42 of file ui_animadddialog.h.

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

12.2.3.11 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_2 [inherited]

Definition at line 37 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.2.3.12 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

12.3 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 informIfNonWritable ()

  If config files are writable, return false. Otherwise give the user a pop up and return true.
- static bool isWritable ()

  Setter & getter for it.
- static void setWritable (bool v)

  CkbSettings::setWritable Remember if the config files are writable (setter)
- 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

Static Private Attributes

- static bool _writable = false

  Remember, whether the Config files are writable or not.

12.7.1 Detailed Description

Definition at line 12 of file ckbsettings.h.

12.7.2 Constructor & Destructor Documentation

12.7.2.1 CkbSettings::CkbSettings ( )

Definition at line 146 of file ckbsettings.cpp.

```
146                         :
147     backing(globalSettings()) {
148 }
```

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

Definition at line 150 of file ckbsettings.cpp.

References beginGroup().

```
150                                                                 :
151     backing(globalSettings()) {
152     if(basePath.isEmpty()){
153         if(eraseExisting)
154             qDebug() << "CkbSettings created with basePath = \"\" and eraseExisting = true. This is a
      mistake.";
155         return;
156     }
157     if(eraseExisting)
158         remove(basePath);
159     beginGroup(basePath);
160 }
```

Here is the call graph for this function:

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

Definition at line 162 of file ckbsettings.cpp.

```
162                                         :
163     backing(&settings) {
164 }
```

12.7.2.4 CkbSettings::~CkbSettings ( )

Definition at line 230 of file ckbsettings.cpp.

References backing, removeCache, and writeCache.

```
230                         {
231     if(removeCache.isEmpty() && writeCache.isEmpty())
232         return;
233     // Save the settings from the settings thread.
234     // They have to be saved from that thread specifically to avoid performance issues
235     CkbSettingsWriter* writer = new CkbSettingsWriter(
      backing, removeCache, writeCache);
236     writer->moveToThread(globalThread);
237     QObject::staticMetaObject.invokeMethod(writer, "run", Qt::QueuedConnection);
238 }
```

12.7.3 Member Function Documentation

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

Definition at line 166 of file ckbsettings.cpp.

References groups.

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

```
                                                    {
    groups.append(prefix);
}
```

Here is the caller graph for this function:

12.7.3.2 QStringList CkbSettings::childGroups ( ) const

Definition at line 174 of file ckbsettings.cpp.

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

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

```
                                                {
    QString current = pwd();
    lockMutex;
    if(!current.isEmpty())
        backing->beginGroup(current);
    QStringList res = backing->childGroups();
    if(!current.isEmpty())
        backing->endGroup();
    return res;
}
```

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 185 of file ckbsettings.cpp.

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

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

```
185                                         {
186     QString current = pwd();
187     lockMutex;
188     if(!current.isEmpty())
189         backing->beginGroup(current);
190     QStringList res = backing->childKeys();
191     if(!current.isEmpty())
192         backing->endGroup();
193     return res;
194 }
```

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 131 of file ckbsettings.cpp.

References _globalSettings, cacheWritesInProgress(), and globalThread.

Referenced by MainWindow::cleanup().

```
131                         {
132     if(!_globalSettings)
133         return;
134     // Wait for all writers to finish
135     while(cacheWritesInProgress.load() > 0)
136         QThread::yieldCurrentThread();
137     // Stop thread and delete objects
138     globalThread->quit();
```

```
    globalThread->wait();
    delete globalThread;
    delete _globalSettings;
    globalThread = 0;
    _globalSettings = 0;
}
```

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 196 of file ckbsettings.cpp.

References backing, lockMutex, and pwd().

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

```
                                                    {
    lockMutex;
    return backing->contains(pwd(key));
}
```

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 201 of file ckbsettings.cpp.

References childGroups().

Referenced by KbPerf::load().

```
201                                                 {
202     QStringList components = group.split("/");
203     if(components.length() > 1){
204         // Find sub-group
205         SGroup group(*this, components[0]);
206         return containsGroup(QStringList(components.mid(1)).join('/'));
207     }
208     return childGroups().contains(group);
209 }
```

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 170 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 240 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::informIfNonWritable ( ) [static]

CkbSettings::checkIfWritable If the local implementation of the config database is not yet writable, bring up a popup to the user to informhim about it. Bring up the information where he can find the info.

Definition at line 112 of file ckbsettings.cpp.

References _globalSettings, and isWritable().

Referenced by MainWindow::MainWindow().

```
112                                     {
113     if (isWritable()) return false;
114     QMessageBox msgBox;
115     msgBox.setIcon(QMessageBox::Warning);
116     msgBox.setProperty("Title", "Profile is read only");
117     msgBox.setText("Your profile information for ckb-next is nonwritable.");
118     QString info = "This might happen if you did start the ckb-next program with root privileges earlier.\n
      \nOr did you copy it from somewhere?\n\nPlease have a look at\n"
119             + _globalSettings->fileName();
120     msgBox.setInformativeText(info);
121     msgBox.exec();
122     qDebug() << "Profile information for ckb-next is nonwritable. It is located at" <<
      _globalSettings->fileName();
123     return true;
124 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.10 bool CkbSettings::isBusy ( ) [static]

Definition at line 127 of file ckbsettings.cpp.

References cacheWritesInProgress().

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

```
127                         {
128     return cacheWritesInProgress.load() > 0;
129 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.11 bool CkbSettings::isWritable ( ) [static]

CkbSettings::isWritable Remember if the config files are writable (boolean getter)

Returns

the value of CkbSettings::writable

Definition at line 98 of file ckbsettings.cpp.

References _writable.

Referenced by informIfNonWritable(), and main().

```
98 { return _writable; }
```

Here is the caller graph for this function:

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

Definition at line 61 of file ckbsettings.h.

References groups.

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

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

Here is the caller graph for this function:

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

Definition at line 62 of file ckbsettings.h.

References groups, and pwd().

Referenced by pwd().

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

Here is the call graph for this function:

Here is the caller graph for this function:

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

Definition at line 226 of file ckbsettings.cpp.

References pwd(), and removeCache.

Referenced by SettingsWidget::SettingsWidget().

```
226                                         {
227     removeCache.append(pwd(key));
228 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

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

Definition at line 251 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().

```
251                                                                 {
252     {
253         lockMutexCache;
254         if(globalCache.value(key) == value)
255             return;
256         globalCache[key] = value;
257     }
258     lockMutexStatic;
259     globalSettings()->setValue(key, value);
260 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

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

Definition at line 216 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().

```
216                                                                 {
217     // Cache the write values, save them when the object is destroyed
218     QString realKey = pwd(key);
219     writeCache[realKey] = value;
220     // Update global cache if needed
221     lockMutexCache;
222     if(globalCache.contains(realKey))
223         globalCache[realKey] = value;
224 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.17 void CkbSettings::setWritable (bool *v*) [static]

Parameters

v	Set the value of CkbSettings::writable

Definition at line 105 of file ckbsettings.cpp.

References _writable.

Referenced by globalSettings().

```
105 { _writable = v; }
```

Here is the caller graph for this function:

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

Definition at line 211 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().

```
211                                                                                    {
212     lockMutex;
213     return backing->value(pwd(key), defaultValue);
214 }
```

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 bool CkbSettings::_writable = false [static], [private]

CkbSettings::_writable.

Definition at line 59 of file ckbsettings.h.

Referenced by isWritable(), and setWritable().

12.7.4.2 QSettings* CkbSettings::backing [private]

Definition at line 54 of file ckbsettings.h.

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

12.7.4.3 QStringList CkbSettings::groups [private]

Definition at line 55 of file ckbsettings.h.

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

12.7.4.4 QStringList CkbSettings::removeCache [private]

Definition at line 56 of file ckbsettings.h.

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

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

Definition at line 57 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)
- 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 27 of file colormap.cpp.

References _colors, _count, _keyNames, _mapCount, clear(), and deAlloc().

Referenced by init(), and operator=().

```
27                                  {
28     if(newCount > _mapCount){
29         // ^ map never shrinks, only expands
30         deAlloc();
31         _mapCount = newCount;
32         _keyNames = new const char*[_mapCount];
33         _colors = new QRgb[_mapCount];
34     }
35     _count = newCount;
36     clear();
37 }
```

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 45 of file colormap.cpp.

References _colors, and _count.

Referenced by alloc(), AnimScript::end(), and KbLight::resetIndicators().

```
45                          {
46     memset(_colors, 0, _count * sizeof(QRgb));
47 }
```

Here is the caller graph for this function:

12.10.3.3 QRgb ∗ ColorMap::colorForName (const char ∗ *name*)

Definition at line 72 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().

```
72                                                  {
73     if(!_keyNames)
74         return 0;
75     const char** namePtr = (const char**)bsearch(&name, _keyNames,
      _count, sizeof(const char*), qs_strcmp);
76     if(!namePtr)
77         return 0;
78     ptrdiff_t position = namePtr - _keyNames;
79     return _colors + position;
80 }
```

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 82 of file colormap.cpp.

References _colors, _count, _keyNames, and qs_strcmp().

```
82                                                          {
83     if(!_keyNames)
84         return 0;
85     const char** namePtr = (const char**)bsearch(&name, _keyNames,
      _count, sizeof(const char*), qs_strcmp);
86     if(!namePtr)
87         return 0;
88     ptrdiff_t position = namePtr - _keyNames;
89     return _colors + position;
90 }
```

Here is the call graph for this function:

12.10.3.5 QRgb* ColorMap::colors ( ) [inline]

Definition at line 32 of file colormap.h.

References _colors.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
32 { return _colors; }
```

Here is the caller graph for this function:

12.10.3.6 const QRgb∗ ColorMap::colors ( ) const [inline]

Definition at line 33 of file colormap.h.

References _colors.

```
33 { return _colors; }
```

12.10.3.7 int ColorMap::count ( ) const [inline]

Definition at line 30 of file colormap.h.

References _count.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
30 { return _count; }
```

Here is the caller graph for this function:

12.10.3.8 void ColorMap::deAlloc ( ) [private]

Definition at line 39 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 53 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 31 of file colormap.h.

References _keyNames.

Referenced by KbLight::printRGB().

```
31 { 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:

12.10.4 Field Documentation

12.10.4.1 QRgb* ColorMap::_colors [private]

Definition at line 44 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), colors(), deAlloc(), and operator=().

12.10.4.2 int ColorMap::_count [private]

Definition at line 45 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), count(), deAlloc(), init(), and operator=().

12.10.4.3 const char** ColorMap::_keyNames [private]

Definition at line 43 of file colormap.h.

Referenced by alloc(), colorForName(), deAlloc(), init(), keyNames(), and operator=().

12.10.4.4 int ColorMap::_mapCount [private]

Definition at line 45 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
- uint16_t forProductID

12.14.1 Detailed Description

Definition at line 34 of file kbfirmware.h.

12.14.2 Constructor & Destructor Documentation

12.14.2.1 KbFirmware::FW::FW ( )

Definition at line 14 of file kbfirmware.cpp.

```
14 : fwVersion(0.f), ckbVersion(0.f) {}
```

12.14.3 Field Documentation

12.14.3.1 float KbFirmware::FW::ckbVersion

Definition at line 37 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.2 QString KbFirmware::FW::fileName

Definition at line 35 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::processDownload().

12.14.3.3 uint16_t KbFirmware::FW::forProductID

Definition at line 38 of file kbfirmware.h.

Referenced by KbFirmware::processDownload().

12.14.3.4 float KbFirmware::FW::fwVersion

Definition at line 37 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.5 QByteArray KbFirmware::FW::hash

Definition at line 36 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.6 QString KbFirmware::FW::url

Definition at line 35 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 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

12.15.1 Detailed Description

Definition at line 171 of file ui_fwupgradedialog.h.

12.15.2 Member Function Documentation

12.15.2.1 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().

```
    {
        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:

12.15.2.2 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().

```
    {
        if (FwUpgradeDialog->objectName().isEmpty())
            FwUpgradeDialog->setObjectName(QStringLiteral("FwUpgradeDialog"));
        FwUpgradeDialog->resize(420, 240);
        QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(FwUpgradeDialog->sizePolicy().hasHeightForWidth());
        FwUpgradeDialog->setSizePolicy(sizePolicy);
        gridLayout_2 = new QGridLayout(FwUpgradeDialog);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        horizontalSpacer = new QSpacerItem(127, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

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

        gridLayout = new QGridLayout();
        gridLayout->setObjectName(QStringLiteral("gridLayout"));
        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:

12.15.3 Field Documentation

12.15.3.1 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().

12.15.3.2 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().

12.15.3.3 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().

12.15.3.4 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().

12.15.3.5 QGridLayout* Ui_FwUpgradeDialog::gridLayout [inherited]

Definition at line 31 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.6 QGridLayout* Ui_FwUpgradeDialog::gridLayout_2 [inherited]

Definition at line 29 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.7 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer [inherited]

Definition at line 30 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.8 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_2 [inherited]

Definition at line 39 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.9 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_3 [inherited]

Definition at line 32 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.10 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_4 [inherited]

Definition at line 34 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.15.3.11 QLabel* Ui_FwUpgradeDialog::label_2 [inherited]

Definition at line 35 of file ui_fwupgradedialog.h.

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

12.15.3.12 QLabel* Ui_FwUpgradeDialog::label_4 [inherited]

Definition at line 33 of file ui_fwupgradedialog.h.

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

12.15.3.13 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().

12.15.3.14 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().

12.15.3.15 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

12.16 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

12.16.1 Detailed Description

Definition at line 13 of file fwupgradedialog.h.

12.16.2 Constructor & Destructor Documentation

12.16.2.1 FwUpgradeDialog::FwUpgradeDialog (QWidget * *parent*, float *newV*, const QByteArray & *fwBlob*, Kb * *device*)

Definition at line 33 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.

```
33                                                                                                                  :
34     QDialog(parent),
35     ui(new Ui::FwUpgradeDialog),
36     blob(fwBlob), kb(device), evLoop(0), exitSuccess(true)
37 {
38     ui->setupUi(this);
39     ui->curLabel->setText(kb->firmware);
40     ui->newLabel->setText(QString::number(newV, 'f', 2));
41     ui->devLabel->setText(kb->usbModel);
42
43     connect(device, SIGNAL(destroyed()), this, SLOT(removeDev()));
44     connect(device, SIGNAL(fwUpdateProgress(int,int)), this, SLOT(
       fwUpdateProgress(int,int)));
45     connect(device, SIGNAL(fwUpdateFinished(bool)), this, SLOT(
       fwUpdateFinished(bool)));
46
47     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
48 }
```

Here is the call graph for this function:

12.16.2.2 FwUpgradeDialog::~FwUpgradeDialog ( )

Definition at line 50 of file fwupgradedialog.cpp.

References cleanBlob(), and ui.

```
50                                  {
51     cleanBlob();
52     delete ui;
53 }
```

Here is the call graph for this function:

12.16.3 Member Function Documentation

12.16.3.1 void FwUpgradeDialog::cleanBlob ( ) [private]

Definition at line 79 of file fwupgradedialog.cpp.

References savePath.

Referenced by fwUpdateFinished(), and ~FwUpgradeDialog().

```
79                                  {
80     if(savePath.isEmpty())
81         return;
82     QFile(savePath).remove();
83     savePath = "";
84 }
```

Here is the caller graph for this function:

12.16.3.2 void FwUpgradeDialog::closeEvent (QCloseEvent * *event*) [private]

Definition at line 55 of file fwupgradedialog.cpp.

```
55                                                  {
56     event->ignore();
57 }
```

12.16.3.3 int FwUpgradeDialog::exec ( )

Definition at line 109 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().

```
109                         {
110     QString features = kb->features;
111     if(!blob.isEmpty()){
112         // If a blob was already specified, check its version and validity
113         float newV = verifyFw(blob, features);
114         if(newV == 0.f){
115             QMessageBox::warning(parentWidget(), "Error", "<center>Not a valid firmware for this
        device.</center>");
116             return QDialog::Rejected;
117         }
118         ui->newLabel->setText(QString::number(newV, 'f', 2));
119     } else {
120         // Download a new blob file
121         ui->progressBar->show();
122         ui->cancelButton->setEnabled(false);
123         ui->actionButton->setEnabled(false);
124         show();
125         // This can take a while
126         blob = KbFirmware::dataForBoard(features);
127         // Check validity
128         float newV = verifyFw(blob, features);
129         if(newV == 0.f){
130             hide();
131             QMessageBox::warning(parentWidget(), "Error", "<center>There was a problem with the downloaded
        file.<br />Please try again later.</center>");
132             return QDialog::Rejected;
133         }
134     }
135     // Save temporary file
136     if(saveBlob().isEmpty()){
137         hide();
138         QMessageBox::warning(parentWidget(), "Error", "<center>Unable to save temporary file.</center>");
139         return QDialog::Rejected;
140     }
141     // Set up UI
142     ui->progressBar->setValue(0);
143     ui->progressBar->setMaximum(1);
144     ui->progressBar->setTextVisible(false);
145     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.");
146     ui->cancelButton->setEnabled(true);
147     ui->actionButton->setEnabled(true);
148     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MAX);
149     show();
150     // Run modal event loop
151     evLoop = new QEventLoop(this);
152     evLoop->exec();
153     delete evLoop;
154     hide();
155     return exitSuccess ? QDialog::Accepted : QDialog::Rejected;
156 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.16.3.4 void FwUpgradeDialog::fwUpdateFinished (bool *succeeded*) [private],[slot]

Definition at line 172 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, cleanBlob(), evLoop, Ui_FwUpgradeDialog::progressBar, quit(), Ui_FwUpgradeDialog::statusLabel, and ui.

Referenced by FwUpgradeDialog(), and removeDev().

```
172                                                 {
173     cleanBlob();
174     if(succeeded)
175         ui->statusLabel->setText("Update successful!");
176     else
177         ui->statusLabel->setText("Update failed.");
178     ui->actionButton->setText("OK");
179     ui->actionButton->setEnabled(true);
180     ui->progressBar->setMaximum(1);
181     ui->progressBar->setValue(1);
182     // Exit after 10s
183     if(evLoop)
184         QTimer::singleShot(10000, evLoop, SLOT(quit()));
185 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.16.3.5 void FwUpgradeDialog::fwUpdateProgress (int *current*, int *total*) [private],[slot]

Definition at line 165 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::progressBar, and ui.

Referenced by FwUpgradeDialog().

```
165                                                                 {
166     if(current > 0 && total > 0){
167         ui->progressBar->setMaximum(total);
168         ui->progressBar->setValue(current);
169     }
170 }
```

Here is the caller graph for this function:

12.16.3.6 void FwUpgradeDialog::on_actionButton_clicked ( ) [private],[slot]

Definition at line 193 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.

```
193                                                 {
194     if(!savePath.isEmpty() && kb){
195         // Start upgrade
196         setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
197         ui->progressBar->show();
198         ui->progressBar->setValue(0);
199         ui->progressBar->setMaximum(0);
200         ui->progressBar->setTextVisible(true);
201         ui->cancelButton->hide();
202         ui->actionButton->setEnabled(false);
203         ui->actionButton->setText("Please wait");
204         ui->statusLabel->setText("Installing firmware...");
205         kb->fwUpdate(savePath);
206     } else {
207         // Finished, close dialog.
208         if(evLoop)
209             evLoop->quit();
210     }
211 }
```

Here is the call graph for this function:

12.16.3.7 void FwUpgradeDialog::on_cancelButton_clicked ( ) [private],[slot]

Definition at line 187 of file fwupgradedialog.cpp.

References evLoop, and exitSuccess.

```
187                                                 {
188     exitSuccess = false;
189     if(evLoop)
190         evLoop->quit();
191 }
```

12.16.3.8 void FwUpgradeDialog::removeDev ( ) [private],[slot]

Definition at line 158 of file fwupgradedialog.cpp.

References fwUpdateFinished(), kb, and savePath.

Referenced by FwUpgradeDialog().

```
158                                 {
159     kb = 0;
160     // Assume success if upgrade in progress
161     if(!savePath.isEmpty())
162         fwUpdateFinished(true);
163 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.16.3.9 const QString & FwUpgradeDialog::saveBlob ( ) [private]

Definition at line 59 of file fwupgradedialog.cpp.

References blob, and savePath.

Referenced by exec().

```
59                                          {
60     if(!savePath.isEmpty())
61         return savePath;
62     QDir tmp = QDir::temp();
63     qint64 pid = QCoreApplication::applicationPid();
64     QString path = tmp.absoluteFilePath(QString("ckb-%1-fwblob.bin").arg(pid));
65     QFile output(path);
66     if(!output.open(QIODevice::WriteOnly)){
67         return savePath;
68     }
69     if(!output.write(blob)){
70         output.close();
71         tmp.remove(path);
72         return savePath;
73     }
74     output.close();
75     savePath = path;
76     return savePath;
77 }
```

Here is the caller graph for this function:

12.16.4 Field Documentation

12.16.4.1 QByteArray FwUpgradeDialog::blob [private]

Definition at line 41 of file fwupgradedialog.h.

Referenced by exec(), and saveBlob().

12.16.4.2 QEventLoop* FwUpgradeDialog::evLoop [private]

Definition at line 45 of file fwupgradedialog.h.

Referenced by exec(), fwUpdateFinished(), on_actionButton_clicked(), and on_cancelButton_clicked().

12.16.4.3 bool FwUpgradeDialog::exitSuccess [private]

Definition at line 46 of file fwupgradedialog.h.

Referenced by exec(), and on_cancelButton_clicked().

12.16.4.4 Kb* FwUpgradeDialog::kb [private]

Definition at line 42 of file fwupgradedialog.h.

Referenced by exec(), FwUpgradeDialog(), on_actionButton_clicked(), and removeDev().

12.16.4.5 QString FwUpgradeDialog::savePath [private]

Definition at line 37 of file fwupgradedialog.h.

Referenced by cleanBlob(), on_actionButton_clicked(), removeDev(), and saveBlob().

12.16.4.6 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

12.17 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));
75     if(_stops.last().first != 1.)
76         _stops.prepend(QGradientStop(1., _stops.last().second));
77     updateImage();
78 }
```

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().

```
133 {
134     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
135 }
```

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().

```
90                                  {
91     GradientDialog dialog(this);
92     _stops = dialog.getGradient(_stops);
93     updateImage();
94     emit gradientChanged();
95 }
```

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().

```
80                                      {
81     QStringList result;
82     foreach(const QGradientStop& stop, _stops){
83         QString string;
84         const QColor& color = stop.second;
85         result << string.sprintf("%d:%02x%02x%02x%02x", (int)round(stop.first * 100.f), color.alpha(),
      color.red(), color.green(), color.blue());
86     }
87     return result.join(" ");
88 }
```

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.

```
                                {
    // Save presets
    CkbSettings settings(prefsPath, true);
    QMapIterator<QString, Preset> i(presets);
    while(i.hasNext()){
        Preset preset = i.next().value();
        if(!preset.builtIn){
            SGroup group(settings, preset.name);
            foreach(const QGradientStop& stop, preset.gradient)
                settings.setValue(QString::number((int)(stop.first * 100.)), stop.second);
        }
    }
    delete ui;
}
```

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().

```
{
    _stops.clear();
    QMap<int, QColor> colors = selectionColors();
    // If there's only a single color, put it at the beginning and end
    if(colors.count() == 1){
#if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
        QColor color = colors.first();
#else
        QColor color = colors.value(colors.keys().first());
#endif
        _stops.append(QGradientStop(0., color));
        _stops.append(QGradientStop(1., color));
        update();
        return;
    }
    // Add colors at 0 and 100 if needed
#if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
    if(!colors.contains(0))
        colors[0] = colors.first();
    if(!colors.contains(100))
        colors[100] = colors.last();
#else
    if(!colors.contains(0))
        colors[0] = colors.value(colors.keys().first());
    if(!colors.contains(100))
        colors[100] = colors.value(colors.keys().last());
#endif
    QMapIterator<int, QColor> i(colors);
    while(i.hasNext()){
        i.next();
        _stops.append(QGradientStop(i.key() / 100., i.value()));
    }
    update();
}
```

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 JlCompress.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)

  is invalid also.
- 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.
- QString cmdpath
- QString notifyPath
- 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.
- bool _needsSave
- bool hwLoading [HWMODE_MAX+1]

Static Private Attributes

- static QString macroPath = ""

  macroPath added for a second thread to read macro input. Must be static, because there is only one keyboard but multiple devices.
- static KeyMap::Layout _layout = KeyMap::NO_LAYOUT
- static int _frameRate = 30
- static int _scrollSpeed = 0
- static bool _dither = false
- static bool _mouseAccel = true
- static int macroNumber = -1

Macro Number to notify macro definition events. As macroPath, macroNumber must be static, because only keyboard may set this value and others (eg mice) needs to read it.

- static bool _delay = false

  flag if macro delay hast to be switched on

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 192 of file kb.cpp.

References activeDevices, isOpen(), macroPath, notifyNumber, notifyPaths, and save().

```
192         {
193     // Save settings first
194     save();
195
196     // remove the notify channel from the list of notifyPaths.
199     notifyPaths.remove(macroPath);
200
201     // Kill notification thread and remove node
202     activeDevices.remove(this);
203     if(!isOpen()){
204         terminate();
205         wait(1000);
206         return;
207     }
208     if(notifyNumber > 0)
209         cmd.write(QString("idle\nnotifyoff %1\n").arg(notifyNumber).toLatin1());
210     cmd.flush();
211     terminate();
212     wait(1000);
213     cmd.close();
214 }
```

Here is the call graph for this function:

12.22.2.2 Kb::Kb (QObject * *parent*, const QString & *path*) [private]

< Firmware Info is now current fw-number:vendor:model Look for special entries (newest models)

< perhaps we have found something, perhaps not.

< If nothing found in the special firmware search, try here.

Last chance gone to get a valid firmware information.

Handle inputs

< This is the normal case if we have a new daemon and a running device

< That means we have an older daemon which does not write three infos into the file

Open cmd in non-blocking mode so that it doesn't lock up if nothing is reading (e.g. if the daemon crashed and didn't clean up the node)

Find an available notification node (if none is found, take notify1)

Again, find an available notification node for macro definition if we handle a keyboard. (if none is found, take notify2)

Block ist used to have QMutexLocker as an auto var.

<

Todo Is adding notifyX to the notifypaths neccessary?

Definition at line 23 of file kb.cpp.

References _delay, _dither, _frameRate, _layout, _model, _mouseAccel, _scrollSpeed, activeDevices, cmdpath, features, firmware, KeyMap::getModel(), hwLoading, hwModeCount, infoUpdated(), KeyMap::isISO(), isKeyboard(), iState, KeyMap::K95, macroNumber, macroPath, monochrome, KeyMap::NO_MODEL, notifyNumber, notifyPath, notifyPathMutex, notifyPaths, pollrate, prefsPath, usbModel, and usbSerial.

```
23                                          :
24     QThread(parent), features("N/A"), firmware("N/A"),
      pollrate("N/A"), monochrome(false),
25     devpath(path), cmdpath(path + "/cmd"), notifyPath(path + "/notify1"),
26     _currentProfile(0), _currentMode(0), _model(
      KeyMap::NO_MODEL),
27     lastAutoSave(QDateTime::currentMSecsSinceEpoch()),
28     _hwProfile(0), prevProfile(0), prevMode(0),
29     cmd(cmdpath), notifyNumber(1), _needsSave(false)
30 {
31     memset(iState, 0, sizeof(iState));
32     memset(hwLoading, 0, sizeof(hwLoading));
33
34     // Get the features, model, serial number, FW version (if available), and poll rate (if available) from
      /dev nodes
35     QFile ftpath(path + "/features"), mpath(path + "/model"), spath(path + "/serial"), fwpath(path + "
      /fwversion"), ppath(path + "/pollrate");
36     if(fwpath.open(QIODevice::ReadOnly)){
37         QString fwString = fwpath.read(1000);
38         fwString = fwString.trimmed();
39         fwpath.close();
40         QStringList list = fwString.split(":");
41         if(list.length() == 3) {
42             bool okVendor, okProduct;
44             const uint vendor = list[1].toUInt(&okVendor, 16);
45             const uint product = list[2].toUInt(&okProduct, 16);
46             if (okVendor && okProduct) _model = KeyMap::getModel(vendor, product);

47             qInfo() << "first look for special firmware returned" << _model;
48         } else qWarning() << "Expected 3 entries in file" << fwpath.fileName() << "but reading" << list.
      length();
49     }
50     if(ftpath.open(QIODevice::ReadOnly)){
51         features = ftpath.read(1000);
52         features = features.trimmed();
53         ftpath.close();
54         // Read model from features (first word: vendor, second word: product)
55         QStringList list = features.split(" ");
56         if(list.length() < 2) {
57             qDebug() << "Kb::Kb() Error in reading features, read" << list.length() << "entries, 2
```

```
expected.";
            return;
        }
        if (_model == KeyMap::NO_MODEL) {
            _model = KeyMap::getModel(list[1]);
        }
        if (_model == KeyMap::NO_MODEL) {
            qCritical() << "Neither firmware-special-search nor feature file analysis resulted in valid firmware information.";
            return;
        }
    } else
        // Bail if features aren't readable
        return;
    if(features.contains("monochrome"))
        monochrome = true;
    if(mpath.open(QIODevice::ReadOnly)){
        usbModel = mpath.read(100);
        usbModel = usbModel.remove("Corsair").remove("Gaming").remove("Keyboard").remove("Mouse").remove("Bootloader").trimmed();
        mpath.close();
    }
    if(usbModel == "")
        usbModel = "Keyboard";
    if(spath.open(QIODevice::ReadOnly)){
        usbSerial = spath.read(100);
        usbSerial = usbSerial.trimmed().toUpper();
        spath.close();
    }
    if(usbSerial == "")
        usbSerial = "Unknown-" + usbModel;
    if(features.contains("fwversion") && fwpath.open(QIODevice::ReadOnly)){
        QString firmwareString = fwpath.read(100);
        fwpath.close();

        QStringList firmwareList = firmwareString.remove("\n").split(":");
        switch (firmwareList.length()) {
        case 3:
            qInfo() << "Reading 3 entries from fwversion file, VID=" << firmwareList.at(1) << ", PID=" << firmwareList.at(2);
        case 1:
            firmware = QString::number(firmwareList.at(0).trimmed().toInt() / 100., 'f', 2);
            qInfo() << "Firmware version read from ckb-daemon in fwversion file is" << firmwareList.at(0);
            break;
        default:
            qCritical() << "Firware version file is invalid. Number of entries is" << firmwareList.length();
            break;
        }
    }
    if(features.contains("pollrate") && ppath.open(QIODevice::ReadOnly)){
        pollrate = ppath.read(100);
        pollrate = pollrate.trimmed();
        ppath.close();
    }
    prefsPath = "Devices/" + usbSerial;
    qDebug() << "Features =" << features;

    hwModeCount = (_model == KeyMap::K95) ? 3 : 1;
    int fd = open(cmdpath.toLatin1().constData(), O_WRONLY | O_NONBLOCK);
    if(!cmd.open(fd, QIODevice::WriteOnly, QFileDevice::AutoCloseHandle))
        return;

    {
        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();

    if (isKeyboard()) {
        qDebug() << "Keyboard detected, setting macroPath and macroNumber";
        if (macroPath != "") {
            qDebug() << "Warning: Redefinition of macroPath. Value was" << macroPath;
        }
        {
            QMutexLocker locker(&notifyPathMutex);
            int i;
```

```
            for (i = 1; i < 10; i++) {
                QString notify = QString(path + "/notify%1").arg(i);
                if(!QFile::exists(notify) && !notifyPaths.contains(notify)){
                    macroNumber = i;
                    break;
                }
            }
            if (i == 10) {
                macroNumber = 2;
            }
            macroPath = path;
            notifyPaths.insert(QString(macroPath + "/notify%1").arg(macroNumber));
            qDebug() << "new macroPath =" << macroPath << "and macroNumber =" << macroNumber;
        }
    } else {
        qDebug() << "No Keyboard detected, leaving macroPath as is:" << macroPath << "and macroNumber as" << macroNumber;
    }
    // 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 340 of file kb.cpp.

References CkbSettings::isBusy(), lastAutoSave, needsSave(), and save().

```
340                 {
341     quint64 now = QDateTime::currentMSecsSinceEpoch();
342     if(needsSave() && now >= lastAutoSave + 15 * 1000 && !
      CkbSettings::isBusy()){
343         save();
344         lastAutoSave = now;
345     }
346 }
```

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 492 of file kb.cpp.

References _hwProfile.

Referenced by hwProfile().

```
492                 {
493     disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
494     _hwProfile = 0;
495 }
```

Here is the caller graph for this function:

12.22.3.9 void Kb::deletePrevious ( ) [private],[slot]

Definition at line 477 of file kb.cpp.

References prevMode.

Referenced by frameUpdate(), and hwSave().

```
477                         {
478     disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
479     prevMode = 0;
480 }
```

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 255 of file kb.cpp.

References _dither, activeDevices, and cmd.

```
255                                 {
256     if(newDither == _dither)
257         return;
258     _dither = newDither;
259     // Update all devices
260     foreach(Kb* kb, activeDevices){
261         kb->cmd.write(QString("dither %1\n").arg(static_cast<int>(newDither)).toLatin1());
262         kb->cmd.flush();
263     }
264 }
```

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 216 of file kb.cpp.

References _frameRate, activeDevices, cmd, and KbManager::fps().

```
216                                 {
217     KbManager::fps(newFrameRate);
218     // If the rate has changed, send to all devices
219     if(newFrameRate == _frameRate)
220         return;
221     _frameRate = newFrameRate;
222     foreach(Kb* kb, activeDevices){
223         kb->cmd.write(QString("fps %1\n").arg(newFrameRate).toLatin1());
224         kb->cmd.flush();
225     }
226 }
```

Here is the call graph for this function:

12.22.3.15 void Kb::frameUpdate ( ) [slot]

Definition at line 426 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().

```
426                     {
427     // Advance animation frame
428     if(!_currentMode)
429         return;
430     KbLight* light = _currentMode->light();
431     KbBind* bind = _currentMode->bind();
432     KbPerf* perf = _currentMode->perf();
433     if(!light->isStarted()){
434         // Don't do anything until the animations are started
435         light->open();
436         return;
437     }
438
439     // Stop animations on the previously active mode (if any)
440     bool changed = false;
441     if(prevMode != _currentMode){
442         if(prevMode){
443             prevMode->light()->close();
444             disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(
      deletePrevious()));
445         }
446         prevMode = _currentMode;
447         connect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
448         changed = true;
449     }
450
451     // If the profile has changed, update it
452     if(prevProfile != _currentProfile){
453         writeProfileHeader();
454         cmd.write(" ");
455         prevProfile = _currentProfile;
456     }
457
458     // Update current mode
459     int index = _currentProfile->indexOf(_currentMode);
460     // ckb-daemon only has 6 modes: 3 hardware, 3 non-hardware. Beyond mode six, switch back to four.
461     // e.g. 1, 2, 3, 4, 5, 6, 4, 5, 6, 4, 5, 6 ...
462     if(index >= 6)
463         index = 3 + index % 3;
464
465     // Send lighting/binding to driver
466     cmd.write(QString("mode %1 switch ").arg(index + 1).toLatin1());
467     perf->applyIndicators(index, iState);
468     light->frameUpdate(cmd, monochrome);
469     cmd.write(QString("\n@%1 ").arg(notifyNumber).toLatin1());
470     bind->update(cmd, changed);
471     cmd.write(" ");
472     perf->update(cmd, notifyNumber, changed);
473     cmd.write("\n");
474     cmd.flush();
475 }
```

Here is the call graph for this function:

12.22.3.16 void Kb::fwUpdate (const QString & *path*)

Definition at line 416 of file kb.cpp.

References fwUpdPath, and notifyNumber.

Referenced by FwUpgradeDialog::on_actionButton_clicked().

```
416                                     {
417     fwUpdPath = path;
418     // Write the active command to ensure it's not ignored
419     cmd.write("active");
420     cmd.write(QString(" @%1 ").arg(notifyNumber).toLatin1());
421     cmd.write("fwupdate ");
422     cmd.write(path.toLatin1());
423     cmd.write("\n");
424 }
```

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().

```
{
    void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
    QMetaObject::activate(this, &staticMetaObject, 7, _a);
}
```

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().

```
{
    void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
    reinterpret_cast<const void*>(&_t2)) };
    QMetaObject::activate(this, &staticMetaObject, 6, _a);
}
```

Here is the caller graph for this function:

12.22.3.19 KeyMap Kb::getKeyMap ( ) [private]

Definition at line 807 of file kb.cpp.

References _layout.

Referenced by hwSave(), load(), newMode(), newProfile(), readNotify(), setCurrentProfile(), and updateLayout().

```
807                     {
808     return KeyMap(_model, _layout);
809 }
```

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 482 of file kb.cpp.

References _hwProfile, and deleteHw().

```
482                                         {
483     if(_hwProfile == newHwProfile)
484         return;
485     if(_hwProfile)
486         disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(
    deleteHw()));
487     _hwProfile = newHwProfile;
488     if(_hwProfile)
489         connect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
490 }
```

Here is the call graph for this function:

12.22.3.24 void Kb::hwSave ( )

Definition at line 348 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(), KbMode::perf(), prevMode, KbProfile::setNeedsSave(), KbMode::setNeedsSave(), KbPerf::update(), and writeProfileHeader().

Referenced by KbWidget::on_hwSaveButton_clicked(), and KbProfileDialog::on_profileList_customContextMenuRequested().

```
348                 {
349     if(!_currentProfile)
350         return;
351     // Close active lighting (if any)
352     if(prevMode){
353         prevMode->light()->close();
354         deletePrevious();
355     }
356     hwProfile(_currentProfile);
357     _hwProfile->id().hwModified = _hwProfile->id().
    modified;
358     _hwProfile->setNeedsSave();
359     // Re-send the current profile from scratch to ensure consistency
360     writeProfileHeader();
361     // Make sure there are enough modes
362     while(_currentProfile->modeCount() < hwModeCount)
363         _currentProfile->append(new KbMode(this,
    getKeyMap()));
364     // Write only the base colors of each mode, no animations
365     for(int i = 0; i < hwModeCount; i++){
366         KbMode* mode = _currentProfile->modes()[i];
367         cmd.write(QString("\nmode %1").arg(i + 1).toLatin1());
368         KbLight* light = mode->light();
369         KbPerf* perf = mode->perf();
370         if(mode == _currentMode)
371             cmd.write(" switch");
372         // Write the mode name and ID
373         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, 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 Kb(), and 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 228 of file kb.cpp.

References _layout, activeDevices, KeyMap::NO_LAYOUT, and updateLayout().

```
228                                     {
229     if(newLayout == KeyMap::NO_LAYOUT || newLayout == _layout)
230         return;
231     _layout = newLayout;
232     // Update all devices
233     foreach(Kb* kb, activeDevices)
234         kb->updateLayout();
235 }
```

Here is the call graph for this function:

12.22.3.32 void Kb::load ( )

Definition at line 292 of file kb.cpp.

References _needsSave, _profiles, current, getKeyMap(), infoUpdated(), prefsPath, profileAdded(), setCurrentProfile(), and CkbSettings::value().

Referenced by KbManager::scanKeyboards().

```
292             {
293     if(prefsPath.isEmpty())
294         return;
295     _needsSave = false;
296     CkbSettings settings(prefsPath);
297     // Read profiles
298     KbProfile* newCurrentProfile = 0;
299     QString current = settings.value("CurrentProfile").toString().trimmed().toUpper();
300     foreach(QString guid, settings.value("Profiles").toString().split(" ")){
301         guid = guid.trimmed().toUpper();
302         if(guid != ""){
303             KbProfile* profile = new KbProfile(this, getKeyMap(), settings, guid
    );
304             _profiles.append(profile);
305             if(guid == current || !newCurrentProfile)
306                 newCurrentProfile = profile;
307         }
308     }
309     if(newCurrentProfile)
310         setCurrentProfile(newCurrentProfile);
311     else {
312         // If nothing was loaded, load the demo profile
313         QSettings demoSettings(":/txt/demoprofile.conf", QSettings::IniFormat, this);
314         CkbSettings cSettings(demoSettings);
315         KbProfile* demo = new KbProfile(this, getKeyMap(), cSettings, "
    {BA7FC152-2D51-4C26-A7A6-A036CC93D924}");
316         _profiles.append(demo);
317         setCurrentProfile(demo);
318     }
319
320     emit infoUpdated();
321     emit profileAdded();
322 }
```

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 838 of file kb.cpp.

References _delay, activeDevices, and cmd.

```
838                                 {
839     _delay = flag;
840
841     foreach(Kb* kb, activeDevices){
842         kb->cmd.write(QString("\ndelay %1\n").arg(flag? "on" : "off").toLatin1());
843     }
844 }
```

12.22.3.35 bool Kb::matches (const QString & *path,* const QString & *serial*) [inline],[private]

Definition at line 161 of file kb.h.

References devpath, and usbSerial.

Referenced by KbManager::scanKeyboards().

```
161 { 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 266 of file kb.cpp.

References _mouseAccel, activeDevices, and cmd.

```
266                                 {
267     if(newAccel == _mouseAccel)
268         return;
269     _mouseAccel = newAccel;
270 #ifdef Q_OS_MACX
271     // Update all devices
272     foreach(Kb* kb, activeDevices){
273         kb->cmd.write(QString("accel %1\n").arg(QString(newAccel ? "on" : "off")).toLatin1());
274         kb->cmd.flush();
275     }
276 #endif
277 }
```

12.22.3.41 bool Kb::needsSave ( ) const

Definition at line 395 of file kb.cpp.

References _needsSave, _profiles, and KbProfile::needsSave().

Referenced by autoSave().

```
395                         {
396     if(_needsSave)
397         return true;
398     foreach(const KbProfile* profile, _profiles){
399         if(profile->needsSave())
400             return true;
401     }
402     return false;
403 }
```

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().

```
{
    QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
}
```

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().

```
{ 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 522 of file kb.cpp.

References _currentMode, _currentProfile, _hwProfile, _needsSave, _profiles, KbPerf::angleSnap(), KbLight::animKeypress(), KbProfile::append(), KbMode::bind(), KbLight::color(), KbPerf::curDpiIdx(), 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.

```
522                                 {
523     QStringList components = line.trimmed().split(" ");
524     if(components.count() < 2)
525         return;
526     if(components[0] == "key"){
527         // Key event
528         QString key = components[1];
529         if(key.length() < 2)
530             return;
531         QString keyName = key.mid(1);
532         bool keyPressed = (key[0] == '+');
533         KbMode* mode = _currentMode;
534         if(mode){
535             mode->light()->animKeypress(keyName, keyPressed);
536             mode->bind()->keyEvent(keyName, keyPressed);
537         }
538     } else if(components[0] == "i"){
539         // Indicator event
540         QString i = components[1];
541         if(i.length() < 2)
542             return;
543         QString iName = i.mid(1);
544         bool on = (i[0] == '+');
545         if(iName == "num")
546             iState[0] = on;
547         else if(iName == "caps")
548             iState[1] = on;
549         else if(iName == "scroll")
550             iState[2] = on;
551     } else if(components[0] == "hwprofileid"){
552         // Hardware profile ID
553         if(components.count() < 3)
554             return;
555         // Find the hardware profile in the list of profiles
556         QString guid = components[1];
557         QString modified = components[2];
558         KbProfile* newProfile = 0;
559         foreach(KbProfile* profile, _profiles){
560             if(profile->id().guid == guid){
561                 newProfile = profile;
562                 break;
563             }
564         }
565         // If it wasn't found, create it
566         if(!newProfile){
567             newProfile = new KbProfile(this, getKeyMap(), guid, modified);
568             hwLoading[0] = true;
569             cmd.write(QString("@%1 get :hwprofilename\n").arg(notifyNumber).toLatin1());
570             cmd.flush();
571         } else {
572             // If it's been updated, fetch its name
573             if(newProfile->id().hwModifiedString() != modified){
574                 newProfile->id().modifiedString(modified);
575                 newProfile->id().hwModifiedString(modified);
576                 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->curDpiIdx(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 497 of file kb.cpp.

References notifyPath, notifyPathMutex, and notifyPaths.

```
497             {
498     QFile notify(notifyPath);
499     // 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 324 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().

```
            {
    if(prefsPath.isEmpty())
        return;
    _needsSave = false;
    CkbSettings settings(prefsPath, true);
    QString guids, currentGuid;
    foreach(KbProfile* profile, _profiles){
        guids.append(" " + profile->id().guidString());
        if(profile == _currentProfile)
            currentGuid = profile->id().guidString();
        profile->save(settings);
    }
    settings.setValue("CurrentProfile", currentGuid);
    settings.setValue("Profiles", guids.trimmed());
}
```

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 279 of file kb.cpp.

References _scrollSpeed, activeDevices, and cmd.

```
279                                 {
280     if(newSpeed == _scrollSpeed)
281         return;
282     _scrollSpeed = newSpeed;
283 #ifdef Q_OS_MACX
284     // Update all devices
285     foreach(Kb* kb, activeDevices){
286         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 820 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().

```
820                                                                 {
821     if(_currentProfile != profile){
822         _currentProfile = profile;
823         _needsSave = true;
824         emit profileChanged();
825     }
826     if(_currentMode != mode || _currentProfile->
      currentMode() != mode){
827         _currentProfile->currentMode(_currentMode = mode);
828         _needsSave = true;
829         emit modeChanged(spontaneous);
830     }
831 }
```

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 811 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().

```
811                                                                 {
812     while(profile->modeCount() < hwModeCount)
813         profile->append(new KbMode(this, getKeyMap()));
814     KbMode* mode = profile->currentMode();
815     if(!mode)
816         profile->currentMode(mode = profile->modes().first());
817     setCurrentMode(profile, mode, spontaneous);
818 }
```

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 237 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().

```
237                     {
238 #ifdef Q_OS_MACX
239     // Write ANSI/ISO flag to daemon (OSX only)
240     cmd.write("layout ");
241     cmd.write(KeyMap::isISO(_layout) ? "iso" : "ansi");
242     cmd.write("\n");
243     cmd.flush();
244 #endif
245     foreach(KbProfile* profile, _profiles)
246         profile->keyMap(getKeyMap());
247     if(_hwProfile && !_profiles.contains(_hwProfile))
248         _hwProfile->keyMap(getKeyMap());
249     // Stop all animations as they'll need to be restarted
250     foreach(KbMode* mode, _currentProfile->modes())
251         mode->light()->close();
252     emit infoUpdated();
253 }
```

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 405 of file kb.cpp.

References _currentProfile, UsbId::guidString(), KbProfile::id(), UsbId::modifiedString(), and KbProfile::name().

Referenced by frameUpdate(), and hwSave().

```
405                             {
406     cmd.write("eraseprofile");
407     // Write the profile name and ID
408     cmd.write(" profilename ");
409     cmd.write(QUrl::toPercentEncoding(_currentProfile->name()));
410     cmd.write(" profileid ");
411     cmd.write(_currentProfile->id().guidString().toLatin1());
412     cmd.write(" ");
413     cmd.write(_currentProfile->id().modifiedString().toLatin1());
414 }
```

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 173 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 171 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 204 of file kb.h.

Referenced by Kb(), and macroDelay().

12.22.5.4 bool Kb::_dither = false [static], [private]

Definition at line 169 of file kb.h.

Referenced by dither(), and Kb().

12.22.5.5 int Kb::_frameRate = 30 [static], [private]

Definition at line 168 of file kb.h.

Referenced by frameRate(), and Kb().

12.22.5.6 KbProfile* Kb::_hwProfile [private]

Definition at line 187 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 165 of file kb.h.

Referenced by getKeyMap(), Kb(), layout(), and updateLayout().

12.22.5.8 KeyMap::Model Kb::_model [private]

Definition at line 175 of file kb.h.

Referenced by Kb(), and model().

12.22.5.9 bool Kb::_mouseAccel = true [static], [private]

Definition at line 169 of file kb.h.

Referenced by Kb(), and mouseAccel().

12.22.5.10 bool Kb::_needsSave [private]

Definition at line 207 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 172 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 168 of file kb.h.

Referenced by Kb(), and scrollSpeed().

12.22.5.13 QFile Kb::cmd [private]

Definition at line 195 of file kb.h.

Referenced by dither(), frameRate(), macroDelay(), mouseAccel(), and scrollSpeed().

12.22.5.14 QString Kb::cmdpath [private]

Definition at line 154 of file kb.h.

Referenced by Kb().

12.22.5.15 QString Kb::devpath [private]

Definition at line 154 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 185 of file kb.h.

Referenced by fwUpdate(), and readNotify().

12.22.5.19 bool Kb::hwLoading[HWMODE_MAX+1] [private]

Definition at line 211 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 178 of file kb.h.

Referenced by frameUpdate(), Kb(), and readNotify().

12.22.5.23 quint64 Kb::lastAutoSave [private]

Definition at line 182 of file kb.h.

Referenced by autoSave().

12.22.5.24 int Kb::macroNumber = -1 [static], [private]

is invalid entry.

Definition at line 202 of file kb.h.

Referenced by getMacroNumber(), and Kb().

12.22.5.25 QString Kb::macroPath = "" [static], [private]

Definition at line 158 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 198 of file kb.h.

Referenced by frameUpdate(), fwUpdate(), Kb(), readNotify(), and ~Kb().

12.22.5.28 QString Kb::notifyPath [private]

Definition at line 154 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 181 of file kb.h.

Referenced by Kb(), load(), and save().

12.22.5.31 KbMode* Kb::prevMode [private]

Definition at line 190 of file kb.h.

Referenced by deletePrevious(), frameUpdate(), and hwSave().

12.22.5.32 KbProfile* Kb::prevProfile [private]

Definition at line 189 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(675, 218);
        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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
152     if(!current)
153         setCurrent(0);
154     else
155         setCurrent(animations[current->data(Qt::UserRole).toUuid()]);
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
170     QListWidgetItem* item = ui->animList->itemAt(pos);
171     if(!item)
172         return;
173     setCurrent(animations[item->data(Qt::UserRole).toUuid()]);
174
175     QMenu menu(this);
176     QAction* rename = new QAction("Rename...", this);
177     QAction* duplicate = new QAction("Duplicate", this);
178     QAction* del = new QAction("Delete", this);
179     menu.addAction(rename);
180     menu.addAction(duplicate);
181     menu.addAction(del);
182     QAction* result = menu.exec(QCursor::pos());
183     if(result == rename)
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)

  KbBind::keyEvent.

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 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, QString cmdpath)

  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)

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 13 of file kbbind.cpp.

```
13                                                                  :
14     QObject(modeParent), _devParent(parentBoard),
      lastGlobalRemapTime(globalRemapTime), _map(keyMap),
15     _winLock(false), _needsUpdate(true), _needsSave(true) {
16 }
```

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 25 of file kbbind.cpp.

References _bind, KeyAction, map(), and KeyAction::value().

```
25                                                                                  :
26     QObject(modeParent), _devParent(parentBoard),
      lastGlobalRemapTime(globalRemapTime), _bind(other.
      _bind),
27     _winLock(false), _needsUpdate(true), _needsSave(true) {
28     map(keyMap);
29
31     QHash<QString, KeyAction*> newBind;
32     foreach(QString key, _bind.keys()) {
33         KeyAction* act = _bind.value(key);
34         if(act) {
35             newBind[key] = new KeyAction(act->value(), this);
36         }
37     }
38
40     _bind.clear();
41     foreach(QString key, newBind.keys()) {
42         KeyAction* act = newBind.value(key);
43         if(act) {
45             _bind[key] = new KeyAction(act->value(), this);
46         }
47     }
```

```
    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 141 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::value().

Referenced by friendlyActionName(), KbBindWidget::on_copyButton_clicked(), resetAction(), RebindWidget::setSelection(), and KbBindWidget::updateBind().

```
141                                     {
142     QString rKey = globalRemap(key);
143     return bindAction(rKey)->value();
144 }
```

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*) [inline], [private]

Definition at line 120 of file kbbind.h.

References _bind, KeyAction::defaultAction(), and KeyAction.

Referenced by action(), keyEvent(), and update().

```
120 { if(!_bind.contains(key)) return _bind[key] = new KeyAction(
      KeyAction::defaultAction(key), this); return _bind[
      key]; }
```

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*) [static]

Definition at line 146 of file kbbind.cpp.

References KeyAction::defaultAction(), and globalRemap().

Referenced by KeyWidget::paintEvent(), and RebindWidget::setBind().

```
146                                                 {
147     QString rKey = globalRemap(key);
148     return KeyAction::defaultAction(rKey);
149 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.4 Kb* KbBind::devParent ( ) const [inline], [private]

Definition at line 117 of file kbbind.h.

References _devParent.

Referenced by getMacroNumber(), getMacroPath(), and KeyAction::keyEvent().

```
117 { return _devParent; }
```

Here is the caller graph for this function:

12.26.3.5 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:

12.26.3.6 QString KbBind::friendlyActionName (const QString & *key*)

Definition at line 158 of file kbbind.cpp.

References _map, action(), and KeyAction.

Referenced by KbBindWidget::updateSelDisplay().

```
158                                                 {
159     QString act = action(key);
160     return KeyAction(act).friendlyName(_map);
161 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.7 QString KbBind::friendlyName (const QString & *key*)

Definition at line 151 of file kbbind.cpp.

References _map, Key::friendlyName(), and globalRemap().

```
151                                             {
152     const Key& pos = _map[globalRemap(key)];
153     if(!pos)
154         return "(Unknown)";
155     return pos.friendlyName();
156 }
```

Here is the call graph for this function:

12.26.3.8 int KbBind::getMacroNumber ( )

Returns

number of notification channel. Use it in combination with notifyon/off-Statement This var holds the number of the notify-channel from the keyboard, because mouse clicks should not be recorded in macros.
number of notification channel. Use it in combination with notifyon/off-Statement

Definition at line 258 of file kbbind.cpp.

References devParent(), and Kb::getMacroNumber().

Referenced by handleNotificationChannel(), and RebindWidget::on_btnStartMacro_clicked().

```
258                                 {
259     return devParent()->getMacroNumber();
260 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.9 QString KbBind::getMacroPath ( )

Returns

Filepath of macro notification pipe. If not set, returns initial value ""

Definition at line 266 of file kbbind.cpp.

References devParent(), and Kb::getMacroPath().

Referenced by RebindWidget::on_btnStartMacro_clicked(), and RebindWidget::on_btnStopMacro_clicked().

```
266                                 {
267     return devParent()->getMacroPath();
268 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.10 QString KbBind::globalRemap (const QString & *key*) [static]

Definition at line 99 of file kbbind.cpp.

References _globalRemap.

Referenced by action(), defaultAction(), friendlyName(), keyEvent(), noAction(), KeyWidget::paintEvent(), resetAction(), setAction(), and SettingsWidget::SettingsWidget().

```
99                                          {
100     if(!_globalRemap.contains(key))
101         return key;
102     return _globalRemap.value(key);
103 }
```

Here is the caller graph for this function:

12.26.3.11 void KbBind::handleNotificationChannel (bool *start*, QString *cmdpath*)

handleNotificationChannel sends commands to ckb-daemon for (de-) activating the notify channel.

Parameters

start	is boolean. If true, notification channel is opened for all keys, otherwise channel ist closed.
cmdpath	holds the path for the notification pipe.
start	If true, notification channel is opened for all keys, otherwise channel ist closed.
cmdpath	QString sets the first part of the cmd pipe pathname (eg "/dev/input/ckb2") to locate the correct keyboard related cmd pipe.

Definition at line 276 of file kbbind.cpp.

References getMacroNumber().

Referenced by RebindWidget::on_btnStartMacro_clicked(), and RebindWidget::on_btnStopMacro_clicked().

```
276                                                                 {
277     if (getMacroNumber() > 0) {
278         QFile cmd;
279         cmdpath.append("/cmd");
280         int fd = open(cmdpath.toLatin1().constData(), O_WRONLY | O_NONBLOCK);
281         if(cmd.open(fd, QIODevice::WriteOnly, QFileDevice::AutoCloseHandle)) {
282             qDebug() << "Writing to new Notification channel" << cmdpath << "with" << start;
283             if (start) {
284                 cmd.write (QString("\nnotifyon %1\n@%1 notify all:on\n").arg(
    getMacroNumber()).toLatin1());
285             } else {
286                 cmd.write(QString("\n@%1 notify all:off\nnotifyoff %1\n").arg(
    getMacroNumber()).toLatin1());
287             }
288             cmd.flush();
289         } else {
290             qDebug() << "error while opening" << cmdpath;
291         }
292         cmd.close();
293     } else qDebug() << QString("No cmd or valid handle for notification found, macroNumber = %1, lastCmd =
    %2")
294                         .arg(getMacroNumber()).arg(cmdpath);
295 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.12 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:

12.26.3.13 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:

12.26.3.14 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:

12.26.3.15 void KbBind::keyEvent (const QString & *key*, bool *down*) [slot]

Parameters

key	
down	

Definition at line 302 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::keyEvent().

Referenced by Kb::readNotify().

```
302                                                 {
303     QString rKey = globalRemap(key);
304     KeyAction* act = bindAction(rKey);
305     if(act)
306         act->keyEvent(this, down);
307 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.16 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:

12.26.3.17 KbLight * KbBind::light ( )

Definition at line 55 of file kbbind.cpp.

References KbMode::light(), and modeParent().

Referenced by RebindWidget::applyChanges(), KeyAction::keyEvent(), and RebindWidget::setSelection().

```
55                          {
56      return modeParent()->light();
57  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.18 void KbBind::load (CkbSettings & *settings*)

Definition at line 59 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().

```
                                        {
    _needsSave = false;
    SGroup group(settings, "Binding");
    KeyMap currentMap = _map;
    _map = KeyMap::fromName(settings.value("KeyMap").toString());
    // Load key settings
    bool useReal = settings.value("UseRealNames").toBool();
    _bind.clear();
    {
        SGroup group(settings, "Keys");
        foreach(QString key, settings.childKeys()){
            QString name = key.toLower();
            if(!useReal)
                name = _map.fromStorage(name);
            QString bind = settings.value(key).toString();
            _bind[name] = new KeyAction(bind, this);
        }
    }
    _winLock = settings.value("WinLock").toBool();
    emit didLoad();
    map(currentMap);
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.19 void KbBind::loadGlobalRemap ( ) [static]

Definition at line 117 of file kbbind.cpp.

References _globalRemap, CkbSettings::childKeys(), globalRemapTime, and CkbSettings::value().

Referenced by SettingsWidget::SettingsWidget().

```
{
    _globalRemap.clear();
    CkbSettings settings("Program/GlobalRemap");
    foreach(const QString& key, settings.childKeys())
        _globalRemap[key] = settings.value(key).toString();
    globalRemapTime = QDateTime::currentMSecsSinceEpoch();
}
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.20 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:

12.26.3.21 void KbBind::map (const KeyMap & *map*)

Definition at line 134 of file kbbind.cpp.

References _map, _needsSave, _needsUpdate, layoutChanged(), and map().

```
134                                 {
135     _map = map;
136     _needsUpdate = true;
137     _needsSave = true;
138     emit layoutChanged();
139 }
```

Here is the call graph for this function:

12.26.3.22 KbMode* KbBind::modeParent ( ) const [inline],[private]

Definition at line 118 of file kbbind.h.

Referenced by light(), and perf().

```
118 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:

12.26.3.23 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:

12.26.3.24 void KbBind::noAction (const QString & *key*)

Definition at line 173 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

Referenced by RebindWidget::applyChanges(), and RebindWidget::on_unbindButton_clicked().

```
173                                         {
174     resetAction(key);
175     QString rKey = globalRemap(key);
176     if(!_map.key(rKey))
177         return;
178     _bind[rKey] = new KeyAction(this);
179 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.25 void KbBind::noAction (const QStringList & *keys*) [inline]

Definition at line 75 of file kbbind.h.

References noAction().

Referenced by noAction().

```
75 { foreach(const QString& key, keys) noAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.26 KbPerf * KbBind::perf ( )

Definition at line 51 of file kbbind.cpp.

References modeParent(), and KbMode::perf().

Referenced by KeyAction::keyEvent(), and RebindWidget::setBind().

```
51                      {
52     return modeParent()->perf();
53 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.27 void KbBind::resetAction (const QString & *key*)

Definition at line 163 of file kbbind.cpp.

References _bind, _needsSave, _needsUpdate, action(), and globalRemap().

Referenced by noAction(), KbBindWidget::on_resetButton_clicked(), RebindWidget::on_resetButton_clicked(), and setAction().

```
163                                         {
164     QString rKey = globalRemap(key);
165     // Clean up existing action (if any)
166     KeyAction* action = _bind.value(rKey);
167     delete action;
168     _bind.remove(rKey);
169     _needsUpdate = true;
170     _needsSave = true;
171 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.28 void KbBind::resetAction (const QStringList & *keys*) [inline]

Definition at line 72 of file kbbind.h.

References resetAction().

Referenced by resetAction().

```
72 { foreach(const QString& key, keys) resetAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.29 void KbBind::save (CkbSettings & *settings*)

Definition at line 82 of file kbbind.cpp.

References _bind, _map, _needsSave, _winLock, KeyAction::defaultAction(), KeyMap::name(), CkbSettings::setValue(), and KeyAction::value().

Referenced by KbMode::save().

```
82                                      {
83     _needsSave = false;
84     SGroup group(settings, "Binding");
85     settings.setValue("KeyMap", _map.name());
86     // Save key settings
87     settings.setValue("UseRealNames", true);
88     {
89         SGroup group(settings, "Keys");
90         foreach(QString key, _bind.keys()){
91             KeyAction* act = _bind.value(key);
92             if(act && act->value() != KeyAction::defaultAction(key))
93                 settings.setValue(key, act->value());
94         }
95     }
96     settings.setValue("WinLock", _winLock);
97 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.30 void KbBind::saveGlobalRemap ( ) [static]

Definition at line 125 of file kbbind.cpp.

References _globalRemap, and CkbSettings::setValue().

Referenced by SettingsWidget::updateModifiers().

```
125                                 {
126     CkbSettings settings("Program/GlobalRemap", true);
127     QHashIterator<QString, QString> i(_globalRemap);
128     while(i.hasNext()){
129         i.next();
130         settings.setValue(i.key(), i.value());
131     }
132 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.31 void KbBind::setAction (const QString & *key*, const QString & *action*)

Definition at line 181 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

Referenced by RebindWidget::applyChanges(), and KbBindWidget::on_copyButton_clicked().

```
181                                                                 {
182     resetAction(key);
183     QString rKey = globalRemap(key);
184     if(!_map.key(rKey))
185         return;
186     _bind[rKey] = new KeyAction(action, this);
187 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.32 void KbBind::setAction (const QStringList & *keys*, const QString & *action*) [inline]

Definition at line 69 of file kbbind.h.

References setAction().

Referenced by setAction().

```
69 { foreach(const QString& key, keys) setAction(key, action); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.33 void KbBind::setGlobalRemap (const QHash< QString, QString > *keyToActual*) [static]

Definition at line 105 of file kbbind.cpp.

References _globalRemap, and globalRemapTime.

Referenced by SettingsWidget::updateModifiers().

```
105                                                                 {
106     _globalRemap.clear();
107     // Ignore any keys with the standard binding
108     QHashIterator<QString, QString> i(keyToActual);
109     while(i.hasNext()){
110         i.next();
111         if(i.key() != i.value())
112             _globalRemap[i.key()] = i.value();
113     }
114     globalRemapTime = QDateTime::currentMSecsSinceEpoch();
115 }
```

Here is the caller graph for this function:

12.26.3.34 void KbBind::setNeedsUpdate ( ) [inline]

Definition at line 84 of file kbbind.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
84 { _needsUpdate = true; }
```

Here is the caller graph for this function:

12.26.3.35 void KbBind::update (QFile & *cmd,* bool *force* = false)

Definition at line 189 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().

```
189                                         {
190     if(!force && !_needsUpdate && lastGlobalRemapTime ==
      globalRemapTime)
191         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:

12.26.3.36 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:

12.26.3.37 bool KbBind::winLock ( ) [inline]

Definition at line 78 of file kbbind.h.

References _winLock.

Referenced by KeyAction::keyEvent().

```
78 { return _winLock; }
```

Here is the caller graph for this function:

12.26.3.38 void KbBind::winLock (bool *newWinLock*) [inline]

Definition at line 79 of file kbbind.h.

References _needsUpdate, and _winLock.

```
79 { _winLock = newWinLock; _needsUpdate = true; }
```

12.26.4 Friends And Related Function Documentation

12.26.4.1 friend class KeyAction [friend]

Definition at line 139 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 134 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 116 of file kbbind.h.

Referenced by devParent().

12.26.5.3 QHash< QString, QString > KbBind::_globalRemap [static], [private]

Definition at line 122 of file kbbind.h.

Referenced by globalRemap(), loadGlobalRemap(), saveGlobalRemap(), setGlobalRemap(), and update().

12.26.5.4 KeyMap KbBind::_map [private]

Definition at line 132 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 138 of file kbbind.h.

Referenced by load(), map(), needsSave(), resetAction(), and save().

12.26.5.6 bool KbBind::_needsUpdate [private]

Definition at line 137 of file kbbind.h.

Referenced by map(), resetAction(), setNeedsUpdate(), update(), and winLock().

12.26.5.7 bool KbBind::_winLock [private]

Definition at line 136 of file kbbind.h.

Referenced by load(), save(), update(), and winLock().

12.26.5.8 quint64 KbBind::globalRemapTime = 0 [static], [private]

Definition at line 123 of file kbbind.h.

Referenced by loadGlobalRemap(), setGlobalRemap(), and update().

12.26.5.9 QFile* KbBind::lastCmd [private]

Definition at line 130 of file kbbind.h.

Referenced by update().

12.26.5.10 quint64 KbBind::lastGlobalRemapTime [private]

Definition at line 124 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 195 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 182 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(533, 230);
56         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Expanding);
57         sizePolicy.setHorizontalStretch(0);
58         sizePolicy.setVerticalStretch(0);
59         sizePolicy.setHeightForWidth(KbBindWidget->sizePolicy().hasHeightForWidth());
60         KbBindWidget->setSizePolicy(sizePolicy);
61         verticalLayout = new QVBoxLayout(KbBindWidget);
62         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
63         verticalLayout->setContentsMargins(0, 0, 0, -1);
64         label = new QLabel(KbBindWidget);
65         label->setObjectName(QStringLiteral("label"));
66         QFont font;
67         font.setBold(true);
68         font.setWeight(75);
69         label->setFont(font);
70
71         verticalLayout->addWidget(label);
72
73         line = new QFrame(KbBindWidget);
74         line->setObjectName(QStringLiteral("line"));
75         line->setFrameShape(QFrame::HLine);
76         line->setFrameShadow(QFrame::Sunken);
77
78         verticalLayout->addWidget(line);
79
80         gridLayout = new QGridLayout();
81         gridLayout->setObjectName(QStringLiteral("gridLayout"));
82         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
83
84         gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);
85
86         keyWidget = new KeyWidget(KbBindWidget);
87         keyWidget->setObjectName(QStringLiteral("keyWidget"));
88         sizePolicy.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
89         keyWidget->setSizePolicy(sizePolicy);
90
91         gridLayout->addWidget(keyWidget, 0, 1, 1, 3);
92
93         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
94
95         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
96
97         horizontalLayout_2 = new QHBoxLayout();
98         horizontalLayout_2->setSpacing(0);
99         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
100         horizontalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
101         copyButton = new QPushButton(KbBindWidget);
102         copyButton->setObjectName(QStringLiteral("copyButton"));
103         copyButton->setEnabled(true);
104         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
105         sizePolicy1.setHorizontalStretch(0);
106         sizePolicy1.setVerticalStretch(0);
107         sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
108         copyButton->setSizePolicy(sizePolicy1);
109         copyButton->setMinimumSize(QSize(140, 0));
110
111         horizontalLayout_2->addWidget(copyButton);
112
113         selectLabel = new QLabel(KbBindWidget);
114         selectLabel->setObjectName(QStringLiteral("selectLabel"));
115         sizePolicy1.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
116         selectLabel->setSizePolicy(sizePolicy1);
117         selectLabel->setLineWidth(1);
118         selectLabel->setAlignment(Qt::AlignCenter);
119         selectLabel->setMargin(10);
```

```
        selectLabel->setIndent(-1);

        horizontalLayout_2->addWidget(selectLabel);

        resetButton = new QPushButton(KbBindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));
        sizePolicy1.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
        resetButton->setSizePolicy(sizePolicy1);
        resetButton->setMinimumSize(QSize(140, 0));

        horizontalLayout_2->addWidget(resetButton);


        gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);


        verticalLayout->addLayout(gridLayout);

        verticalSpacer = new QSpacerItem(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

        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"));
        sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
        widget->setSizePolicy(sizePolicy);
        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 sizePolicy2(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
        rbWidget->setSizePolicy(sizePolicy2);

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


        verticalLayout->addWidget(widget);


        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().

```
{
    QStringList selection = currentSelection;
    const KeyMap& map = bind->map();
    int count = selection.count();
    QString type = bind->isMouse() ? "button" : "key";
    QString text = tr("%1 %2").arg(count).arg(type) + (count == 1 ? "" : "s");
    if(count == 0){
        // Copy all keys if none selected
        selection = map.keys();
        text = tr("all %1s").arg(type);
    }
    text = "Copy binding for " + text + " to:";
    // Display popup
    ModeSelectDialog dialog(this, profile->currentMode(), profile->modes(), text);
    if(dialog.exec() != QDialog::Accepted)
        return;
    // Copy selected keys to selected modes
    QList<KbMode*> selectedModes = dialog.selection();
    foreach(KbMode* mode, selectedModes){
        KbBind* modeBind = mode->bind();
        foreach(const QString& key, selection){
            modeBind->setAction(key, bind->action(key));
        }
    }
}
```

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);
```

```
    updateBind();
}
```

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().

```
20                                                          {
21     ui->keyWidget->clearSelection();
22     ui->rbWidget->setBind(newBind, newProfile);
23     newSelection(QStringList());
24     if(bind == newBind)
25         return;
26     if(bind){
27         disconnect(bind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
28         disconnect(bind, SIGNAL(updated()), this, SLOT(updateBind()));
29     }
30     connect(newBind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
31     connect(newBind, SIGNAL(updated()), this, SLOT(updateBind()));
32     bind = newBind;
33     profile = newProfile;
34     newLayout();
35     ui->rbWidget->setBind(bind, profile);
36     updateBind();
37 }
```

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().

```
                                {
    const KeyMap& map = bind->map();
    // Build the action list based on the keymap
    QHash<QString, QString> actions;
    foreach(const QString& key, map.keys())
        actions[key] = bind->action(key);
    ui->keyWidget->bindMap(actions);
    ui->rbWidget->setSelection(currentSelection);
    updateSelDisplay();
}
```

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)

Private Types

- enum { UNKNOWN = -1, NO, YES }

Private Slots

- void processDownload (QNetworkReply ∗reply)
- void downloadFinished ()

Private Member Functions

- KbFirmware ()
- ∼KbFirmware ()
- void initManager ()
- 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
- QNetworkAccessManager ∗ networkManager
- 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 54 of file kbfirmware.h.

```
54 { UNKNOWN = -1, NO, YES } hasGPG :2;
```

12.29.3 Constructor & Destructor Documentation

12.29.3.1 KbFirmware::KbFirmware ( ) [private]

Definition at line 16 of file kbfirmware.cpp.

```
16                          :
17     lastCheck(0), lastFinished(0), networkManager(0),
       tableDownload(0), hasGPG(UNKNOWN)
18 {
19 }
```

12.29.3.2 KbFirmware::~KbFirmware ( ) [private]

Definition at line 21 of file kbfirmware.cpp.

```
21                          {
22     //delete networkManager;
23     // ^ This can cause a crash (QT bug?)
24 }
```

12.29.4 Member Function Documentation

12.29.4.1 bool KbFirmware::_checkUpdates ( ) [private]

Definition at line 32 of file kbfirmware.cpp.

References AUTO_CHECK_TIME, downloadFinished(), initManager(), lastCheck, networkManager, and tableDownload.

Referenced by checkUpdates().

```
32                                  {
33     initManager();
34     quint64 now = QDateTime::currentMSecsSinceEpoch();
35     if(now < lastCheck + AUTO_CHECK_TIME)
36         return false;
37     // First location is for debugging only.
38     tableDownload = networkManager->get(QNetworkRequest(QUrl("
       https://raw.githubusercontent.com/frickler24/ckb-next/new-firmware-file-format/FIRMWARE")));
39     // This one is the production one.
40     // tableDownload =
       networkManager->get(QNetworkRequest(QUrl("https://raw.githubusercontent.com/mattanger/ckb-next/master/FIRMWARE")));
41     connect(tableDownload, SIGNAL(finished()), this, SLOT(
       downloadFinished()));
42     lastCheck = now;
43     return true;
44 }
```

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 188 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().

```
188                                                                 {
189     QString name = tableName(features);
190     FW info = fwTable.value(name);
191     if(info.hash.isEmpty())
192         return "";
193     // Download zip from URL. Wait for it to finish.
194     QNetworkReply* reply = networkManager->get(QNetworkRequest(QUrl(info.url)));
195     QEventLoop loop(this);
196     connect(reply, SIGNAL(finished()), &loop, SLOT(quit()));
197     loop.exec();
198     // Download finished, process data
199     if(reply->error() != QNetworkReply::NoError)
200         return "";
201     QByteArray zipData = reply->readAll();
202     QBuffer buffer(&zipData);
203     // Open zip archive
204     QuaZip zip(&buffer);
205     if(!zip.open(QuaZip::mdUnzip))
206         return "";
207     // Find the desired file
208     if(!zip.setCurrentFile(info.fileName, QuaZip::csInsensitive))
209         return "";
210     QuaZipFile binFile(&zip);
211     if(!binFile.open(QIODevice::ReadOnly))
212         return "";
213     QByteArray binary = binFile.readAll();
214     // Check the hash
215     if(QCryptographicHash::hash(binary, QCryptographicHash::Sha256) != info.hash)
216         return "";
217     return binary;
218 }
```

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 170 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().

```
170                                                                                 {
171     if((tableDownload || checkUpdates()) && waitForComplete){
172         // If waiting is desired, enter an event loop and stay here until the download is finished
173         QEventLoop loop(this);
174         connect(this, SIGNAL(downloaded()), &loop, SLOT(quit()));
175         loop.exec();
176     }
177     // Find this board
178     QString name = tableName(features);
179     FW info = fwTable.value(name);
180     if(info.hash.isEmpty())
181         return 0.f;
182     // Don't return the new version if the current ckb doesn't support it
183     if(info.ckbVersion > KbManager::ckbGuiVersionF() || info.ckbVersion >
    KbManager::ckbDaemonVersionF())
184         return -1.f;
185     return info.fwVersion;
186 }
```

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 149 of file kbfirmware.cpp.

References downloaded(), processDownload(), and tableDownload.

Referenced by _checkUpdates().

```
149                                 {
150     if(!tableDownload)
151         return;
152     processDownload(tableDownload);
153     tableDownload->deleteLater();
154     tableDownload = 0;
155     emit downloaded();
156 }
```

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::initManager ( ) [private]

Definition at line 26 of file kbfirmware.cpp.

References networkManager.

Referenced by _checkUpdates().

```
                                {
    if(networkManager)
        return;
    networkManager = new QNetworkAccessManager();
}
```

Here is the caller graph for this function:

12.29.4.10 void KbFirmware::processDownload (QNetworkReply * *reply*) [private],[slot]

< CHECKFORGPG is a debug flag. Set to 0 if GPG should be ignored

Definition at line 46 of file kbfirmware.cpp.

References CHECKFORGPG, KbFirmware::FW::ckbVersion, KbFirmware::FW::fileName, KbFirmware::FW::forProductID, 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 && CHECKFORGPG) {
        // 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() != 8)
            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
        bool ok;
        fw.forProductID = components[7].toUInt(&ok, 16);
        if (!ok) qWarning() << "Could not read product specification from FIRMWARE, value =" << components[7];
        // 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:

12.29.4.11 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 42 of file kbfirmware.h.

Referenced by _fileForBoard(), _latestForBoard(), and processDownload().

12.29.5.2 QByteArray KbFirmware::fwTableHash `[private]`

Definition at line 44 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 60 of file kbfirmware.h.

Referenced by checkUpdates(), dataForBoard(), hasDownloaded(), and versionForBoard().

12.29.5.5 quint64 KbFirmware::lastCheck [private]

Definition at line 32 of file kbfirmware.h.

Referenced by _checkUpdates(), and processDownload().

12.29.5.6 quint64 KbFirmware::lastFinished [private]

Definition at line 32 of file kbfirmware.h.

Referenced by hasDownloaded(), and processDownload().

12.29.5.7 QNetworkAccessManager* KbFirmware::networkManager [private]

Definition at line 48 of file kbfirmware.h.

Referenced by _checkUpdates(), _fileForBoard(), and initManager().

12.29.5.8 QNetworkReply* KbFirmware::tableDownload [private]

Definition at line 51 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 _indicatorMap
- QSet< QString > _indicatorList
- quint64 lastFrameSignal
- int _dimming
- 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), _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), _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 371 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().

```
371                                                                 {
372     close();
373     if(_dimming == MAX_DIM && !ignoreDim){
374         cmd.write(QString().sprintf("rgb 000000").toLatin1());
375         return;
376     }
377     // Set just the background color, ignoring any animation
378     rebuildBaseMap();
379     _animMap = _colorMap;
380     // If monochrome is active, create grayscale
381     if(monochrome){
382         int count = _animMap.count();
383         QRgb* colors = _animMap.colors();
384         for(int i = 0; i < count; i++){
385             QRgb& rgb = colors[i];
386             rgb = monoRgb(qRed(rgb), qGreen(rgb), qBlue(rgb));
387         }
388     }
389     // Set a few indicators to black as the hardware handles them differently
390     QRgb* mr = _animMap.colorForName("mr"), *m1 = _animMap.
      colorForName("m1"), *m2 = _animMap.colorForName("m2"), *m3 =
      _animMap.colorForName("m3"), *lock = _animMap.
      colorForName("lock");
391     if(mr) *mr = 0;
392     if(m1) *m1 = 0;
393     if(m2) *m2 = 0;
394     if(m3) *m3 = 0;
395     if(lock) *lock = 0;
396     // Send to driver
397     cmd.write("rgb");
398     printRGB(cmd, _animMap);
399 }
```

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().

```
215                 {
216     activeLights.remove(this);
217     foreach(KbAnim* anim, _animList)
218         anim->stop();
219     stopPreview();
220     _start = false;
221 }
```

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().

```
49                                                          {
50     QRgb newRgb = newColor.rgb();
51     _qColorMap[key] = newRgb;
52     _needsSave = true;
53     if(!_needsMapRefresh){
54         // Update flat map if we're not scheduled to rebuild it
55         QByteArray rawName = key.toLatin1();
56         QRgb* rawRgb = _colorMap.colorForName(rawName.data());
57         if(rawRgb)
58             *rawRgb = newRgb;
59     }
60 }
```

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);
163     anim->trigger(timestamp);
164     _start = true;
165     _needsSave = true;
166     return anim;
167 }
```

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, _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     int count = _animMap.count();
307     QRgb* colors = _animMap.colors();
308     // Apply active indicators and/or perform monochrome conversion
309     if(monochrome || !_indicatorList.isEmpty()){
310         QRgb* indicators = _indicatorMap.colors();
311         for(int i = 0; i < count; i++){
312             QRgb& rgb = colors[i];
313             float r = qRed(rgb);
314             float g = qGreen(rgb);
```

```
            float b = qBlue(rgb);
            // Apply indicators
            QRgb rgb2 = indicators[i];
            if(qAlpha(rgb2) != 0){
                float r2 = qRed(rgb2);
                float g2 = qGreen(rgb2);
                float b2 = qBlue(rgb2);
                float a2 = qAlpha(rgb2) / 255.f;
                r = round(r2 * a2 + r * (1.f - a2));
                g = round(g2 * a2 + g * (1.f - a2));
                b = round(b2 * a2 + b * (1.f - a2));
            }
            // If monochrome mode is active, average the channels to get a grayscale image
            if(monochrome)
                rgb = monoRgb(r, g, b);
            else
                rgb = qRgb(r, g, b);
        }
    }

    // Emit signals for the animation (only do this every 50ms - it can cause a lot of CPU usage)
    if(timestamp >= lastFrameSignal + 50){
        emit frameDisplayed(_animMap, _indicatorList);
        lastFrameSignal = timestamp;
    }

    // If brightness is at 0%, turn off lighting entirely
    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().

```
169                         {
170     if(!_start)
171         return false;
172     foreach(KbAnim* animation, _animList){
173         if(!animation->isRunning())
174             return false;
175     }
176     return true;
177 }
```

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 401 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().

```
401                                     {
402     // Load light settings
403     _needsSave = false;
404     SGroup group(settings, "Lighting");
405     KeyMap currentMap = _map;
406     _map = KeyMap::fromName(settings.value("KeyMap").toString());
407     _dimming = settings.value("Brightness").toUInt();
408     if(_dimming > MAX_DIM)
409         _dimming = MAX_DIM;
410     // Load RGB settings
411     bool useReal = settings.value("UseRealNames").toBool();
412     {
413         SGroup group(settings, "Keys");
414         foreach(QString key, settings.childKeys()){
415             QString name = key.toLower();
416             if(!useReal)
417                 name = _map.fromStorage(name);
418             QColor color = settings.value(key).toString();
419             if(!color.isValid())
420                 color = QColor(255, 255, 255);
421             _qColorMap[name] = color.rgb();
422         }
423         _needsMapRefresh = true;
424     }
425     // Load animations
426     foreach(KbAnim* anim, _animList)
427         anim->deleteLater();
428     _animList.clear();
429     {
430         SGroup group(settings, "Animations");
431         foreach(QString anim, settings.value("List").toStringList()){
432             QUuid id = anim;
433             _animList.append(new KbAnim(this, _map, id, settings));
434         }
435     }
436     emit didLoad();
437     map(currentMap);
438 }
```

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);
```

```
    _animMap.init(_map);
    _indicatorMap.init(_map);
    _needsSave = _needsMapRefresh = true;
    emit updated();
}
```

Here is the call graph for this function:

12.30.4.22 bool KbLight::needsSave ( ) const

Definition at line 467 of file kblight.cpp.

References _animList, _needsSave, anim, and KbAnim::needsSave().

Referenced by KbMode::needsSave().

```
467                                 {
468     if(_needsSave)
469         return true;
470     foreach(KbAnim* anim, _animList){
471         if(anim->needsSave())
472             return true;
473     }
474     return false;
475 }
```

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
```

```
    KbAnim* anim = new KbAnim(this, _map, "", keys, base);
    QMapIterator<QString, QVariant> i(preset);
    while(i.hasNext()){
        i.next();
        anim->parameter(i.key(), i.value());
    }
    anim->commitParams();
    anim->reInit();
    // Add the animation and start it
    _previewAnim = anim;
    anim->trigger(timestamp);
    _start = true;
}
```

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().

```
254                                 {
255     _indicatorMap.clear();
256     _indicatorList.clear();
257 }
```

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().

```
179                                 {
180     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 440 of file kblight.cpp.

References _animList, _dimming, _map, _needsSave, _qColorMap, anim, KbAnim::guid(), KeyMap::name(), KbAnim::save(), and CkbSettings::setValue().

Referenced by KbMode::save().

```
                                        {
    _needsSave = false;
    SGroup group(settings, "Lighting");
    settings.setValue("KeyMap", _map.name());
    settings.setValue("Brightness", _dimming);
    settings.setValue("UseRealNames", true);
    {
        // Save RGB settings
        SGroup group(settings, "Keys");
        QMutableColorMapIterator i(_qColorMap);
        while(i.hasNext()){
            i.next();
            settings.setValue(i.key(), QColor(i.value()).name());
        }
    }
    {
        // Save animations
        SGroup group(settings, "Animations");
        QStringList aList;
        foreach(KbAnim* anim, _animList){
            aList << anim->guid().toString().toUpper();
            anim->save(settings);
        }
        settings.setValue("List", aList);
    }
}
```

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().

```
                        {
    delete _previewAnim;
    _previewAnim = 0;
}
```

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().

```
{
    QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
}
```

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 KeyMap KbLight::_map [private]

Definition at line 91 of file kblight.h.

Referenced by addAnim(), duplicateAnim(), load(), map(), previewAnim(), and save().

12.30.5.8 bool KbLight::_needsMapRefresh [private]

Definition at line 98 of file kblight.h.

Referenced by color(), load(), map(), and rebuildBaseMap().

12.30.5.9 bool KbLight::_needsSave [private]

Definition at line 98 of file kblight.h.

Referenced by addAnim(), animList(), color(), dimming(), duplicateAnim(), load(), map(), needsSave(), and save().

12.30.5.10 KbAnim* KbLight::_previewAnim [private]

Definition at line 90 of file kblight.h.

Referenced by animKeypress(), frameUpdate(), open(), previewAnim(), and stopPreview().

12.30.5.11 QColorMap KbLight::_qColorMap [private]

Definition at line 92 of file kblight.h.

Referenced by color(), colorMap(), load(), map(), rebuildBaseMap(), and save().

12.30.5.12 bool KbLight::_start [private]

Definition at line 97 of file kblight.h.

Referenced by addAnim(), close(), duplicateAnim(), isStarted(), open(), previewAnim(), and restartAnimation().

12.30.5.13 quint64 KbLight::lastFrameSignal [private]

Definition at line 95 of file kblight.h.

Referenced by frameUpdate().

12.30.5.14 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 * verticalSpacer
- 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 278 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 253 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 64 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, 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(596, 450);
        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"));
        horizontalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
        horizontalSpacer_5 = new QSpacerItem(0, 0, 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::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
        bgButton->setSizePolicy(sizePolicy2);

        horizontalLayout->addWidget(bgButton);

        selLabel = new QLabel(KbLightWidget);
        selLabel->setObjectName(QStringLiteral("selLabel"));
        sizePolicy2.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
        selLabel->setSizePolicy(sizePolicy2);
        selLabel->setAlignment(Qt::AlignCenter);

        horizontalLayout->addWidget(selLabel);

        animButton = new QPushButton(KbLightWidget);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);

        horizontalLayout->addWidget(animButton);


        gridLayout->addLayout(horizontalLayout, 2, 0, 1, 3);

        verticalSpacer = new QSpacerItem(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

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


        horizontalLayout_2->addLayout(gridLayout);

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

        horizontalLayout_2->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout_2);

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

        verticalLayout->addItem(verticalSpacer_2);

        gridLayout_2 = new QGridLayout();
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        brightnessBox = new QComboBox(KbLightWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
        QSizePolicy sizePolicy3(QSizePolicy::Minimum, QSizePolicy::Minimum);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
        brightnessBox->setSizePolicy(sizePolicy3);
```

```
        gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);

        label = new QLabel(KbLightWidget);
        label->setObjectName(QStringLiteral("label"));
        sizePolicy3.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
        label->setSizePolicy(sizePolicy3);
        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(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

        verticalLayout->addItem(verticalSpacer_3);

        label_2 = new QLabel(KbLightWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Minimum);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
        label_2->setSizePolicy(sizePolicy4);
        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"));
        sizePolicy1.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
        widget->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy1.setHeightForWidth(animWidget->sizePolicy().hasHeightForWidth());
        animWidget->setSizePolicy(sizePolicy1);

        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::setupUi().

12.31.3.2 KbAnimWidget* Ui_KbLightWidget::animWidget [inherited]

Definition at line 62 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::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.4 QComboBox* Ui_KbLightWidget::brightnessBox [inherited]

Definition at line 53 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 52 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4 [inherited]

Definition at line 61 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 55 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4 [inherited]

Definition at line 56 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 50 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 54 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 58 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 59 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 [inherited]

Definition at line 49 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2 [inherited]

Definition at line 51 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.26 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3 [inherited]

Definition at line 57 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.27 QWidget* Ui_KbLightWidget::widget [inherited]

Definition at line 60 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(100);
32     connect(_scanTimer, SIGNAL(timeout()), this, SLOT(scanKeyboards()));
33 }
```

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 35 of file kbmanager.cpp.

References eventTimer().

Referenced by Kb::frameRate().

```
35                                  {
36     QTimer* timer = eventTimer();
37     if(!timer)
38         return;
39     if(timer->isActive())
40         timer->setInterval(1000 / framerate);
41     else
42         timer->start(1000 / framerate);
43 }
```

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 45 of file kbmanager.cpp.

Referenced by ckbDaemonVersionF(), ckbGuiVersionF(), and KbFirmware::processDownload().

```
45                                                  {
46     // Remove extraneous info (anything after a +, anything non-numeric)
47     QStringList dots = version.replace(QRegExp("\\+.+"), "").replace(QRegExp("[^\\d\\.]"), "").split(".");
48     float base = 1.f;
49     float res = 0.f;
50     // A number like "1.2.3" will result in 1.0203
51     // 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.
52     foreach(const QString& dot, dots){
53         res += dot.toFloat() * base;
54         base /= 100.f;
55     }
56     return res;
57 }
```

Here is the caller graph for this function:

12.33.3.13 void KbManager::scanKeyboards ( ) [private], [slot]

Definition at line 59 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().

```
59                                  {
60     QString rootdev = devpath.arg(0);
61     QFile connected(rootdev + "/connected");
62     if(!connected.open(QIODevice::ReadOnly)){
63         // No root controller - remove all keyboards
64         foreach(Kb* kb, _devices){
65             emit kbDisconnected(kb);
66             kb->save();
67             delete kb;
68         }
69         _devices.clear();
70         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),
```

```
    _name(other._name), _id(other._id),
    _light(new KbLight(this, keyMap, *other._light)), _bind(new
   KbBind(this, parent, keyMap, *other._bind)), _perf(new KbPerf(this, *other.
   _perf)),
    _needsSave(true)
{
    connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
}
```

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().

```
{
    QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
}
```

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)
- QPoint curDpi () const
- void curDpi (const QPoint &newDpi)
- void curDpi (int newDpi)
- int curDpiIdx () const
- void curDpiIdx (int newIdx)
- void dpiUp ()
- void dpiDown ()
- 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=false, bool saveCustomDpi=true)
- 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 dpiCurIdx
- QColor dpiClr [DPI_COUNT+1]
- bool dpiOn [DPI_COUNT]
- int dpiLastIdx
- 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 98 of file kbperf.h.

```
98                {
99          NONE = -1,  // For non-hardware indicators
100          NORMAL,
101          ON,
102          OFF
103      };
```

12.35.2.3 enum KbPerf::indicator

Enumerator

NUM

CAPS

SCROLL

HW_IMAX

MODE

MACRO

LIGHT

LOCK

MUTE

Definition at line 85 of file kbperf.h.

```
85                    {
86          // Hardware
87          NUM,
88          CAPS,
89          SCROLL, HW_IMAX = SCROLL,
90          // Software
91          MODE,
92          MACRO,
93          LIGHT,
94          LOCK,
95          MUTE
96      };
```

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, dpiClr, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MODE, MUTE, muteNAColor, NORMAL, NUM, and SCROLL.

```
13                                :
14     QObject(parent), runningPushIdx(1),
15     _iOpacity(1.f), _dpiIndicator(true), _liftHeight(
      MEDIUM), _angleSnap(false),
16     _needsUpdate(true), _needsSave(true) {
17     // Default DPI settings
18     dpiX[0] = dpiY[0] = 400;
19     dpiX[1] = dpiY[1] = 450;
20     dpiX[2] = dpiY[2] = 800;
21     dpiX[3] = dpiY[3] = 1500;
22     dpiX[4] = dpiY[4] = 3000;
23     dpiX[5] = dpiY[5] = 6000;
24     dpiClr[0] = QColor(255, 0, 0);
25     dpiClr[1] = QColor(255, 192, 0);
26     dpiClr[2] = QColor(255, 255, 0);
27     dpiClr[3] = QColor(0, 255, 0);
28     dpiClr[4] = QColor(0, 255, 255);
29     dpiClr[5] = QColor(255, 255, 255);
30     dpiClr[6] = QColor(192, 192, 192);
31     for(int i = 0; i < DPI_COUNT; i++)
32         dpiOn[i] = true;
33     dpiLastIdx = dpiCurIdx = 3;
34     dpiCurX = dpiX[dpiCurIdx];
35     dpiCurY = dpiY[dpiCurIdx];
36     // Default indicators
37     iColor[NUM][0] = iColor[CAPS][0] = iColor[SCROLL][0] = QColor(0, 255, 0)
      ;   // Lock lights: on = green, off = black
38     iColor[NUM][1] = iColor[CAPS][1] = iColor[SCROLL][1] = QColor(0, 0, 0);
39     iColor[MACRO][0] = QColor(255, 0, 0);                                    // Macro: on =
       red, off = black
40     iColor[LOCK][0] = QColor(255, 255, 255);                                 // Win lock: on =
       white, off = black
41     iColor[MODE][0] = iColor[MUTE][0] = QColor(255, 255, 255, 0);            //
       Mode, mute: on = transparent, off = black
42     iColor[MODE][1] = iColor[MACRO][1] = iColor[LOCK][1] =
      iColor[MUTE][1] = muteNAColor = QColor(0, 0, 0);
43     iColor[LIGHT][0] = QColor(255, 0, 0);       // Brightness: red, yellow, white
44     iColor[LIGHT][1] = QColor(255, 255, 0);
45     light100Color = QColor(255, 255, 255);
46     for(int i = 0; i < HW_I_COUNT; i++){
47         // Set all lock lights to HW mode
48         iEnable[i] = false;
49         hwIType[i] = NORMAL;
50     }
51     for(int i = HW_I_COUNT; i < I_COUNT; i++){
52         // Turn all other indicators on
53         iEnable[i] = true;
54     }
55 }
```

12.35.3.2 KbPerf::KbPerf (KbMode * *parent*, const KbPerf & *other*)

Definition at line 57 of file kbperf.cpp.

References curDpi(), DPI_COUNT, dpiClr, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, iEnable, and pushedDpis.

```
57                                                    :
58     QObject(parent), dpiCurX(other.dpiCurX), dpiCurY(other.
      dpiCurY), dpiCurIdx(other.dpiCurIdx), dpiLastIdx(other.
      dpiLastIdx), runningPushIdx(1),
59     _iOpacity(other._iOpacity), light100Color(other.
      light100Color), muteNAColor(other.muteNAColor),
      _dpiIndicator(other._dpiIndicator),
60     _liftHeight(other._liftHeight), _angleSnap(other.
      _angleSnap),
61     _needsUpdate(true), _needsSave(true) {
62     memcpy(dpiX, other.dpiX, sizeof(dpiX));
63     memcpy(dpiY, other.dpiY, sizeof(dpiY));
64     for(int i = 0; i < DPI_COUNT + 1; i++)
65         dpiClr[i] = other.dpiClr[i];
66     memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
67     for(int i = 0; i < I_COUNT; i++){
68         iColor[i][0] = other.iColor[i][0];
69         iColor[i][1] = other.iColor[i][1];
70     }
71     memcpy(iEnable, other.iEnable, sizeof(iEnable));
72     memcpy(hwIType, other.hwIType, sizeof(hwIType));
73     // Don't copy pushed DPI states. If the other mode has any, restore the original DPI
74     if(!other.pushedDpis.isEmpty())
75         curDpi(other.pushedDpis[0]);
76 }
```

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 262 of file kbperf.cpp.

References _needsSave, _needsUpdate, DPI_COUNT, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiX, and dpiY.

Referenced by curDpi(), popDpi(), and pushDpi().

```
262                                         {
263     dpiCurX = newDpi.x();
264     dpiCurY = newDpi.y();
265     // Set current/last index
266     dpiCurIdx = -1;
267     for(int i = 0; i < DPI_COUNT; i++){
268         if(dpiCurX == dpiX[i] && dpiCurY == dpiY[i]){
269             dpiCurIdx = i;
270             if(i != 0)
271                 dpiLastIdx = i;
272             break;
273         }
274     }
275     _needsUpdate = _needsSave = true;
276 }
```

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 368 of file kbperf.cpp.

References _angleSnap, _needsSave, and _needsUpdate.

```
368                                         {
369     _angleSnap = newAngleSnap;
370     _needsUpdate = _needsSave = true;
371 }
```

12.35.4.4 void KbPerf::applyIndicators (int *modeIndex*, const bool *indicatorState[HW_I_COUNT]*)

Definition at line 432 of file kbperf.cpp.

References _dpiIndicator, _iOpacity, bind(), CAPS, curDpiIdx(), 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().

```
432                                                                         {
433     light()->resetIndicators();
434     if(_iOpacity <= 0.f)
435         return;
436     if(_dpiIndicator){
437         // Set DPI indicator according to index
438         int index = curDpiIdx();
439         if(index == -1 || index > OTHER)
440             index = OTHER;
441         lightIndicator("dpi", dpiClr[index].rgba());
442     }
443     // KB indicators
444     if(iEnable[MODE]){
445         for(int i = 0; i < Kb::HWMODE_MAX; i++){
446             char name[4];
447             snprintf(name, sizeof(name), "m%d", i + 1);
448             if(modeIndex == i)
449                 lightIndicator(name, iColor[MODE][0].rgba());
450             else
451                 lightIndicator(name, iColor[MODE][1].rgba());
452         }
453     }
454     if(iEnable[MACRO])
455         lightIndicator("mr", iColor[MUTE][1].rgba());
456     if(iEnable[LIGHT]){
457         switch(light()->dimming()){
458         case 0: // 100%
459             lightIndicator("light", light100Color.rgba());
460             break;
461         case 1: // 67%
462             lightIndicator("light", iColor[LIGHT][1].rgba());
463             break;
464         case 2: // 33%
465         case 3: // light off
466             lightIndicator("light", iColor[LIGHT][0].rgba());
467             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 KbBind * KbPerf::bind ( ) const [private]

Definition at line 100 of file kbperf.cpp.

References KbMode::bind(), and modeParent().

Referenced by applyIndicators().

```
100                                 {
101     return modeParent()->bind();
102 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.6 QPoint KbPerf::curDpi ( ) const [inline]

Definition at line 57 of file kbperf.h.

References dpiCurX, and dpiCurY.

Referenced by curDpiIdx(), KbPerf(), load(), operator=(), and pushDpi().

```
57 { return QPoint(dpiCurX, dpiCurY); }
```

Here is the caller graph for this function:

12.35.4.7 void KbPerf::curDpi (const QPoint & *newDpi*)

Definition at line 278 of file kbperf.cpp.

References _curDpi(), popDpi(), and pushedDpis.

```
                                        {
    while(pushedDpis.count() > 0)
        popDpi(pushedDpis.keys().last());
    _curDpi(newDpi);
}
```

Here is the call graph for this function:

12.35.4.8 void KbPerf::curDpi (int *newDpi*) [inline]

Definition at line 59 of file kbperf.h.

References curDpi().

Referenced by curDpi().

```
59 { curDpi(QPoint(newDpi, newDpi)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.9 int KbPerf::curDpiIdx ( ) const [inline]

Definition at line 61 of file kbperf.h.

References dpiCurIdx.

Referenced by applyIndicators(), dpiDown(), dpiUp(), and Kb::readNotify().

```
61 { return dpiCurIdx; }
```

Here is the caller graph for this function:

12.35.4.10 void KbPerf::curDpiIdx (int *newIdx*) [inline]

Definition at line 62 of file kbperf.h.

References curDpi(), and dpi().

```
62 { curDpi(dpi(newIdx)); }
```

Here is the call graph for this function:

12.35.4.11 void KbPerf::didLoad ( ) [signal]

Definition at line 134 of file moc_kbperf.cpp.

Referenced by load().

```
135 {
136     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
137 }
```

Here is the caller graph for this function:

12.35.4.12 QPoint KbPerf::dpi (int *index*) const [inline]

Definition at line 48 of file kbperf.h.

References DPI_COUNT, dpiX, and dpiY.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), curDpiIdx(), KeyAction::keyEvent(), Kb::readNotify(), RebindWidget::setBind(), MPerfWidget::setPerf(), MPerfWidget::sliderXMoved(), MPerfWidget::sliderYMoved(), and sniperDpi().

```
48 { if(index < 0 || index >= DPI_COUNT) return QPoint(); return QPoint(
      dpiX[index], dpiY[index]); }
```

Here is the caller graph for this function:

12.35.4.13 void KbPerf::dpi (int *index,* const QPoint & *newValue*)

Definition at line 249 of file kbperf.cpp.

References _needsSave, _needsUpdate, DPI_COUNT, dpiCurIdx, dpiCurX, dpiCurY, dpiX, and dpiY.

```
249                                                 {
250     if(index < 0 || index >= DPI_COUNT)
251         return;
252     dpiX[index] = newValue.x();
253     dpiY[index] = newValue.y();
254     // Update current DPI if needed
255     if(dpiCurIdx == index){
256         dpiCurX = newValue.x();
257         dpiCurY = newValue.y();
258     }
259     _needsUpdate = _needsSave = true;
260 }
```

12.35.4.14 void KbPerf::dpi (int *index*, int *newValue*) [inline]

Definition at line 53 of file kbperf.h.

References dpi().

Referenced by dpi().

```
53 { dpi(index, QPoint(newValue, newValue)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.15 QColor KbPerf::dpiColor (int *index*) const [inline]

Definition at line 82 of file kbperf.h.

References dpiClr.

Referenced by MPerfWidget::colorChanged(), Kb::readNotify(), MPerfWidget::setPerf(), and update().

```
82 { return dpiClr[index]; }
```

Here is the caller graph for this function:

12.35.4.16 void KbPerf::dpiColor (int *index*, const QColor & *newColor*) [inline]

Definition at line 83 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiClr.

```
83 { dpiClr[index] = newColor; _needsUpdate = _needsSave = true; }
```

12.35.4.17 void KbPerf::dpiDown ( )

Definition at line 319 of file kbperf.cpp.

References curDpiIdx(), dpiOn, and SNIPER.

Referenced by KeyAction::keyEvent().

```
319                     {
320     int idx = curDpiIdx();
321     do {
322         idx--;
323         if(idx <= SNIPER)
324             return;
325     } while(!dpiOn[idx]);
326     curDpiIdx(idx);
327 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.18 bool KbPerf::dpiEnabled (int *index*) const [inline]

Definition at line 66 of file kbperf.h.

References dpiOn.

Referenced by MPerfWidget::enableChanged(), Kb::readNotify(), and MPerfWidget::setPerf().

```
66 { return dpiOn[index]; }
```

Here is the caller graph for this function:

12.35.4.19 void KbPerf::dpiEnabled (int *index*, bool *newEnabled*) [inline]

Definition at line 67 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiOn.

```
67 { if(index <= 0) return; dpiOn[index] = newEnabled; _needsUpdate =
      _needsSave = true; }
```

12.35.4.20 bool KbPerf::dpiIndicator ( ) const [inline]

Definition at line 79 of file kbperf.h.

References _dpiIndicator.

Referenced by MPerfWidget::on_indicBox_clicked(), and MPerfWidget::setPerf().

```
79 { return _dpiIndicator; }
```

Here is the caller graph for this function:

12.35.4.21 void KbPerf::dpiIndicator (bool *newDpiIndicator*) [inline]

Definition at line 80 of file kbperf.h.

References _dpiIndicator, and _needsSave.

```
80 { _dpiIndicator = newDpiIndicator; _needsSave = true; }
```

12.35.4.22 void KbPerf::dpiUp ( )

Definition at line 308 of file kbperf.cpp.

References curDpiIdx(), DPI_COUNT, and dpiOn.

Referenced by KeyAction::keyEvent().

```
308                 {
309     // Scroll past disabled DPIs and choose the next one up
310     int idx = curDpiIdx();
311     do {
312         idx++;
313         if(idx >= DPI_COUNT)
314             return;
315     } while(!dpiOn[idx]);
316     curDpiIdx(idx);
317 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.23 void KbPerf::getIndicator (indicator *index*, QColor & *color1*, QColor & *color2*, QColor & *color3*, bool & *software_enable*, i_hw & *hardware_enable*)

Definition at line 329 of file kbperf.cpp.

References HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, and NONE.

Referenced by KPerfWidget::setPerf().

```
329                                 {
330     if(index < 0 || index >= I_COUNT)
331         return;
332     color1 = iColor[index][0];
333     color2 = iColor[index][1];
334     if(index == LIGHT)
335         color3 = light100Color;
336     else if(index == MUTE)
337         color3 = muteNAColor;
338     else
339         color3 = QColor();
340     software_enable = iEnable[index];
341     hardware_enable = (index <= HW_IMAX ? hwIType[index] : NONE);
342 }
```

Here is the caller graph for this function:

12.35.4.24 float KbPerf::iOpacity ( ) const [inline]

Definition at line 76 of file kbperf.h.

References _iOpacity.

Referenced by KPerfWidget::on_intensityBox_valueChanged(), MPerfWidget::on_spinBox_valueChanged(), KPerfWidget::setPerf(), and MPerfWidget::setPerf().

```
76 { return _iOpacity; }
```

Here is the caller graph for this function:

12.35.4.25 void KbPerf::iOpacity (float *newIOpacity*) [inline]

Definition at line 77 of file kbperf.h.

References _iOpacity, and _needsSave.

```
77 { _iOpacity = newIOpacity; _needsSave = true; }
```

12.35.4.26 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:

12.35.4.27 void KbPerf::liftHeight (height *newHeight*)

Definition at line 361 of file kbperf.cpp.

References _liftHeight, _needsSave, _needsUpdate, and HIGH.

```
361                                     {
362     if(newHeight < LOW || newHeight > HIGH)
363         return;
364     _liftHeight = newHeight;
365     _needsUpdate = _needsSave = true;
366 }
```

12.35.4.28 KbLight * KbPerf::light ( ) const [private]

Definition at line 104 of file kbperf.cpp.

References KbMode::light(), and modeParent().

Referenced by applyIndicators(), and lightIndicator().

```
104                             {
105     return modeParent()->light();
106 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.29 void KbPerf::lightIndicator (const char * *name*, QRgb *rgba*) [private]

Definition at line 425 of file kbperf.cpp.

References _iOpacity, light(), and KbLight::setIndicator().

Referenced by applyIndicators().

```
425                                                 {
426     int a = round(qAlpha(rgba) * _iOpacity);
427     if(a <= 0)
428         return;
429     light()->setIndicator(name, qRgba(qRed(rgba), qGreen(rgba), qBlue(rgba), a));
430 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.30 void KbPerf::load (CkbSettings & *settings*)

Definition at line 108 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _iOpacity, _liftHeight, _needsSave, CkbSettings::contains(), CkbSettings::containsGroup(), curDpi(), didLoad(), DPI_COUNT, dpiClr, dpiLastIdx, dpiOn, dpiX, dpiY, HIGH, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MEDIUM, MODE, MUTE, muteNAColor, NORMAL, OTHER, pushedDpis, runningPushIdx, and CkbSettings::value().

Referenced by KbMode::KbMode().

```
108                                         {
109     pushedDpis.clear();
110     runningPushIdx = 1;
111     _needsSave = false;
112     bool readIndicators = true;
113     if(!settings.containsGroup("Performance/Indicators")){
114         // Read old indicator settings from the lighting group, if present
115         // (ckb <= v0.2.0)
116         SGroup group(settings, "Lighting");
117         if(settings.contains("InactiveIndicators")){
118             bool inOk = false;
119             int inactive = settings.value("InactiveIndicators").toInt(&inOk);
120             if(!inOk || inactive > 2)
121                 inactive = 2;
122             if(inactive == 1)
123                 _iOpacity = 0.75f;
124             else if(inactive == 0)
125                 _iOpacity = 0.5f;
126             else if(inactive < 0){
127                 // Indicators disabled
128                 iEnable[MODE] = iEnable[MACRO] = iEnable[
    LIGHT] = iEnable[LOCK]  = iEnable[MUTE] = false;
129             }
130             bool showMute = (settings.value("ShowMute").toInt(&inOk) != 0);
131             if(inOk && !showMute)
132                 iEnable[MUTE] = false;
133             readIndicators = false;
134         }
135     }
136     SGroup group(settings, "Performance");
137     // Read DPI settings
138     {
139         SGroup group(settings, "DPI");
140         for(int i = 0; i < DPI_COUNT; i++){
141             QString iStr = QString::number(i);
142             QPoint value = settings.value(iStr).toPoint();
143             if(value.isNull())
144                 continue;
145             dpiX[i] = value.x(); dpiY[i] = value.y();
146             QColor color = settings.value(iStr + "RGB").toString();
147             if(color.isValid())
148                 dpiClr[i] = color;
149             if(i != 0)
150                 dpiOn[i] = !settings.value(iStr + "Disabled").toBool();
151         }
152         QColor color = settings.value("6RGB").toString();
153         if(color.isValid())
154             dpiClr[OTHER] = color;
155         if(settings.contains("LastIdx")){
156             dpiLastIdx = settings.value("LastIdx").toInt();
157             if(dpiLastIdx >= DPI_COUNT || dpiLastIdx < 0)
158                 dpiLastIdx = 1;
159         }
160         QPoint value = settings.value("Current").toPoint();
161         if(!value.isNull())
```

```
            curDpi(value);
    }
    // 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:

12.35.4.31 KbMode* KbPerf::modeParent ( ) const [inline], [private]

Definition at line 124 of file kbperf.h.

Referenced by bind(), and light().

```
124 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:

12.35.4.32 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:

12.35.4.33 const KbPerf & KbPerf::operator= (const KbPerf & *rhs*)

Definition at line 78 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _iOpacity, _liftHeight, _needsSave, _needsUpdate, curDpi(), DPI_COUNT, dpiClr, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, iEnable, light100Color, muteNAColor, pushedDpis, and runningPushIdx.

```
78                                                  {
79     dpiCurX = other.dpiCurX; dpiCurY = other.dpiCurY; dpiCurIdx = other.dpiCurIdx;
      dpiLastIdx = other.dpiLastIdx; runningPushIdx = 1;
80     _iOpacity = other._iOpacity; light100Color = other.light100Color;
      muteNAColor = other.muteNAColor; _dpiIndicator = other._dpiIndicator;
81     _liftHeight = other._liftHeight; _angleSnap = other._angleSnap;
82     _needsUpdate = true; _needsSave = true;
83     memcpy(dpiX, other.dpiX, sizeof(dpiX));
84     memcpy(dpiY, other.dpiY, sizeof(dpiY));
85     for(int i = 0; i < DPI_COUNT + 1; i++)
86         dpiClr[i] = other.dpiClr[i];
87     memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
88     for(int i = 0; i < I_COUNT; i++){
89         iColor[i][0] = other.iColor[i][0];
90         iColor[i][1] = other.iColor[i][1];
91     }
92     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
    if(!other.pushedDpis.isEmpty())
        curDpi(other.pushedDpis[0]);
    return other;
}
```

Here is the call graph for this function:

12.35.4.34 void KbPerf::popDpi (quint64 *pushIdx*)

Definition at line 296 of file kbperf.cpp.

References _curDpi(), _needsSave, _needsUpdate, map_last, and pushedDpis.

Referenced by curDpi(), and KeyAction::keyEvent().

```
296                                 {
297     if(pushIdx == 0 || !pushedDpis.contains(pushIdx))
298         return;
299     pushedDpis.remove(pushIdx);
300     // Set the DPI to the last-pushed value still on the stack
301     _curDpi(map_last(pushedDpis));
302     // If all values have been popped, remove the original DPI
303     if(pushedDpis.count() == 1)
304         pushedDpis.clear();
305     _needsUpdate = _needsSave = true;
306 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.35 quint64 KbPerf::pushDpi (const QPoint & *newDpi*)

Definition at line 284 of file kbperf.cpp.

References _curDpi(), curDpi(), pushedDpis, and runningPushIdx.

Referenced by KeyAction::keyEvent(), and pushSniper().

```
284                                                 {
285     if(pushedDpis.isEmpty())
286         // Push original DPI
287         pushedDpis[0] = curDpi();
288     quint64 index = runningPushIdx++;
289     if(runningPushIdx == 0)
290         runningPushIdx = 1;
291     pushedDpis[index] = newDpi;
292     _curDpi(newDpi);
293     return index;
294 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.36 quint64 KbPerf::pushDpi (int *newDpi*) [inline]

Definition at line 71 of file kbperf.h.

References pushDpi().

Referenced by pushDpi().

```
71 { return pushDpi(QPoint(newDpi, newDpi)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.37 quint64 KbPerf::pushSniper ( ) [inline]

Definition at line 72 of file kbperf.h.

References pushDpi(), and sniperDpi().

Referenced by KeyAction::keyEvent().

```
72 { return pushDpi(sniperDpi()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.38 void KbPerf::save (CkbSettings & *settings*)

Definition at line 207 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _liftHeight, _needsSave, DPI_COUNT, dpiClr, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, OTHER, pushedDpis, and CkbSettings::setValue().

Referenced by KbMode::save().

```
207                                     {
208     _needsSave = false;
209     SGroup group(settings, "Performance");
210     {
211         SGroup group(settings, "DPI");
212         for(int i = 0; i < DPI_COUNT; i++){
213             QString iStr = QString::number(i);
214             settings.setValue(iStr, QPoint(dpiX[i], dpiY[i]));
215             settings.setValue(iStr + "RGB", dpiClr[i].name(QColor::HexArgb));
216             if(i != 0)
217                 settings.setValue(iStr + "Disabled", !dpiOn[i]);
218         }
219         settings.setValue("6RGB", dpiClr[OTHER].name(QColor::HexArgb));
220         settings.setValue("LastIdx", dpiLastIdx);
221         int curX = dpiCurX, curY = dpiCurY;
222         // Ignore any pushed modes
223         if(pushedDpis.count() > 0){
224             curX = pushedDpis.value(0).x();
225             curY = pushedDpis.value(0).y();
226         }
227         settings.setValue("Current", QPoint(curX, curY));
228     }
229     settings.setValue("LiftHeight", _liftHeight);
230     settings.setValue("AngleSnap", _angleSnap);
231     {
232         SGroup group(settings, "Indicators");
233         settings.setValue("DPI", _dpiIndicator);
234         for(int i = 0; i < I_COUNT; i++){
235             SGroup group(settings, QString::number(i));
236             settings.setValue("RGB0", iColor[i][0].name(QColor::HexArgb));
237             settings.setValue("RGB1", iColor[i][1].name(QColor::HexArgb));
238             if(i == LIGHT)
239                 settings.setValue("RGB2", light100Color.name(QColor::HexArgb));
240             else if(i == MUTE)
241                 settings.setValue("RGB2", muteNAColor.name(QColor::HexArgb));
242             settings.setValue("Enable", iEnable[i]);
243             if(i <= HW_IMAX)
244                 settings.setValue("Hardware", (int)hwIType[i]);
245         }
246     }
247 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.39 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 344 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().

```
344                                                     {
345     if(index < 0 || index >= I_COUNT)
346         return;
347     iColor[index][0] = color1;
348     iColor[index][1] = color2;
349     if(index == LIGHT)
350         light100Color = color3;
351     else if(index == MUTE)
352         muteNAColor = color3;
353     iEnable[index] = software_enable;
354     if(hardware_enable == NONE)
355         hardware_enable = NORMAL;
356     if(index <= HW_IMAX)
357         hwIType[index] = hardware_enable;
358     _needsUpdate = _needsSave = true;
359 }
```

Here is the caller graph for this function:

12.35.4.40 void KbPerf::setNeedsUpdate ( ) [inline]

Definition at line 113 of file kbperf.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
113 { _needsUpdate = true; }
```

Here is the caller graph for this function:

12.35.4.41 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:

12.35.4.42 QPoint KbPerf::sniperDpi ( ) const [inline]

Definition at line 50 of file kbperf.h.

References dpi(), and SNIPER.

Referenced by pushSniper().

```
50 { return dpi(SNIPER); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.43 void KbPerf::sniperDpi (const QPoint & *newValue*) [inline]

Definition at line 51 of file kbperf.h.

References dpi(), and SNIPER.

```
51 { dpi(SNIPER, newValue); }
```

Here is the call graph for this function:

12.35.4.44 void KbPerf::sniperDpi (int *newValue*) [inline]

Definition at line 54 of file kbperf.h.

References sniperDpi().

Referenced by sniperDpi().

```
54 { sniperDpi(QPoint(newValue, newValue)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.45 void KbPerf::update (QFile & *cmd*, int *notifyNumber*, bool *force* = `false`, bool *saveCustomDpi* = `true`)

Definition at line 373 of file kbperf.cpp.

References _angleSnap, _liftHeight, _needsUpdate, DPI_COUNT, dpiColor(), dpiCurIdx, dpiCurX, dpiCurY, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, OFF, ON, and settingsUpdated().

Referenced by Kb::frameUpdate(), and Kb::hwSave().

```
373                                                                                 {
374     if(!force && !_needsUpdate)
375         return;
376     emit settingsUpdated();
377     _needsUpdate = false;
378     // Save DPI stage 0 (sniper)
379     cmd.write(QString("dpi 0:%1,%2").arg(dpiX[0]).arg(dpiY[0]).toLatin1());
380     // If the mouse is set to a custom DPI, save it in stage 1
381     int stage = dpiCurIdx;
382     if(stage < 0 && saveCustomDpi){
383         stage = 1;
384         cmd.write(QString(" 1:%1,%2").arg(dpiCurX).arg(dpiCurY).toLatin1());
385     } else {
386         // Otherwise, save stage 1 normally
387         if(!dpiOn[1] && stage != 1)
388             cmd.write(" 1:off");
389         else
390             cmd.write(QString(" 1:%1,%2").arg(dpiX[1]).arg(dpiY[1]).toLatin1());
391     }
392     // Save stages 1 - 5
393     for(int i = 2; i < DPI_COUNT; i++){
394         if(!dpiOn[i] && stage != i)
395             cmd.write(QString(" %1:off").arg(i).toLatin1());
396         else
397         cmd.write(QString(" %1:%2,%3").arg(i).arg(dpiX[i]).arg(dpiY[i]).toLatin1());
398     }
399     // Save stage selection, lift height, and angle snap
400     cmd.write(QString(" dpisel %1 lift %2 snap %3").arg(stage).arg(
      _liftHeight).arg(_angleSnap ? "on" : "off").toLatin1());
401     // Save DPI colors
402     cmd.write(" rgb");
403     for(int i = 0; i < DPI_COUNT; i++){
404         QColor color = dpiColor(i);
405         cmd.write(" dpi");
406         char output[9];
407         snprintf(output, sizeof(output), "%1d:%02x%02x%02x", i, color.red(), color.green(), color.blue());
408         cmd.write(output);
409     }
410     // Enable indicator notifications
411     cmd.write(QString("\n@%1 inotify all").arg(notifyNumber).toLatin1());
412     // Set indicator state
413     const char* iNames[HW_I_COUNT] = { "num", "caps", "scroll" };
414     for(int i = 0; i < HW_I_COUNT; i++){
415         if(hwIType[i] == ON)
416             cmd.write(" ion ");
417         else if(hwIType[i] == OFF)
418             cmd.write(" ioff ");
419         else
420             cmd.write(" iauto ");
421         cmd.write(iNames[i]);
422     }
423 }
```

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 158 of file kbperf.h.

Referenced by angleSnap(), load(), operator=(), save(), and update().

12.35.5.2 bool KbPerf::_dpiIndicator [private]

Definition at line 154 of file kbperf.h.

Referenced by applyIndicators(), dpiIndicator(), load(), operator=(), and save().

12.35.5.3 float KbPerf::_iOpacity [private]

Definition at line 149 of file kbperf.h.

Referenced by applyIndicators(), iOpacity(), lightIndicator(), load(), and operator=().

12.35.5.4 height KbPerf::_liftHeight [private]

Definition at line 157 of file kbperf.h.

Referenced by liftHeight(), load(), operator=(), save(), and update().

12.35.5.5 bool KbPerf::_needsSave [private]

Definition at line 160 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), dpi(), dpiColor(), dpiEnabled(), dpiIndicator(), iOpacity(), liftHeight(), load(), needsSave(), operator=(), popDpi(), save(), and setIndicator().

12.35.5.6 bool KbPerf::_needsUpdate [private]

Definition at line 160 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), 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 _curDpi(), dpi(), 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 QColor KbPerf::dpiClr[DPI_COUNT+1] [private]

Definition at line 135 of file kbperf.h.

Referenced by applyIndicators(), dpiColor(), KbPerf(), load(), operator=(), and save().

12.35.5.11 int KbPerf::dpiCurIdx [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpiIdx(), dpi(), KbPerf(), operator=(), and update().

12.35.5.12 int KbPerf::dpiCurX [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpi(), dpi(), KbPerf(), operator=(), save(), and update().

12.35.5.13 int KbPerf::dpiCurY [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpi(), dpi(), KbPerf(), operator=(), save(), and update().

12.35.5.14 int KbPerf::dpiLastIdx [private]

Definition at line 138 of file kbperf.h.

Referenced by _curDpi(), KbPerf(), load(), operator=(), and save().

12.35.5.15 bool KbPerf::dpiOn[DPI_COUNT] [private]

Definition at line 136 of file kbperf.h.

Referenced by dpiDown(), dpiEnabled(), dpiUp(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.16 int KbPerf::dpiX[DPI_COUNT] [private]

Definition at line 132 of file kbperf.h.

Referenced by _curDpi(), dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.17 int KbPerf::dpiY[DPI_COUNT] [private]

Definition at line 133 of file kbperf.h.

Referenced by _curDpi(), dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.18 const int KbPerf::HW_I_COUNT = (int)HW_IMAX + 1 [static]

Definition at line 104 of file kbperf.h.

Referenced by KbPerf(), and update().

12.35.5.19 i_hw KbPerf::hwiType[HW_I_COUNT] [private]

Definition at line 153 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), setIndicator(), and update().

12.35.5.20 const int KbPerf::I_COUNT = (int)MUTE + 1 [static]

Definition at line 104 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.21 QColor KbPerf::iColor[I_COUNT][2] [private]

Definition at line 150 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.22 bool KbPerf::iEnable[I_COUNT] [private]

Definition at line 152 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.23 QColor KbPerf::light100Color [private]

Definition at line 151 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.24 QColor KbPerf::muteNAColor [private]

Definition at line 151 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.25 const int KbPerf::OTHER = DPI_COUNT [static]

Definition at line 81 of file kbperf.h.

Referenced by applyIndicators(), MPerfWidget::colorChanged(), load(), save(), and MPerfWidget::setPerf().

12.35.5.26 QMap<quint64, QPoint> KbPerf::pushedDpis [private]

Definition at line 142 of file kbperf.h.

Referenced by curDpi(), KbPerf(), load(), operator=(), popDpi(), pushDpi(), and save().

12.35.5.27 uint KbPerf::runningPushIdx [private]

Definition at line 143 of file kbperf.h.

Referenced by load(), operator=(), and pushDpi().

12.35.5.28 const int KbPerf::SNIPER = 0 [static]

Definition at line 46 of file kbperf.h.

Referenced by 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().

```
74     {
75         KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles",
       Q_NULLPTR));
76     } // 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().

```
35     {
36         if (KbProfileDialog->objectName().isEmpty())
37             KbProfileDialog->setObjectName(QStringLiteral("KbProfileDialog"));
38         KbProfileDialog->resize(108, 152);
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);
45
46         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
       QSizePolicy::Minimum);
47
48         gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);
49
50         profileList = new RListWidget(KbProfileDialog);
51         profileList->setObjectName(QStringLiteral("profileList"));
52         profileList->setContextMenuPolicy(Qt::CustomContextMenu);
53         profileList->setFrameShadow(QFrame::Plain);
54         profileList->setIconSize(QSize(24, 24));
55
56         gridLayout->addWidget(profileList, 0, 1, 1, 1);
57
58         buttonBox = new QDialogButtonBox(KbProfileDialog);
59         buttonBox->setObjectName(QStringLiteral("buttonBox"));
60         buttonBox->setOrientation(Qt::Horizontal);
61         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
62
63         gridLayout->addWidget(buttonBox, 1, 0, 1, 3);
64
65
66         retranslateUi(KbProfileDialog);
67         QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
68         QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));
69
70         QMetaObject::connectSlotsByName(KbProfileDialog);
71     } // 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().

```
326                                 {
327     if(!KbFirmware::hasDownloaded())
328         ui->fwUpdButton->setText("Check for updates");
329     else {
330         float newVersion = KbFirmware::versionForBoard(
      device->features);
331         float oldVersion = device->firmware.toFloat();
332         if(newVersion <= 0.f || newVersion <= oldVersion)
333             ui->fwUpdButton->setText("Up to date");
334         else
335             ui->fwUpdButton->setText(tr("Upgrade to v%1").arg(QString::number(newVersion, 'f',
       2)));
336     }
337 }
```

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().

```
73                                 {
74     // Clear profile list and rebuild
75     KbProfile* hwProfile = device->hwProfile(), *currentProfile =
      device->currentProfile();
76     ui->profileBox->clear();
77     int i = 0;
78     foreach(KbProfile* profile, device->profiles()){
79         ui->profileBox->addItem((profile == hwProfile) ? QIcon(":/img/icon_profile_hardware.png
      ") : QIcon(":/img/icon_profile.png"),
80                                 profile->name());
81         if(profile == currentProfile)
82             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 300 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 277 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(933, 323);
        QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(KbWidget->sizePolicy().hasHeightForWidth());
        KbWidget->setSizePolicy(sizePolicy);
        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 sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(18);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
```

```
        profileBox->setSizePolicy(sizePolicy1);
        profileBox->setIconSize(QSize(24, 24));

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

        tabWidget = new QTabWidget(KbWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        QSizePolicy sizePolicy2(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy2.setHorizontalStretch(82);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
         tabWidget->setSizePolicy(sizePolicy2);
         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"));
         sizePolicy.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
         lightWidget->setSizePolicy(sizePolicy);

         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"));
         sizePolicy.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
         bindWidget->setSizePolicy(sizePolicy);

         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"));
         QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
         sizePolicy4.setHorizontalStretch(0);
         sizePolicy4.setVerticalStretch(0);
         sizePolicy4.setHeightForWidth(kPerfWidget->sizePolicy().hasHeightForWidth());
         kPerfWidget->setSizePolicy(sizePolicy4);

         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"));
         sizePolicy4.setHeightForWidth(mPerfWidget->sizePolicy().hasHeightForWidth());
         mPerfWidget->setSizePolicy(sizePolicy4);

         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 sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy5.setHorizontalStretch(18);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
        modesList->setSizePolicy(sizePolicy5);
        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 sizePolicy6(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy6.setHorizontalStretch(18);
        sizePolicy6.setVerticalStretch(0);
        sizePolicy6.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
        hwSaveButton->setSizePolicy(sizePolicy6);

        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(), and patchANSI().

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(), and patchANSI().

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). In this Implementation, strip the delay information.

- 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)
- 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_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 445 of file keyaction.cpp.

Referenced by keyEvent().

```
                                {
#ifdef USE_LIBX11
    // Try to get the current display from the X server
    char* display_name = XDisplayName(NULL);
    if(!display_name)
        return;
    Display* display = XOpenDisplay(display_name);
    if(!display)
        return;
    char* display_string = DisplayString(display);
    if(!display_string || strlen(display_string) == 0){
        XCloseDisplay(display);
        return;
    }
    size_t envstr_size = strlen(display_string) + 4;
    char* envstr = new char[envstr_size];
    strncpy(envstr, display_string, envstr_size);
    envstr[envstr_size - 1] = 0;

    Window root_window = XRootWindow(display, DefaultScreen(display));
    Window root_window_ret, child_window_ret, window;
    XWindowAttributes attr;
    int root_x, root_y, win_x, win_y;
    unsigned int mask_ret;

    // Find the screen which currently has the mouse
    XQueryPointer(display, root_window, &root_window_ret, &child_window_ret, &root_x, &root_y, &win_x, &
win_y, &mask_ret);
    if(child_window_ret == (Window)NULL)
        window = root_window_ret;
    else
        window = child_window_ret;
    XGetWindowAttributes(display, window,  &attr);

    char* ptr = strchr(envstr, ':');
    if(ptr){
        ptr = strchr(ptr, '.');
        if(ptr)
            *ptr = '\0';
        char buf[16];
        snprintf(buf, sizeof(buf), ".%i", XScreenNumberOfScreen(attr.screen));
        strncat(envstr, buf, envstr_size - 1 - strlen(envstr));

        // Update environment variable
        setenv("DISPLAY", envstr, 1);
    }

    delete[] envstr;
    XCloseDisplay(display);
#endif
}
```

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 175 of file keyaction.cpp.

References ANIM_KRSTOP, and ANIM_ONCE.

Referenced by RebindWidget::applyChanges().

```
                                                                    {
    int flags = (onlyOnce ? ANIM_ONCE : 0) | (stopOnRelease ?
ANIM_KRSTOP : 0);
    return "$anim:" + guid.toString() + QString("+%1").arg(flags);
}
```

Here is the caller graph for this function:

12.42.4.3 QUuid KeyAction::animInfo (bool & *onlyOnce,* bool & *stopOnRelease*) const

Definition at line 216 of file keyaction.cpp.

References _value, ANIM_KRSTOP, ANIM_ONCE, and isAnim().

Referenced by keyEvent(), and RebindWidget::setSelection().

```
216                                                                    {
217     if(!isAnim())
218         return QUuid();
219     QString param = _value.mid(6);
220     QStringList split = param.split("+");
221     if(split.length() < 2)
222         return QUuid();
223     QUuid id = split[0];
224     int flags = split[1].toInt();
225     onlyOnce = !!(flags & ANIM_ONCE);
226     stopOnRelease = !!(flags & ANIM_KRSTOP);
227     return id;
228 }
```

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*) [static]

Definition at line 44 of file keyaction.cpp.

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 "$lock:0";
68     // DPI buttons
69     if(key == "dpiup")
70         return "$dpi:-2";
71     if(key == "dpidn")
72         return "$dpi:-1";
73     if(key == "sniper")
74         return "$dpi:0";
75     // Everything else is a standard keypress
76     return key;
77 }
```

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 153 of file keyaction.cpp.

References DPI_CUSTOM.

Referenced by RebindWidget::applyChanges().

```
153                                                                 {
154     QString action = tr("$dpi:%1").arg(level);
155     if(level == DPI_CUSTOM)
156         action += tr("+%1+%2").arg(customX).arg(customY);
157     return action;
158 }
```

Here is the caller graph for this function:

12.42.4.6 int KeyAction::dpiInfo (QPoint & *custom*) const

Definition at line 202 of file keyaction.cpp.

References _value, DPI_CUSTOM, and isDPI().

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

```
202                                                 {
203     if(!isDPI())
204         return 0;
205     QString param = _value.mid(5);
206     QStringList lxy = param.split("+");
207     int level = lxy[0].toInt();
208     if(level == DPI_CUSTOM){
209         if(lxy.length() != 3)
210             return 0;
211         custom = QPoint(lxy[1].toInt(), lxy[2].toInt());
212     }
213     return level;
214 }
```

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 230 of file keyaction.cpp.

References _value, and isSpecial().

Referenced by KbBind::update().

```
230                                     {
231     if(isSpecial())
232         return "";
233     return _value;
234 }
```

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 79 of file keyaction.cpp.

References _value, DPI_CUSTOM, 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.

```
79                                                      {
80     if(_value.isEmpty())
81         return "Unbound";
82     QStringList parts = _value.split(":");
83     QString prefix = parts[0];
84     if(parts.length() < 2){
85         KeyMap::Layout layout = map.layout();
86         QString name = KeyMap::friendlyName(_value, layout);
87         if(name.isEmpty())
88             return "(Unknown)";
89         return name;
90     }
91     int suffix = parts[1].toInt();
92     if(prefix == "$mode"){
93         switch(suffix){
94         case MODE_PREV:
95         case MODE_PREV_WRAP:
96             return "Switch to previous mode";
97         case MODE_NEXT:
98         case MODE_NEXT_WRAP:
99             return "Switch to next mode";
100         default:
101             return tr("Switch to mode %1").arg(suffix + 1);
102         }
103     } else if(prefix == "$dpi"){
104         // Split off custom parameters (if any)
105         int level = parts[1].split("+")[0].toInt();
106         switch(level){
107         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(), RebindWidget::setBind(), 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.

< a macro definition may have 4 or 5 elements. Later might be more.

Definition at line 55 of file keyaction.h.

References _value, and isMacro().

Referenced by macroContent(), macroDisplay(), macroLine(), macroTiming(), RebindWidget::setSelection(), and KbBind::update().

```
55                                          {
56          if (isMacro()) {
57              QStringList ret;
58              ret =_value.split(":");
59              return ((ret.count() >= 4) && (ret.count() <= 5));
60          } else {
61              return false;
62          }
63      }
```

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 236 of file keyaction.cpp.

References _value, adjustDisplay(), anim, animInfo(), KbProfile::currentMode(), Kb::currentProfile(), KbBind::devParent(), KbLight::dimming(), KbPerf::dpi(), KbPerf::DPI_COUNT, DPI_CUSTOM, DPI_DOWN, DPI_SNIPER, DPI_UP, 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().

```
236                                                 {
237     // No need to respond to standard actions
238     if(!isSpecial())
239         return;
240     QStringList parts = _value.split(":");
241     if(parts.length() < 2)
242         return;
243     QString prefix = parts[0];
244     int suffix = parts[1].toInt();
245     if(prefix == "$mode"){
246         if(!down)
247             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 == "$dpi"){
        KbPerf* perf = bind->perf();
        int level = parts[1].split("+")[0].toInt();
        switch(level){
        case DPI_UP:
            if(!down)
                return;
            perf->dpiUp();
            break;
        case DPI_DOWN:
            if(!down)
                return;
            perf->dpiDown();
            break;
        case DPI_SNIPER:
            if(down)
                sniperValue = perf->pushSniper();
            else {
                perf->popDpi(sniperValue);
                sniperValue = 0;
            }
            break;
        case DPI_CUSTOM:{
            QPoint xy;
            dpiInfo(xy);
            if(xy.x() <= 0 || xy.y() <= 0)
                break;
            if(down)
                sniperValue = perf->pushDpi(xy);
            else {
                perf->popDpi(sniperValue);
                sniperValue = 0;
            }
            break;
        }
        default:
            if(level < 1 || level >= KbPerf::DPI_COUNT
                    || !down)
                return;
            perf->dpi(level);
            break;
        }
    } else if(prefix == "$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 160 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
160                                     {
```

```
161     return QString("$light:%1").arg(type);
162 }
```

Here is the caller graph for this function:

12.42.4.22 QString KeyAction::lockAction (int *type* = LOCK_TOGGLE) [static]

Definition at line 164 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
164                                     {
165     return QString("$lock:%1").arg(type);
166 }
```

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 504 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
504                                         {
505     return QString ("$macro:%1").arg(macroDef);
506 }
```

Here is the caller graph for this function:

12.42.4.24 QString KeyAction::macroContent ( ) const [inline]

Returns

QString macroContent

Definition at line 87 of file keyaction.h.

References _value, and isValidMacro().

Referenced by RebindWidget::setSelection(), and KbBind::update().

```
87                                          {
88          // return isValidMacro() ? _value.split(":")[1].replace(QRegExp("=\\d+"), "") : ""; ///< Is used if
        we have ckb without delay handling
89          return isValidMacro() ? _value.split(":")[1] : "";
90      }
```

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 437 of file keyaction.cpp.

References _value, isMacro(), and isValidMacro().

Referenced by RebindWidget::setSelection().

```
437                                 {
438     qDebug() << "isMacro returns" << (isMacro() ? "true" : "false");
439     qDebug() << "isValidMacro returns" << (isValidMacro() ? "true" : "false");
440     QStringList ret =_value.split(":");
441     qDebug() << "Macro definition contains" << ret.count() << "elements";
442     qDebug() << "Macro definition is" << _value;
443 }
```

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 4 or 5 parts are returned in one QString. If no definition exists, return ""

Definition at line 43 of file keyaction.h.

References _value, and isMacro().

```
43                                          {
44         return isMacro() ? _value.right(_value.length()-1) : "";
45     }
```

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().

```
73                                          {
74          if (isValidMacro()) {
75              QStringList ret =_value.split(":");
76              ret.removeFirst();
77              return ret;
78          } else return QStringList();
79      }
```

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 99 of file keyaction.h.

References _value, and isValidMacro().

Referenced by RebindWidget::setSelection().

```
99                                      {
100         if (isValidMacro()) {
101             QStringList rval = _value.split(":");
102             return (rval.length() == 4)? rval[1] : rval[4];
103         }
104         return QString("");
105     }
```

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 149 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
149                                     {
150     return QString("$mode:%1").arg(mode);
151 }
```

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 168 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
168                                                                                                                {
169     // URL-encode the commands and place them in the string (":" and "+" are both replaced, so they won't
       interfere)
170     return "$program:" + QString::fromUtf8(QUrl::toPercentEncoding(onPress.trimmed())) + "+" +
      QString::fromUtf8(QUrl::toPercentEncoding(onRelease.trimmed())) + QString("+%1").arg(stop);
171 }
```

Here is the caller graph for this function:

12.42.4.34 int KeyAction::programInfo (QString & *onPress*, QString & *onRelease*) const

Definition at line 190 of file keyaction.cpp.

References _value, and isProgram().

Referenced by keyEvent(), and RebindWidget::setSelection().

```
190                                                                                                    {
191     if(!isProgram())
192         return 0;
193     QString param = _value.mid(9);
194     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 180 of file keyaction.cpp.

References _value.

Referenced by RebindWidget::setSelection().

```
180                                                 {
181     QStringList list = _value.split(":");
182     if(list.length() < 2){
183         parameter = INT_MIN;
184         return "";
185     }
186     parameter = list[1].toInt();
187     return list[0].replace("$", "");
188 }
```

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_DOWN = -1 [static]

Definition at line 127 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.4 const int KeyAction::DPI_SNIPER = 0 [static]

Definition at line 128 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.5 const int KeyAction::DPI_UP = -2 [static]

Definition at line 127 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.6 const int KeyAction::LIGHT_DOWN = 1 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.7 const int KeyAction::LIGHT_DOWN_WRAP = 3 [static]

Definition at line 132 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.8 const int KeyAction::LIGHT_UP = 0 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.9 const int KeyAction::LIGHT_UP_WRAP = 2 [static]

Definition at line 132 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.10 const int KeyAction::LOCK_OFF = 2 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.11 const int KeyAction::LOCK_ON = 1 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.12 const int KeyAction::LOCK_TOGGLE = 0 [static]

Definition at line 135 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.13 const int KeyAction::MODE_NEXT = -1 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.14 const int KeyAction::MODE_NEXT_WRAP = -3 [static]

Definition at line 124 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.15 const int KeyAction::MODE_PREV = -2 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.16 const int KeyAction::MODE_PREV_WRAP = -4 [static]

Definition at line 124 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.17 QProcess* KeyAction::preProgram [private]

Definition at line 192 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.18 const int KeyAction::PROGRAM_PR_INDEF = 0x00 [static]

Definition at line 138 of file keyaction.h.

12.42.5.19 const int KeyAction::PROGRAM_PR_KPSTOP = 0x02 [static]

Definition at line 138 of file keyaction.h.

Referenced by keyEvent().

12.42.5.20 const int KeyAction::PROGRAM_PR_KRSTOP = 0x01 [static]

Definition at line 138 of file keyaction.h.

Referenced by keyEvent().

12.42.5.21 const int KeyAction::PROGRAM_PR_MULTI = 0x04 [static]

Definition at line 138 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.22 const int KeyAction::PROGRAM_RE_INDEF = 0x00 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), and RebindWidget::setSelection().

12.42.5.23 const int KeyAction::PROGRAM_RE_KPSTOP = 0x20 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.24 const int KeyAction::PROGRAM_RE_MULTI = 0x40 [static]

Definition at line 139 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.25 QProcess* KeyAction::relProgram [private]

Definition at line 193 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.26 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, K65, K70, K95,
  STRAFE, M65, SABRE, SCIMITAR,
  _MODEL_MAX }
- enum Layout {
  NO_LAYOUT = -1, DK, EU, EU_DVORAK,
  GB, GB_DVORAK, US, US_DVORAK,
  FR, DE, IT, NO,
  PL, MX, ES, SE,
  _LAYOUT_MAX }

Public Member Functions

- bool isISO () 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 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 short vendor, const short product)

  KeyMap::getModel get the KeyMap::Model from the vendor / product special table. Use this function first, if you want to determine the firmware version to load or check.
- static Model getModel (const QString &name)

  KeyMap::getModel KeyMap model name.
- static QString getModel (Model model)

  KeyMap::getModel get the KeyMap name from the KeyMap::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

NO

PL

MX

ES

SE

_LAYOUT_MAX

Definition at line 65 of file keymap.h.

```
65                  {
66          NO_LAYOUT = -1,
67          DK,                     // Danish
68          EU,                     // English (EU)
69          EU_DVORAK,
70          GB,                     // English (UK)
71          GB_DVORAK,
72          US,                     // English (US)
73          US_DVORAK,
74          FR,                     // French
75          DE,                     // German
76          IT,                     // Italian
77          NO,                     // Norwegian
78          PL,                     // Polish (identical to US)
79          MX,                     // Spanish (Mexico/Latin America)
80          ES,                     // Spanish (Spain)
81          SE,                     // Swedish
82          _LAYOUT_MAX
83      };
```

12.43.2.2 enum KeyMap::Model

Enumerator

NO_MODEL

K65

K70

K95

STRAFE

M65

SABRE

SCIMITAR

_MODEL_MAX

Definition at line 51 of file keymap.h.

```
51                {
52        NO_MODEL = -1,
53        // Keyboard models
54        K65,
55        K70,
56        K95,
57        STRAFE,
58        // Mouse models
59        M65,
60        SABRE,
61        SCIMITAR,
62        _MODEL_MAX
63    };
```

12.43.3 Constructor & Destructor Documentation

12.43.3.1 KeyMap::KeyMap ( )

Definition at line 613 of file keymap.cpp.

Referenced by friendlyName(), and fromName().

```
613               :
614     keyWidth(0), keyHeight(0),
615     keyModel(NO_MODEL), keyLayout(NO_LAYOUT)
616 {}
```

Here is the caller graph for this function:

12.43.3.2 KeyMap::KeyMap (Model *_keyModel*, Layout *_keyLayout*)

Definition at line 607 of file keymap.cpp.

```
607                                                 :
608     _keys(getMap(_keyModel, _keyLayout)),
609     keyWidth(modelWidth(_keyModel)), keyHeight(
      modelHeight(_keyModel)),
610     keyModel(_keyModel), keyLayout(_keyLayout)
611 {}
```

12.43.4 Member Function Documentation

12.43.4.1 QStringList KeyMap::byPosition ( ) const

Definition at line 618 of file keymap.cpp.

References Key::x, x, Key::y, and y.

Referenced by RebindWidget::setBind().

```
618                                         {
619     // Use QMaps to order the keys
620     QMap<int, QMap<int, QString> > ordered;
621     QHashIterator<QString, Key> i(*this);
622     while(i.hasNext()){
623         i.next();
624         const Key& key = i.value();
625         ordered[key.y][key.x] = i.key();
626     }
627     // Merge them into a single list
628     QStringList result;
629     QMapIterator<int, QMap<int, QString> > y(ordered);
630     while(y.hasNext()){
631         y.next();
632         QMapIterator<int, QString> x(y.value());
633         while(x.hasNext()){
634             x.next();
635             result << x.value();
636         }
637     }
638     return result;
639 }
```

Here is the caller graph for this function:

12.43.4.2 bool KeyMap::contains (const QString & *name*) const [inline]

Definition at line 128 of file keymap.h.

References _keys.

Referenced by friendlyName(), and KbAnimWidget::on_keyButton_clicked().

```
128 { return _keys.contains(name); }
```

Here is the caller graph for this function:

12.43.4.3 uint KeyMap::count ( ) const [inline]

Definition at line 119 of file keymap.h.

References _keys.

Referenced by KeyWidget::map(), KbBindWidget::on_copyButton_clicked(), and KbBindWidget::on_resetButton_-clicked().

```
119 { 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 641 of file keymap.cpp.

References contains(), K95, KeyMap(), M65, map(), SCIMITAR, and STRAFE.

Referenced by KeyAction::friendlyName(), and RebindWidget::RebindWidget().

```
641                                                         {
642     // Try K95 map first
643     // FIXME: This is an odd function and probably should be refactored
644     // it would probably be best to remove the friendly names from the maps and have a completely separate
        name->friendlyName store
645     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();

    // 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 565 of file keymap.cpp.

References getLayout(), getModel(), and KeyMap().

Referenced by KbBind::load(), and KbLight::load().

```
565                                         {
566     QStringList list = name.trimmed().split(" ");
567     if(list.length() != 2)
568         return KeyMap();
569     return KeyMap(getModel(list[0]), getLayout(list[1]));
570 }
```

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 136 of file keymap.h.

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

```
136 { 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 409 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, MX, NO, NO_LAYOUT, PL, SE, US, and US_DVORAK.

Referenced by fromName(), SettingsWidget::on_layoutBox_activated(), SettingsWidget::SettingsWidget(), and strLayout().

```
409                                                 {
410     QString lower = name.toLower();
411     if(lower == "dk")
412         return DK;
413     if(lower == "eu")
414         return EU;
415     if(lower == "eu_dvorak")
416         return EU_DVORAK;
417     if(lower == "gb_dvorak")
418         return GB_DVORAK;
419     if(lower == "us")
420         return US;
421     if(lower == "us_dvorak")
422         return US_DVORAK;
423     if(lower == "fr")
424         return FR;
425     if(lower == "de")
426         return DE;
427     if(lower == "it")
428         return IT;
429     if(lower == "no")
430         return NO;
431     if(lower == "pl")
432         return PL;
433     if(lower == "mx")
434         return MX;
435     if(lower == "es")
436         return ES;
437     if(lower == "se")
438         return SE;
439     if(lower == "gb")
440         return GB;
441     return NO_LAYOUT;
442 }
```

Here is the caller graph for this function:

12.43.4.8 QString KeyMap::getLayout (KeyMap::Layout *layout*) [static]

Definition at line 444 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, MX, NO, PL, SE, US, and US_DVORAK.

```
{
    switch(layout){
    case DK:
        return "dk";
    case EU:
        return "eu";
    case EU_DVORAK:
        return "eu_dvorak";
    case GB:
        return "gb";
    case GB_DVORAK:
        return "gb_dvorak";
    case US:
        return "us";
    case US_DVORAK:
        return "us_dvorak";
    case FR:
        return "fr";
    case DE:
        return "de";
    case IT:
        return "it";
    case NO:
        return "no";
    case PL:
        return "pl";
    case MX:
        return "mx";
    case ES:
        return "es";
    case SE:
        return "se";
    default:
        return "";
    }
}
```

12.43.4.9 KeyMap::Model KeyMap::getModel (const short *vendor*, const short *myProduct*) [static]

Parameters

vendor	Corsair's vendor ID V_CORSAIR - just to be sure...
myProduct	the productID of your USB device

Returns

the corresponding KeyMap::Model if the v/p-combination could be found, NO_MODEL else.

Definition at line 504 of file keymap.cpp.

References firmwareSpecial::model, NO_MODEL, specials, and V_CORSAIR.

Referenced by fromName(), Kb::Kb(), and strModel().

```
{
    if (vendor != V_CORSAIR) {
        qCritical() << "Wrong vendor number" << vendor << "with product number" << myProduct;
        return NO_MODEL;
    }
    for (uint i = 0; i < sizeof(specials)/sizeof(struct firmwareSpecial)  ; i++) {
        if (specials[i].product == myProduct) return specials[i].
    model;
    }
    return NO_MODEL;
}
```

Here is the caller graph for this function:

12.43.4.10 KeyMap::Model KeyMap::getModel (const QString & *name*) [static]

Parameters

name	QString with the name from "features" file

Returns

the corresponding KeyMap::Model or NO_MODEL (-1), if name does not exist.

Definition at line 520 of file keymap.cpp.

References K65, K70, K95, M65, NO_MODEL, SABRE, SCIMITAR, and STRAFE.

```
                                                {
    QString lower = name.toLower();
    if(lower == "k65")
        return K65;
    if(lower == "k70")
        return K70;
    if(lower == "k95")
        return K95;
    if(lower == "strafe")
        return STRAFE;
    if(lower == "m65")
        return M65;
    if(lower == "sabre")
        return SABRE;
    if(lower == "scimitar")
        return SCIMITAR;
    return NO_MODEL;
}
```

12.43.4.11 QString KeyMap::getModel (KeyMap::Model *model*) [static]

Parameters

model	KeyMap::Model

Returns

QString with model name or "" if model exceeds boundaries

Definition at line 544 of file keymap.cpp.

References K65, K70, K95, M65, SABRE, SCIMITAR, and STRAFE.

```
                                                {
    switch(model){
    case K65:
        return "k65";
    case K70:
        return "k70";
    case K95:
        return "k95";
    case STRAFE:
        return "strafe";
```

```
    case M65:
        return "m65";
    case SABRE:
        return "sabre";
    case SCIMITAR:
        return "scimitar";
    default:
        return "";
    }
}
```

12.43.4.12 uint KeyMap::height ( ) const [inline]

Definition at line 123 of file keymap.h.

References keyHeight.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
123 { return keyHeight; }
```

Here is the caller graph for this function:

12.43.4.13 static bool KeyMap::isISO (Layout *layout*) [inline], [static]

Definition at line 87 of file keymap.h.

References PL, US, and US_DVORAK.

Referenced by KbBind::isISO(), and RebindWidget::setBind().

```
87 { return layout != US && layout != US_DVORAK && layout !=
      PL; }
```

Here is the caller graph for this function:

12.43.4.14 bool KeyMap::isISO ( ) const [inline]

Definition at line 88 of file keymap.h.

References isISO(), and keyLayout.

Referenced by getMap(), isISO(), Kb::Kb(), and Kb::updateLayout().

```
88 { return isISO(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.15 static bool KeyMap::isKeyboard (Model *model*) [inline], [static]

Definition at line 93 of file keymap.h.

References isMouse(), and NO_MODEL.

Referenced by KbBind::isKeyboard().

```
93 { return !isMouse(model) && model != NO_MODEL; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.16 bool KeyMap::isKeyboard ( ) const [inline]

Definition at line 94 of file keymap.h.

References isKeyboard(), and keyModel.

Referenced by Kb::isKeyboard(), and isKeyboard().

```
94 { return isKeyboard(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.17 static bool KeyMap::isMouse (Model *model*) [inline], [static]

Definition at line 95 of file keymap.h.

References M65, SABRE, and SCIMITAR.

Referenced by KbBind::isMouse(), KeyWidget::map(), KbLightWidget::newSelection(), and KeyWidget::paintEvent().

```
95 { return model == M65 || model == SABRE || model ==
      SCIMITAR; }
```

Here is the caller graph for this function:

12.43.4.18 bool KeyMap::isMouse ( ) const [inline]

Definition at line 96 of file keymap.h.

References isMouse(), and keyModel.

Referenced by isKeyboard(), Kb::isMouse(), isMouse(), and KeyWidget::paintEvent().

```
96 { return isMouse(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.19 Key KeyMap::key (const QString & *name*) const [inline]

Definition at line 126 of file keymap.h.

References _keys.

Referenced by AnimScript::begin(), AnimScript::keypress(), KbBind::noAction(), operator[]():, KbBind::setAction(), and toStorage().

```
126 { Key empty = {0,0,0,0,0,0,0,0,0}; return _keys.value(name, empty); }
```

Here is the caller graph for this function:

12.43.4.20 QStringList KeyMap::keys ( ) const [inline]

Definition at line 132 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().

```
132 { return _keys.keys(); }
```

Here is the caller graph for this function:

12.43.4.21 Layout KeyMap::layout ( ) const [inline]

Definition at line 115 of file keymap.h.

References keyLayout.

Referenced by KeyAction::friendlyName(), KeyWidget::paintEvent(), and RebindWidget::setBind().

```
115 { return keyLayout; }
```

Here is the caller graph for this function:

12.43.4.22 QStringList KeyMap::layoutNames ( ) [static]

Definition at line 481 of file keymap.cpp.

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

```
481                                 {
482     return QStringList()
483             << "Danish"
484             << "English (ISO/European)" << "English (ISO/European, Dvorak)"
485             << "English (United Kingdom)" << "English (United Kingdom, Dvorak)"
486             << "English (United States)" << "English (United States, Dvorak)"
487             << "French"
488             << "German"
489             << "Italian"
490             << "Norwegian"
491             << "Polish"
492             << "Spanish (Latin America)"
493             << "Spanish (Spain)"
494             << "Swedish";
495 }
```

Here is the caller graph for this function:

12.43.4.23 KeyMap::Layout KeyMap::locale ( ) [static]

Definition at line 377 of file keymap.cpp.

References DE, DK, ES, FR, GB, IT, 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("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:

12.43.4.24 const QHash<QString, Key>& KeyMap::map ( ) const [inline]

Definition at line 130 of file keymap.h.

References _keys.

Referenced by friendlyName().

```
130 { return _keys; }
```

Here is the caller graph for this function:

12.43.4.25 Model KeyMap::model ( ) const [inline]

Definition at line 114 of file keymap.h.

References keyModel.

Referenced by KeyWidget::mouseMoveEvent(), KeyWidget::paintEvent(), and KPerfWidget::setPerf().

```
114 { return keyModel; }
```

Here is the caller graph for this function:

12.43.4.26 int KeyMap::modelHeight (Model *model*) [static],[private]

Definition at line 591 of file keymap.cpp.

References K65, K70, K95, K95_HEIGHT, M65, M65_HEIGHT, SABRE, SCIMITAR, and STRAFE.

```
591                                     {
592     switch(model){
593     case K65:
594     case K70:
595     case K95:
596     case STRAFE:
597         return K95_HEIGHT;
598     case M65:
599     case SABRE:
600     case SCIMITAR:
601         return M65_HEIGHT;
602     default:
603         return 0;
604     }
605 }
```

12.43.4.27 int KeyMap::modelWidth (Model *model*) [static],[private]

Definition at line 572 of file keymap.cpp.

References K65, K65_WIDTH, K70, K70_WIDTH, K95, K95_WIDTH, KSTRAFE_WIDTH, M65, M65_WIDTH, SABRE, SCIMITAR, and STRAFE.

```
572                                     {
573     switch(model){
574     case K65:
575         return K65_WIDTH;
576     case K70:
577         return K70_WIDTH;
578     case K95:
579         return K95_WIDTH;
580     case STRAFE:
581         return KSTRAFE_WIDTH;
582     case M65:
583     case SABRE:
584     case SCIMITAR:
585         return M65_WIDTH;
586     default:
587         return 0;
588     }
589 }
```

12.43.4.28 QString KeyMap::name ( ) const [inline]

Definition at line 116 of file keymap.h.

References strLayout(), and strModel().

Referenced by KbBind::save(), KbLight::save(), and toStorage().

```
116 { return (strModel() + " " + strLayout()).toUpper(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.29 KeyMap::operator const QHash< QString, Key > & ( ) const [inline]

Definition at line 131 of file keymap.h.

References _keys.

```
131 { return _keys; }
```

12.43.4.30 Key KeyMap::operator[] (const QString & *name*) const [inline]

Definition at line 127 of file keymap.h.

References key().

```
127 { return key(name); }
```

Here is the call graph for this function:

12.43.4.31 QList<Key> KeyMap::positions ( ) const [inline]

Definition at line 133 of file keymap.h.

References _keys.

Referenced by ColorMap::init(), and KeyWidget::selectAll().

```
133 { return _keys.values(); }
```

Here is the caller graph for this function:

12.43.4.32 QString KeyMap::strLayout ( ) const [inline]

Definition at line 106 of file keymap.h.

References getLayout(), and keyLayout.

Referenced by name().

```
106 { return getLayout(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.33 QString KeyMap::strModel ( ) const [inline]

Definition at line 111 of file keymap.h.

References getModel(), and keyModel.

Referenced by name().

```
111 { return getModel(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.43.4.34 QString KeyMap::toStorage (const QString & *name*) [inline]

Definition at line 135 of file keymap.h.

References key(), name(), and Key::storageName().

```
135 { const char* storage = key(name).storageName(); if(!storage) return
      name; return storage; }
```

Here is the call graph for this function:

12.43.4.35 uint KeyMap::width ( ) const [inline]

Definition at line 121 of file keymap.h.

References keyWidth.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
121 { 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 148 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 149 of file keymap.h.

Referenced by height().

12.43.5.3 Layout KeyMap::keyLayout [private]

Definition at line 151 of file keymap.h.

Referenced by isISO(), layout(), and strLayout().

12.43.5.4 Model KeyMap::keyModel [private]

Definition at line 150 of file keymap.h.

Referenced by isKeyboard(), isMouse(), model(), and strModel().

12.43.5.5 short KeyMap::keyWidth [private]

Definition at line 149 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 632 of file keywidget.cpp.

References animation.

Referenced by KbLightWidget::setLight().

```
632                                 {
633     animation.fill(false);
634     update();
635 }
```

Here is the caller graph for this function:

12.44.5.4 void KeyWidget::clearSelection ( )

Definition at line 605 of file keywidget.cpp.

References mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim(), KbBindWidget::setBind(), and KbLightWidget::setLight().

```
605                                 {
606     selection.fill(false);
607     newSelection.fill(false);
608     mouseDownMode = NONE;
609     update();
610     emit selectionChanged(QStringList());
611 }
```

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 475 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.

```
475                                                 {
476     event->accept();
477     QString tooltip;
478
479     // Find selection rectangle
480     mouseCurrentX = event->x();
481     mouseCurrentY = event->y();
482     float scale, offX, offY;
483     drawInfo(scale, offX, offY);
484     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
485     float mx1, mx2, my1, my2;
486     if(mouseCurrentX >= mouseDownX){
487         mx1 = mouseDownX / scale - offX;
488         mx2 = mouseCurrentX / scale - offX;
489     } else {
490         mx1 = mouseCurrentX / scale - offX;
491         mx2 = mouseDownX / scale - offX;
492     }
493     if(mouseCurrentY >= mouseDownY){
494         my1 = mouseDownY / scale - offY;
495         my2 = mouseCurrentY / scale - offY;
496     } else {
497         my1 = mouseCurrentY / scale - offY;
498         my2 = mouseDownY / scale - offY;
499     }
500     // Clear new selection
501     if(mouseDownMode != NONE)
502         newSelection.fill(false);
503     // See if the event hit any keys
504     QHashIterator<QString, Key> k(keyMap);
505     uint i = -1;
506     while(k.hasNext()){
507         k.next();
508         i++;
509         const Key& key = k.value();
510         if((_rgbMode && !key.hasLed)
511                 || (!_rgbMode && !key.hasScan))
512             continue;
513         // Update tooltip with the mouse hover (if any), even if it's not selectable
514         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 443 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.

```
443                                                 {
444     event->accept();
445     mouseDownMode = (event->modifiers() & Qt::AltModifier) ? SUBTRACT : (event->modifiers() & Qt::ShiftModifier) ? ADD : (event->modifiers() & Qt::ControlModifier) ? TOGGLE : SET;
446     mouseDownX = mouseCurrentX = event->x();
447     mouseDownY = mouseCurrentY = event->y();
448     // See if the event hit a key
449     float scale, offX, offY;
450     drawInfo(scale, offX, offY);
451     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
452     QHashIterator<QString, Key> k(keyMap);
453     uint i = -1;
454     while(k.hasNext()){
455         k.next();
456         i++;
457         const Key& key = k.value();
458         if((_rgbMode && !key.hasLed)
459                 || (!_rgbMode && !key.hasScan))
460             continue;
461         if(fabs(key.x - mx) <= key.width / 2.f - 1.f && fabs(key.y - my) <= key.height / 2.f - 1.f){
462             // Sidelights can't have a color, but they can be toggled
463             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 536 of file keywidget.cpp.

References ADD, keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, selectionChanged(), SET, SUBTRACT, and TOGGLE.

```
536                                                 {
537     event->accept();
538     if(mouseDownMode == NONE)
539         return;
540     // Apply the new selection
541     switch(mouseDownMode){
542     case SET:
543         selection = newSelection;
544         break;
545     case ADD:
546         selection |= newSelection;
547         break;
548     case SUBTRACT:
549         selection &= ~newSelection;
550         break;
551     case TOGGLE:
552         selection ^= newSelection;
553         break;
554     default:;
555     }
556     // Clear mousedown state.
557     newSelection.fill(false);
558     mouseDownMode = NONE;
559     // Emit signal with the names of the keys
560     QStringList selectedNames;
561     uint i = 0;
562     foreach(const QString& key, keyMap.keys()){
563         if(selection.testBit(i++))
564             selectedNames << key;
565     }
566     emit selectionChanged(selectedNames);
567     update();
568 }
```

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(), KbBind::globalRemap(), 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;
        }
        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);
            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 584 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().

```
584                         {
585     selection.fill(false);
586     // Fill the selection with all keys that have an LED/scancode (depending on widget mode)
587     int i = 0;
588     QStringList selectedNames;
589     foreach(const Key& key, keyMap.positions()){
590         // Sidelights can't be selected
591         if(strcmp(key.name, "lsidel") && strcmp(key.name, "rsidel")
592            && ((_rgbMode && key.hasLed) || !(_rgbMode && key.
      hasScan))){
593             selection.setBit(i);
594             selectedNames << key.name;
595         }
596         i++;
597     }
598     // Clear mousedown state
599     newSelection.fill(false);
600     mouseDownMode = NONE;
601     update();
602     emit selectionChanged(selectedNames);
603 }
```

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 613 of file keywidget.cpp.

References animation, keyMap, and KeyMap::keys().

Referenced by KbLightWidget::changeAnimKeys(), and KbLightWidget::setLight().

```
{
    animation.fill(false);
    QStringList allNames = keyMap.keys();
    foreach(const QString& key, keys){
        // Sidelights can't be selected
        if(!strcmp(key.toLatin1(), "lsidel") || !strcmp(key.toLatin1(), "rsidel"))
            continue;
        int index = allNames.indexOf(key);
        if(index >= 0)
            animation.setBit(index);
    }
    update();
}
```

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 627 of file keywidget.cpp.

References animation, and selection.

Referenced by KbLightWidget::changeAnim().

```
627                                         {
628     animation = selection;
629     update();
630 }
```

Here is the caller graph for this function:

12.44.5.23 void KeyWidget::setSelection (const QStringList & *keys*)

Definition at line 570 of file keywidget.cpp.

References keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim().

```
570                                                 {
571     selection.fill(false);
572     QStringList allNames = keyMap.keys();
573     foreach(const QString& key, keys){
574         int index = allNames.indexOf(key);
575         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(424, 233);
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      macText->setFocus();
15      startWorkInAThread(macroNumber, macroPath, macBox, macText);
16  }
```

Here is the call graph for this function:

12.49.2.3 MacroReader::~MacroReader ( )

Definition at line 17 of file macroreader.cpp.

```
17 {}
```

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 19 of file macroreader.cpp.

References macroReaderThread.

Referenced by MacroReader().

```
19                  {
20     macroReaderThread = new MacroReaderThread(macroNumber, macroPath,
       macBox, macText);
21     connect(macroReaderThread, &MacroReaderThread::finished,
       macroReaderThread, &QObject::deleteLater);
22     macroReaderThread->start();
23 }
```

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.

Definition at line 28 of file macroreader.cpp.

References macroBox, and macroText.

```
28                                                  {
30 //    macroText->setFocus();
31     QTextCursor c = macroText->textCursor();
32     c.setPosition(macroText->toPlainText().length());
33     macroText->setTextCursor(c);
34     macroBox->appendPlainText(line.left(line.size()-1));
35 }
```

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. at least here we should set the focus into the text pane

Definition at line 45 of file macroreader.cpp.

References macroBox, macroNumber, macroPath, and macroText.

```
45                                  {
46     qDebug() << "MacroReader::run() started with" << macroNumber << "and" <<
       macroPath << "and" << macroBox << "and" << macroText;
47
49     //macroText->setFocus();
50
51     QString notifyFile = (macroPath + "/notify%1").arg(macroNumber);
52     QFile macroFile(notifyFile);
53     qDebug() << "trying to open notify-File" << notifyFile;
54
55     // Wait a small amount of time for the node to open (100ms) (code reused from kb.cpp)
56     QThread::usleep(100000);
57     if(!macroFile.open(QIODevice::ReadOnly)){
58         // If it's still not open, try again before giving up (1s at a time, 10s total)
59         QThread::usleep(900000);
60         for(int i = 1; i < 10; i++){
61             if(macroFile.open(QIODevice::ReadOnly))
62                 break;
63             QThread::sleep(1);
64         }
65         if(!macroFile.isOpen()) {
66             qDebug() << "unable to open macroFile" << notifyFile;
67             return;
68         }
69     }
70     // Read data from notification node macroPath
71     // Count time between lines read from the interface
72     QByteArray line;
73     timeval t;
74     gettimeofday(&t, NULL);
75     double tstart = t.tv_sec+(t.tv_usec/1000000.0);
76     bool firstline = true;
77
78     while(macroFile.isOpen() && (line = macroFile.readLine()).length() > 0){
79         QString text = QString::fromUtf8(line);
80         gettimeofday(&t, NULL);
81         double tnow = t.tv_sec+(t.tv_usec/1000000.0);
```

```

        // in the first line, there is only a delay "before start". Don't use it.
        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 87 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 76 of file ui_mainwindow.h.

References Ui_MainWindow::actionAbout, and Ui_MainWindow::actionExit.

Referenced by Ui_MainWindow::setupUi().

```
    {
        MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
        actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
        actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
        actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
    } // 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().

```
    {
        if (MainWindow->objectName().isEmpty())
            MainWindow->setObjectName(QStringLiteral("MainWindow"));
        MainWindow->resize(153, 20);
        QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
```

```
        sizePolicy.setHeightForWidth(MainWindow->sizePolicy().hasHeightForWidth());
        MainWindow->setSizePolicy(sizePolicy);
        QIcon icon;
        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"));
        sizePolicy.setHeightForWidth(centralWidget->sizePolicy().hasHeightForWidth());
        centralWidget->setSizePolicy(sizePolicy);
        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"));
        sizePolicy.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy);

        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]

give a hint if the config files are not writeable

Definition at line 35 of file mainwindow.cpp.

References Ui_MainWindow::actionExit, addDevice(), cleanup(), closeAction, configLabel, CkbSettings::get(), iconClicked(), CkbSettings::informIfNonWritable(), 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().

```
35                                      :
36     QMainWindow(parent),
37     ui(new Ui::MainWindow)
38 {
39     ui->setupUi(this);
40     mainWindow = this;
41
42     // Start device manager
43     KbManager::init(CKB_VERSION_STR);
44     connect(KbManager::kbManager(), SIGNAL(kbConnected(Kb*)), this, SLOT(
    addDevice(Kb*)));
45     connect(KbManager::kbManager(), SIGNAL(kbDisconnected(Kb*)), this, SLOT(
    removeDevice(Kb*)));
46     connect(KbManager::kbManager(), SIGNAL(versionUpdated()), this, SLOT(
    updateVersion()));
47     connect(KbManager::scanTimer(), SIGNAL(timeout()), this, SLOT(
    timerTick()));
48
49     // Set up tray icon
50     restoreAction = new QAction(tr("Restore"), this);
51     closeAction = new QAction(tr("Quit ckb"), this);
52 #ifdef USE_LIBAPPINDICATOR
53     QString desktop = std::getenv("XDG_CURRENT_DESKTOP");
54     unityDesktop = (desktop.toLower() == "unity");
55
56     if(unityDesktop){
57         trayIcon = 0;
58
59         indicatorMenu = gtk_menu_new();
60         indicatorMenuRestoreItem = gtk_menu_item_new_with_label("Restore");
61         indicatorMenuQuitItem = gtk_menu_item_new_with_label("Quit ckb");
62
63         gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuRestoreItem);
64         gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuQuitItem);
65
66         g_signal_connect(indicatorMenuQuitItem, "activate",
67             G_CALLBACK(quitIndicator), this);
68         g_signal_connect(indicatorMenuRestoreItem, "activate",
69             G_CALLBACK(restoreIndicator), this);
70
71         gtk_widget_show(indicatorMenuRestoreItem);
72         gtk_widget_show(indicatorMenuQuitItem);
73
```

```
        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);

     CkbSettings::informIfNonWritable();
}
```

Here is the call graph for this function:

12.52.2.2 MainWindow::~MainWindow ( )

Definition at line 306 of file mainwindow.cpp.

References cleanup(), and ui.

```
306                         {
```

```
    cleanup();
    delete ui;
}
```

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 124 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::name(), Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
124                                     {
125     // Connected already?
126     foreach(KbWidget* w, kbWidgets){
127         if(w->device == device)
128             return;
129     }
130     // Add the keyboard
131     KbWidget* widget = new KbWidget(this, device);
132     kbWidgets.append(widget);
133     // Add to tabber; switch to this device if on the settings screen
134     int count = ui->tabWidget->count();
135     ui->tabWidget->insertTab(count - 1, widget, widget->name());
136     if(ui->tabWidget->currentIndex() == count)
137         ui->tabWidget->setCurrentIndex(count - 1);
138     // Update connected device count
139     updateVersion();
140 }
```

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 175 of file mainwindow.cpp.

References KbWidget::device, Kb::features, Kb::firmware, KbWidget::hasShownNewFW, kbWidgets, mainWindow, KbWidget::updateFwButton(), and KbFirmware::versionForBoard().

Referenced by timerTick().

```
175                                 {
176     if(!mainWindow->isVisible())
177         return;
178     foreach(KbWidget* w, kbWidgets){
179         // Display firmware upgrade notification if a new version is available
180         float version = KbFirmware::versionForBoard(w->
      device->features);
181         if(version > w->device->firmware.toFloat()){
182             if(w->hasShownNewFW)
183                 continue;
184             w->hasShownNewFW = true;
185             w->updateFwButton();
186             // Don't run this method here because it will lock up the timer and prevent devices from
       working properly
187             // Use a queued invocation instead
188             metaObject()->invokeMethod(this, "showFwUpdateNotification", Qt::QueuedConnection, Q_ARG(
      QWidget*, w), Q_ARG(float, version));
189             // Don't display more than one of these at once
190             return;
191         }
192     }
193 }
```

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 298 of file mainwindow.cpp.

References CkbSettings::cleanUp(), kbWidgets, and KbManager::stop().

Referenced by MainWindow(), and ~MainWindow().

```
298                         {
299     foreach(KbWidget* w, kbWidgets)
300         delete w;
301     kbWidgets.clear();
302     KbManager::stop();
303     CkbSettings::cleanUp();
304 }
```

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 212 of file mainwindow.cpp.

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

```
212                                                 {
213     // 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
214     if(!event->spontaneous() || isHidden()){
215         event->accept();
216         return;
217     }
218     if(!CkbSettings::get("Popups/BGWarning").toBool()){
219         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.");
220         CkbSettings::set("Popups/BGWarning", true);
221     }
222     hide();
223     event->ignore();
224 }
```

Here is the call graph for this function:

12.52.3.5 void MainWindow::iconClicked (QSystemTrayIcon::ActivationReason *reason*) [private],[slot]

Definition at line 260 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
260                                                                 {
261     // On Linux, hide/show the app when the tray icon is clicked
262     // On OSX this just shows the menu
263 #ifndef Q_OS_MACX
264     if(reason == QSystemTrayIcon::DoubleClick || reason == QSystemTrayIcon::Trigger){
265         if(isVisible())
266             hide();
267         else
268             showWindow();
269     }
270 #endif
271 }
```

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 294 of file mainwindow.cpp.

Referenced by MainWindow().

```
294                         {
295     qApp->quit();
296 }
```

Here is the caller graph for this function:

12.52.3.7 void MainWindow::removeDevice (Kb * *device*) [private],[slot]

Definition at line 142 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
142                                     {
143     foreach(KbWidget* w, kbWidgets){
144         // Remove this device from the UI
145         if(w->device == device){
146             int i = kbWidgets.indexOf(w);
147             ui->tabWidget->removeTab(i);
148             kbWidgets.removeAt(i);
149             w->deleteLater();
150         }
151     }
152     // Update connected device count
153     updateVersion();
154 }
```

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 195 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::showFwUpdate(), KbWidget::showLastTab(), showWindow(), Ui_MainWindow::tabWidget, ui, and Kb::usbModel.

```
195                                                                 {
196     static bool isShowing = false;
197     if(isShowing)
198         return;
199     isShowing = true;
200     showWindow();
201     KbWidget* w = (KbWidget*)widget;
202     // Ask for update
203     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){
204         // If accepted, switch to firmware tab and bring up update window
205         w->showLastTab();
206         ui->tabWidget->setCurrentIndex(kbWidgets.indexOf(w));
207         w->showFwUpdate();
208     }
209     isShowing = false;
210 }
```

Here is the call graph for this function:

12.52.3.9 void MainWindow::showWindow ( ) [slot]

Definition at line 273 of file mainwindow.cpp.

Referenced by iconClicked(), MainWindow(), showFwUpdateNotification(), stateChange(), and timerTick().

```
273                                 {
274     showNormal();
275     raise();
276     activateWindow();
277 }
```

Here is the caller graph for this function:

12.52.3.10 void MainWindow::stateChange (Qt::ApplicationState *state*) [slot]

Definition at line 279 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
279                                                 {
280     // On OSX it's possible for the app to be brought to the foreground without the window actually
        reappearing.
281     // We want to make sure it's shown when this happens.
282 #ifdef Q_OS_MAC
283     static quint64 lastStateChange = 0;
284     quint64 now = QDateTime::currentMSecsSinceEpoch();
285     if(state == Qt::ApplicationActive){
286         // This happens once at startup so ignore it. Also don't allow it to be called more than once every
        2s.
287         if(lastStateChange != 0 && now >= lastStateChange + 2 * 1000)
288             showWindow();
289         lastStateChange = now;
290     }
291 #endif
292 }
```

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 226 of file mainwindow.cpp.

References appShare, checkFwUpdates(), KbFirmware::checkUpdates(), CkbSettings::get(), SettingsWidget::pollUpdates(), settingsWidget, and showWindow().

Referenced by MainWindow().

```
226                         {
227     // Check shared memory for changes
228     if(appShare.lock()){
229         void* data = appShare.data();
230         QStringList commands = QString((const char*)data).split("\n");
231         // Restore PID, remove all other data
232         snprintf((char*)appShare.data(), appShare.size(), "PID %ld", (long)getpid());
233         appShare.unlock();
234         // Parse commands
235         foreach(const QString& line, commands){
236             // Old ckb option line - bring application to foreground
237             if(line == "Open")
238                 showWindow();
239             if(line.startsWith("Option ")){
240                 // New ckb option line
241                 QString option = line.split(" ")[1];
242                 if(option == "Open")
243                     // Bring to foreground
244                     showWindow();
245                 else if(option == "Close")
246                     // Quit application
247                     qApp->quit();
248             }
249         }
250     }
251     // Check for firmware updates (when appropriate)
252     if(!CkbSettings::get("Program/DisableAutoFWCheck").toBool()){
253         KbFirmware::checkUpdates();
254         checkFwUpdates();
255     }
256     // Poll for setting updates
257     settingsWidget->pollUpdates();
258 }
```

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 115 of file mainwindow.cpp.

References trayIcon.

Referenced by MainWindow(), and ExtraSettingsWidget::on_trayBox_clicked().

```
115                                         {
116 #ifdef USE_LIBAPPINDICATOR
117     if(unityDesktop)
118         app_indicator_set_status(indicator, visible ? APP_INDICATOR_STATUS_ACTIVE :
    APP_INDICATOR_STATUS_PASSIVE);
119     else
120 #endif // USE_LIBAPPINDICATOR
121         trayIcon->setVisible(visible);
122 }
```

Here is the caller graph for this function:

12.52.3.13 void MainWindow::updateVersion ( ) [private],[slot]

Definition at line 156 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().

```
156                                 {
157     QString daemonVersion = KbManager::ckbDaemonVersion();
158     if(daemonVersion == DAEMON_UNAVAILABLE_STR){
159         settingsWidget->setStatus("Driver inactive");
160         return;
161     }
162     int count = kbWidgets.count();
163     // 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(415, 192);
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(773, 802);
        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().

```
31 {
32     reset();
33 }
```

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.

```
36 {
37     return adler32( adler32(0L, Z_NULL, 0), (const Bytef*)data.data(), data.size() );
38 }
```

12.66.3.2 void QuaAdler32::reset ( ) [virtual]

Implements QuaChecksum32.

Definition at line 40 of file quaadler32.cpp.

References checksum.

Referenced by QuaAdler32().

```
41 {
42     checksum = adler32(0L, Z_NULL, 0);
43 }
```

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.

```
128 {
129     QString error;
130     if (!d->open(d->fileName, mode, error)) {
131         setErrorString(error);
132         return false;
133     }
134     return QIODevice::open(mode);
135 }
```

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.

```
138 {
139     QString error;
140     if (!d->open(fd, mode, error)) {
141         setErrorString(error);
142         return false;
143     }
144     return QIODevice::open(mode);
145 }
```

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.

```
159 {
160     return gzread(d->gzd, (voidp)data, (unsigned)maxSize);
161 }
```

12.69.3.9 void QuaGzipFile::setFileName (const QString & *fileName*)

Definition at line 112 of file quagzipfile.cpp.

References d.

```
113 {
114     d->fileName = fileName;
115 }
```

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
```

```
        return Qt::CaseSensitive;
#endif
    } else {
        return cs == csSensitive ? Qt::CaseSensitive : Qt::CaseInsensitive;
    }
}
```

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.

```
{
  QuaZip *fakeThis=(QuaZip*)this; // non-const
  fakeThis->p->zipError=UNZ_OK;
  if(p->mode!=mdUnzip) {
    qWarning("QuaZip::getComment(): ZIP is not open in mdUnzip mode");
    return QString();
  }
  unz_global_info64 globalInfo;
  QByteArray comment;
  if((fakeThis->p->zipError=unzGetGlobalInfo64(p->unzFile_f, &globalInfo))!=
  UNZ_OK)
    return QString();
  comment.resize(globalInfo.size_comment);
  if((fakeThis->p->zipError=unzGetGlobalComment(p->unzFile_f, comment.data(),
  comment.size())) < 0)
    return QString();
  fakeThis->p->zipError = UNZ_OK;
  return p->commentCodec->toUnicode(comment);
}
```

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().

```
{
    return QuaZipDir(d->zip).exists(d->dir);
}
```

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().

```
{
    return QDir(d->dir).filePath(fileName);
}
```

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().

```
414 {
415     QuaZipFileInfo64 info64;
416     if (getFileInfo(&info64)) {
417         info64.toQuaZipFileInfo(*info);
418         return true;
419     } else {
420         return false;
421     }
422 }
```

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.

```
425 {
426     if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return false;
427     p->zip->getCurrentFileInfo(info);
428     p->setZipError(p->zip->getZipError());
429     return p->zipError==UNZ_OK;
430 }
```

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().

```
{
    return getNTFSTime(extra, 16, fineTicks);
}
```

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 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
- bool firstCall
- 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

  Used to position the mouse panel on first bind calls
- 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

12.80.1 Detailed Description

Definition at line 15 of file rebindwidget.h.

12.80.2 Constructor & Destructor Documentation

12.80.2.1 RebindWidget::RebindWidget (QWidget * *parent*) [explicit]

Definition at line 9 of file rebindwidget.cpp.

References firstCall, 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      firstCall = true;
15      ui->setupUi(this);
16      ui->lightWrapBox->hide();
17      ui->modeWrapBox->hide();
18      ui->programKpExtra->hide();
19      ui->programKrExtra->hide();
20
21      // Populate key lists
22      modKeys << "caps" << "lshift" << "rshift" << "lctrl" << "rctrl" << "lwin" << "rwin" << "lalt" <<
        "ralt" << "rmenu" << "fn";
23      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";
24      numKeys << "numlock" << "num0" << "num1" << "num2" << "num3" << "num4" << "num5" << "num6" << "
       num7" << "num8" << "num9" << "numslash" << "numstar" << "numminus" << "numplus" << "numdot" << "numenter";
25      mediaKeys << "stop" << "prev" << "play" << "next" << "volup" << "voldn" << "mute" << "eject";
26      mouseKeys << "mouse1" << "mouse2" << "mouse3";
27      mouseExtKeys << "mouse4" << "mouse5" << "mouse6" << "mouse7" << "mouse8";
28      wheelKeys << "wheelup" << "wheeldn";
29      // Populate boxes
30      foreach(const QString& key, modKeys)
31          ui->modBox->addItem(KeyMap::friendlyName(key));
32      foreach(const QString& key, fnKeys)
33          ui->fnBox->addItem(KeyMap::friendlyName(key).replace("\n", " / "));
34      foreach(const QString& key, numKeys)
35          ui->numBox->addItem(KeyMap::friendlyName(key).remove("NumPad "));
36      foreach(const QString& key, mediaKeys)
37          ui->mediaBox->addItem(KeyMap::friendlyName(key));
38  #ifdef Q_OS_MACX
39      // Replace some OSX keys with their actual meanings
40      ui->modBox->setItemText(modKeys.indexOf("lwin") + 1, "Left Cmd");
```

```
    ui->modBox->setItemText(modKeys.indexOf("rwin") + 1, "Right Cmd");
    ui->modBox->setItemText(modKeys.indexOf("lalt") + 1, "Left Option");
    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:

12.80.2.2 RebindWidget::~RebindWidget ( )

Definition at line 60 of file rebindwidget.cpp.

References ui.

```
                                {
    delete ui;
}
```

12.80.3 Member Function Documentation

12.80.3.1 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 338 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().

```
338                                                                 {
339     if(ui->typingBox->currentIndex() > 0)
340         bind->setAction(keys, typingKeys[ui->typingBox->currentIndex() -
    1]);
341     else if(ui->modBox->currentIndex() > 0)
342         bind->setAction(keys, modKeys[ui->modBox->currentIndex() - 1]);
343     else if(ui->fnBox->currentIndex() > 0)
344         bind->setAction(keys, fnKeys[ui->fnBox->currentIndex() - 1]);
345     else if(ui->numBox->currentIndex() > 0)
346         bind->setAction(keys, numKeys[ui->numBox->currentIndex() - 1]);
347     else if(ui->mediaBox->currentIndex() > 0)
348         bind->setAction(keys, mediaKeys[ui->mediaBox->currentIndex() - 1]);
349     else if(ui->mbBox->currentIndex() > 0)
350         bind->setAction(keys, mouseKeys[ui->mbBox->currentIndex() - 1]);
351     else if(ui->mb2Box->currentIndex() > 0)
352         bind->setAction(keys, mouseExtKeys[ui->mb2Box->currentIndex() - 1]
    );
353     else if(ui->wheelBox->currentIndex() > 0)
354         bind->setAction(keys, wheelKeys[ui->wheelBox->currentIndex() - 1]);
355     else if(ui->dpiBox->currentIndex() > 0)
356         bind->setAction(keys, KeyAction::dpiAction(
    ui->dpiBox->currentIndex() - DPI_OFFSET, ui->dpiCustXBox->value(),
    ui->dpiCustYBox->value()));
357     else if(ui->modeBox->currentIndex() > 0)
358         bind->setAction(keys, KeyAction::modeAction(
    ui->modeBox->currentIndex() - 3 - (ui->modeWrapBox->isChecked() &&
    ui->modeBox->currentIndex() < 3 ? 2 : 0)));
359     else if(ui->lightBox->currentIndex() > 0)
360         bind->setAction(keys, KeyAction::lightAction(
    ui->lightBox->currentIndex() - 1 + (ui->lightWrapBox->isChecked() ? 2 : 0)));
361     else if(ui->lockBox->currentIndex() > 0)
362         bind->setAction(keys, KeyAction::lockAction(
    ui->lockBox->currentIndex() - 1));
363     else if(ui->animBox->currentIndex() > 0){
364         KbAnim* anim = bind->light()->animList().at(
    ui->animBox->currentIndex() - 1);
365         bind->setAction(keys, KeyAction::animAction(anim->
    guid(), !ui->animOnceBox->isChecked(), ui->animKrBox->isChecked()));
366     } else if(!ui->programKpBox->text().isEmpty() || !ui->
    programKrBox->text().isEmpty()){
367         int kpStop = 0, krStop = 0;
368         if(!ui->programKpBox->text().isEmpty()){
369             if(!ui->programKpSIBox->isChecked())
370                 kpStop = KeyAction::PROGRAM_PR_MULTI;
371             else
372                 kpStop = ui->programKpModeBox->currentIndex();
373         }
374         if(!ui->programKrBox->text().isEmpty()){
375             if(!ui->programKrSIBox->isChecked())
376                 krStop = KeyAction::PROGRAM_RE_MULTI;
377             else if(ui->programKrModeBox->currentIndex() == 0)
378                 krStop = KeyAction::PROGRAM_RE_INDEF;
379             else
380                 krStop = KeyAction::PROGRAM_RE_KPSTOP;
381         }
382         bind->setAction(keys, KeyAction::programAction(
    ui->programKpBox->text(), ui->programKrBox->text(), kpStop | krStop));
383     } else if (ui->pteMacroBox->toPlainText().length() > 0) {
388
393         if (ui->rb_delay_asTyped->isChecked()) ui->txtBuffer->setText(
    ui->pteMacroBox->toPlainText());
```

```
        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:

12.80.3.2 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 813 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().

```
813                                 {
814     QString in;
```

```

    // 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:

12.80.3.3 void RebindWidget::helpStatus (int *status*) [private]

Parameters

status	determines what to display.

Definition at line 787 of file rebindwidget.cpp.

References Ui_RebindWidget::lbl_macro, and ui.

Referenced by on_btnClearMacro_clicked(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), and setBox().

```
787                                         {
788     switch (status) {
789     case 1:
790         ui->lbl_macro->setText("Type in a macro name in the comment box and click start.");
791         break;
792     case 2:
793         ui->lbl_macro->setText("Type your macro and click stop when finished.");
794         break;
```

```
    case 3:
        ui->lbl_macro->setText("Click Apply or change values in Macro Key Actions in advance.");
        break;
    default:
        ui->lbl_macro->setText(QString("Oops: Some magic in RebindWidget::helpStatus (%1)").arg(status));
    }
}
```

Here is the caller graph for this function:

12.80.3.4 void RebindWidget::on_animBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 618 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, setBox(), and ui.

```
618                                                     {
619     if(index == 0)
620         ui->animButton->setChecked(false);
621     else {
622         ui->animButton->setChecked(true);
623         setBox(ui->animBox);
624     }
625 }
```

Here is the call graph for this function:

12.80.3.5 void RebindWidget::on_animButton_clicked (bool *checked*) [private],[slot]

Definition at line 715 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, and ui.

```
715                                                 {
716     if(checked && ui->animBox->currentIndex() == 0)
717         ui->animBox->setCurrentIndex(1);
718 }
```

12.80.3.6 void RebindWidget::on_applyButton_clicked ( ) [private],[slot]

Definition at line 410 of file rebindwidget.cpp.

References applyChanges(), on_btnStopMacro_clicked(), and selection.

```
410                                             {
411     // Normally, this should be done via signalling.
412     // Because there is no serarate thread, we have to call it directly
413     // (otherwise we could do Key char conversion step by step,
414     // but so it is more easy to change the key definition):
415     on_btnStopMacro_clicked();
416     applyChanges(selection, true);
417 }
```

Here is the call graph for this function:

12.80.3.7 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 779 of file rebindwidget.cpp.

References helpStatus().

```
779                                             {
780     helpStatus(1);
781 }
```

Here is the call graph for this function:

12.80.3.8 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 729 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.

```
729                                                 {
730     if (!macReader) {
731         bind->handleNotificationChannel(true, bind->
    getMacroPath());
732         macReader = new MacroReader(bind->getMacroNumber(),
    bind->getMacroPath(), ui->pteMacroBox, ui->
    pteMacroText);
733         // because of the second thread we need to disable three of the four bottom buttons.
734         // Clicking "Stop" will enable them again.
735         ui->applyButton->setEnabled(false);
736         ui->resetButton->setEnabled(false);
737         ui->unbindButton->setEnabled(false);
738         ui->btnStartMacro->setEnabled(false);
739         ui->btnStopMacro->setEnabled(true);
740         ui->rb_delay_asTyped->setEnabled(false);
741         ui->rb_delay_no->setEnabled(false);
742         ui->rb_delay_default->setEnabled(false);
743         helpStatus(2);
744     }
745 }
```

Here is the call graph for this function:

12.80.3.9 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 754 of file rebindwidget.cpp.

References Ui_RebindWidget::applyButton, bind, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, convertMacroBox(), KbBind::getMacroPath(), 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(), and on_cancelButton_clicked().

```
754                                         {
755     if (macReader) {
756         bind->handleNotificationChannel(false, bind->
    getMacroPath());
757         delete macReader;
758         macReader = 0;
759         convertMacroBox();
760         ui->applyButton->setEnabled(true);
761         ui->resetButton->setEnabled(true);
762         ui->unbindButton->setEnabled(true);
763         ui->btnStartMacro->setEnabled(true);
764         ui->btnStopMacro->setEnabled(false);
765         ui->rb_delay_asTyped->setEnabled(true);
766         ui->rb_delay_no->setEnabled(true);
767         ui->rb_delay_default->setEnabled(true);
768         helpStatus(3);
769     }
770 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.80.3.10 void RebindWidget::on_cancelButton_clicked ( ) [private],[slot]

Definition at line 419 of file rebindwidget.cpp.

References on_btnStopMacro_clicked(), selection, and setSelection().

```
419                                         {
```

```
    on_btnStopMacro_clicked();
    // Re-load selection
    setSelection(selection);
}
```

Here is the call graph for this function:

12.80.3.11 void RebindWidget::on_dpiBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 544 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.

```
544                                                     {
545     if(index != DPI_CUST_IDX){
546         // Clear custom DPI
547         ui->dpiCustXBox->setEnabled(false);
548         ui->dpiCustYBox->setEnabled(false);
549         ui->dpiCustLabel->setEnabled(false);
550     } else {
551         ui->dpiCustXBox->setEnabled(true);
552         ui->dpiCustYBox->setEnabled(true);
553         ui->dpiCustLabel->setEnabled(true);
554     }
555     if(index == 0)
556         ui->dpiButton->setChecked(false);
557     else {
558         ui->dpiButton->setChecked(true);
559         setBox(ui->dpiBox);
560     }
561 }
```

Here is the call graph for this function:

12.80.3.12 void RebindWidget::on_dpiButton_clicked (bool *checked*) [private],[slot]

Definition at line 700 of file rebindwidget.cpp.

References Ui_RebindWidget::dpiBox, and ui.

```
700                                                 {
701     if(checked && ui->dpiBox->currentIndex() == 0)
702         ui->dpiBox->setCurrentIndex(1);
703 }
```

12.80.3.13 void RebindWidget::on_fnBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 490 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, setBox(), and ui.

```
490                                                     {
491     if(index == 0)
492         ui->fnButton->setChecked(false);
493     else {
494         ui->fnButton->setChecked(true);
495         setBox(ui->fnBox);
496     }
497 }
```

Here is the call graph for this function:

12.80.3.14 void RebindWidget::on_fnButton_clicked (bool *checked*) [private],[slot]

Definition at line 637 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, and ui.

```
637                                                 {
638     if(checked && ui->fnBox->currentIndex() == 0)
639         ui->fnBox->setCurrentIndex(1);
640 }
```

12.80.3.15 void RebindWidget::on_lightBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 576 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton, Ui_RebindWidget::lightWrapBox, setBox(), and ui.

```
576                                                         {
577     if(index == 0){
578         ui->lightButton->setChecked(false);
579         ui->lightWrapBox->hide();
580     } else {
581         ui->lightWrapBox->show();
582         ui->lightButton->setChecked(true);
583         setBox(ui->lightBox);
584     }
585 }
```

Here is the call graph for this function:

12.80.3.16 void RebindWidget::on_lightButton_clicked (bool *checked*) [private],[slot]

Definition at line 657 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, and ui.

```
657                                                 {
658     if(checked && ui->lightBox->currentIndex() == 0)
659         ui->lightBox->setCurrentIndex(1);
660 }
```

12.80.3.17 void RebindWidget::on_lockBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 587 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, setBox(), and ui.

```
587                                                         {
588     if(index == 0)
589         ui->lockButton->setChecked(false);
590     else {
591         ui->lockButton->setChecked(true);
592         setBox(ui->lockBox);
593     }
594 }
```

Here is the call graph for this function:

12.80.3.18 void RebindWidget::on_lockButton_clicked (bool *checked*) [private],[slot]

Definition at line 662 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, and ui.

```
662                                                 {
663     if(checked && ui->lockBox->currentIndex() == 0)
664         ui->lockBox->setCurrentIndex(1);
665 }
```

12.80.3.19 void RebindWidget::on_mb2Box_currentIndexChanged (int *index*) [private],[slot]

Definition at line 526 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, setBox(), and ui.

```
526                                                         {
527     if(index == 0)
528         ui->mb2Button->setChecked(false);
529     else {
530         ui->mb2Button->setChecked(true);
531         setBox(ui->mb2Box);
532     }
533 }
```

Here is the call graph for this function:

12.80.3.20 void RebindWidget::on_mb2Button_clicked (bool *checked*) [private],[slot]

Definition at line 690 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, and ui.

```
690                                                 {
691     if(checked && ui->mb2Box->currentIndex() == 0)
692         ui->mb2Box->setCurrentIndex(1);
693 }
```

12.80.3.21 void RebindWidget::on_mbBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 517 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, setBox(), and ui.

```
517                                                     {
518     if(index == 0)
519         ui->mbButton->setChecked(false);
520     else {
521         ui->mbButton->setChecked(true);
522         setBox(ui->mbBox);
523     }
524 }
```

Here is the call graph for this function:

12.80.3.22 void RebindWidget::on_mbButton_clicked (bool *checked*) [private],[slot]

Definition at line 685 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, and ui.

```
685                                             {
686     if(checked && ui->mbBox->currentIndex() == 0)
687         ui->mbBox->setCurrentIndex(1);
688 }
```

12.80.3.23 void RebindWidget::on_mediaBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 508 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, setBox(), and ui.

```
508                                                     {
509     if(index == 0)
510         ui->mediaButton->setChecked(false);
511     else {
512         ui->mediaButton->setChecked(true);
513         setBox(ui->mediaBox);
514     }
515 }
```

Here is the call graph for this function:

12.80.3.24 void RebindWidget::on_mediaButton_clicked (bool *checked*) [private],[slot]

Definition at line 647 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, and ui.

```
647                                                 {
648     if(checked && ui->mediaBox->currentIndex() == 0)
649         ui->mediaBox->setCurrentIndex(1);
650 }
```

12.80.3.25 void RebindWidget::on_modBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 481 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, setBox(), and ui.

```
481                                                         {
482     if(index == 0)
483         ui->modButton->setChecked(false);
484     else {
485         ui->modButton->setChecked(true);
486         setBox(ui->modBox);
487     }
488 }
```

Here is the call graph for this function:

12.80.3.26 void RebindWidget::on_modButton_clicked (bool *checked*) [private],[slot]

Definition at line 632 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, and ui.

```
632                                                 {
633     if(checked && ui->modBox->currentIndex() == 0)
634         ui->modBox->setCurrentIndex(1);
635 }
```

12.80.3.27 void RebindWidget::on_modeBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 563 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, setBox(), and ui.

```
563                                                         {
564     if(index == 1 || index == 2)
565         ui->modeWrapBox->show();
566     else
567         ui->modeWrapBox->hide();
568     if(index == 0)
569         ui->modeButton->setChecked(false);
570     else {
571         ui->modeButton->setChecked(true);
572         setBox(ui->modeBox);
573     }
574 }
```

Here is the call graph for this function:

12.80.3.28 void RebindWidget::on_modeButton_clicked (bool *checked*) [private], [slot]

Definition at line 652 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, and ui.

```
652                                                 {
653     if(checked && ui->modeBox->currentIndex() == 0)
654         ui->modeBox->setCurrentIndex(1);
655 }
```

12.80.3.29 void RebindWidget::on_numBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 499 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, setBox(), and ui.

```
499                                                         {
500     if(index == 0)
501         ui->numButton->setChecked(false);
502     else {
503         ui->numButton->setChecked(true);
504         setBox(ui->numBox);
505     }
506 }
```

Here is the call graph for this function:

12.80.3.30 void RebindWidget::on_numButton_clicked (bool *checked*) [private], [slot]

Definition at line 642 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, and ui.

```
642                                                 {
643     if(checked && ui->numBox->currentIndex() == 0)
644         ui->numBox->setCurrentIndex(1);
645 }
```

12.80.3.31 void RebindWidget::on_programKpBox_textChanged (const QString & *arg1*) [private],[slot]

Definition at line 596 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpExtra, setBox(), and ui.

```
596                                                                 {
597     if(arg1.isEmpty()){
598         ui->programKpButton->setChecked(false);
599         ui->programKpExtra->hide();
600     } else {
601         ui->programKpButton->setChecked(true);
602         setBox(ui->programKpBox);
603         ui->programKpExtra->show();
604     }
605 }
```

Here is the call graph for this function:

12.80.3.32 void RebindWidget::on_programKpButton_clicked (bool *checked*) [private],[slot]

Definition at line 667 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, setBox(), and ui.

```
667                                                         {
668     if(!checked){
669         ui->programKpBox->setText("");
670     } else if(ui->programKpBox->text().isEmpty()){
671         ui->programKpBox->setFocus();
672         setBox(ui->programKpBox);
673     }
674 }
```

Here is the call graph for this function:

12.80.3.33 void RebindWidget::on_programKpSlBox_clicked (bool *checked*) [private],[slot]

Definition at line 705 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpModeBox, and ui.

```
705                                                         {
706     ui->programKpModeBox->setCurrentIndex(0);
707     ui->programKpModeBox->setEnabled(checked);
708 }
```

12.80.3.34 void RebindWidget::on_programKrBox_textChanged (const QString & *arg1*) [private],[slot]

Definition at line 607 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrExtra, setBox(), and ui.

```
607                                                                 {
608     if(arg1.isEmpty()){
609         ui->programKrButton->setChecked(false);
610         ui->programKrExtra->hide();
611     } else {
612         ui->programKrButton->setChecked(true);
613         setBox(ui->programKrBox);
614         ui->programKrExtra->show();
615     }
616 }
```

Here is the call graph for this function:

12.80.3.35 void RebindWidget::on_programKrButton_clicked (bool *checked*) [private],[slot]

Definition at line 676 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, setBox(), and ui.

```
676                                                         {
677     if(!checked){
678         ui->programKrBox->setText("");
679     } else if(ui->programKrBox->text().isEmpty()){
680         ui->programKrBox->setFocus();
681         setBox(ui->programKrBox);
682     }
683 }
```

Here is the call graph for this function:

12.80.3.36 void RebindWidget::on_programKrSlBox_clicked (bool *checked*) [private],[slot]

Definition at line 710 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrModeBox, and ui.

```
710                                                         {
711     ui->programKrModeBox->setCurrentIndex(0);
712     ui->programKrModeBox->setEnabled(checked);
713 }
```

12.80.3.37 void RebindWidget::on_pteMacroBox_textChanged ( ) [private],[slot]

Definition at line 475 of file rebindwidget.cpp.

References Ui_RebindWidget::pteMacroBox, setBox(), and ui.

```
475                                                 {
476     if (ui->pteMacroBox->toPlainText().length() > 0) {
477         setBox(ui->pteMacroBox);
478     }
479 }
```

Here is the call graph for this function:

12.80.3.38 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 867 of file rebindwidget.cpp.

References convertMacroBox().

```
868 {
869     convertMacroBox();
870 }
```

Here is the call graph for this function:

12.80.3.39 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 878 of file rebindwidget.cpp.

References convertMacroBox().

```
879 {
880     convertMacroBox();
881 }
```

Here is the call graph for this function:

12.80.3.40 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 855 of file rebindwidget.cpp.

References convertMacroBox().

```
856 {
857     convertMacroBox();
858 }
```

Here is the call graph for this function:

12.80.3.41 void RebindWidget::on_resetButton_clicked ( ) [private],[slot]

Definition at line 425 of file rebindwidget.cpp.

References bind, KbBind::resetAction(), and selection.

```
425                                         {
426     bind->resetAction(selection);
427 }
```

Here is the call graph for this function:

12.80.3.42 void RebindWidget::on_typingBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 466 of file rebindwidget.cpp.

References setBox(), Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, and ui.

```
466                                                         {
467     if(index == 0)
468         ui->typingButton->setChecked(false);
469     else {
470         ui->typingButton->setChecked(true);
471         setBox(ui->typingBox);
472     }
473 }
```

Here is the call graph for this function:

12.80.3.43 void RebindWidget::on_typingButton_clicked (bool *checked*) [private],[slot]

Definition at line 627 of file rebindwidget.cpp.

References Ui_RebindWidget::typingBox, and ui.

```
627                                                 {
628     if(checked && ui->typingBox->currentIndex() == 0)
629         ui->typingBox->setCurrentIndex(1);
630 }
```

12.80.3.44 void RebindWidget::on_unbindButton_clicked ( ) [private],[slot]

Definition at line 429 of file rebindwidget.cpp.

References bind, KbBind::noAction(), and selection.

```
429                                         {
430     bind->noAction(selection);
431 }
```

Here is the call graph for this function:

12.80.3.45 void RebindWidget::on_wheelBox_currentIndexChanged (int *index*) [private],[slot]

Definition at line 535 of file rebindwidget.cpp.

References setBox(), ui, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

```
535                                                         {
536     if(index == 0)
537         ui->wheelButton->setChecked(false);
538     else {
539         ui->wheelButton->setChecked(true);
540         setBox(ui->wheelBox);
541     }
542 }
```

Here is the call graph for this function:

12.80.3.46 void RebindWidget::on_wheelButton_clicked (bool *checked*) [private],[slot]

Definition at line 695 of file rebindwidget.cpp.

References ui, and Ui_RebindWidget::wheelBox.

```
695                                                 {
696     if(checked && ui->wheelBox->currentIndex() == 0)
697         ui->wheelBox->setCurrentIndex(1);
698 }
```

12.80.3.47 void RebindWidget::setBind (KbBind * *newBind,* KbProfile * *newProfile*)

Definition at line 64 of file rebindwidget.cpp.

References bind, KeyMap::byPosition(), KbBind::defaultAction(), KbPerf::dpi(), KbPerf::DPI_COUNT, 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(), KeyAction::isNormal(), 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().

```
                                                                {
    bind = newBind;
    profile = newProfile;
    setSelection(QStringList());

    // Populate typing keys by position
    ui->typingBox->clear();
    ui->typingBox->addItem(" ");
    typingKeys.clear();
    // Use the K95 map as it has all keys
    const KeyMap& map = KeyMap(KeyMap::K95, bind->map().layout());
    foreach(const QString& name, map.byPosition()){
        KeyAction action(KbBind::defaultAction(name));
        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 + 3;
            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:

12.80.3.48 void RebindWidget::setBox (QWidget * box) [private]

Definition at line 433 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().

```
433                                     {
434     // Un-select every item except for the current one.
435     // on_*_currentIndexChanged will take care of deselecting the checkbox.
436     // Key
437     if(box != ui->typingBox) ui->typingBox->setCurrentIndex(0);
438     if(box != ui->modBox) ui->modBox->setCurrentIndex(0);
439     if(box != ui->fnBox) ui->fnBox->setCurrentIndex(0);
440     if(box != ui->numBox) ui->numBox->setCurrentIndex(0);
441     if(box != ui->mediaBox) ui->mediaBox->setCurrentIndex(0);
442     // Mouse
443     if(box != ui->mbBox) ui->mbBox->setCurrentIndex(0);
444     if(box != ui->mb2Box) ui->mb2Box->setCurrentIndex(0);
445     if(box != ui->wheelBox) ui->wheelBox->setCurrentIndex(0);
446     if(box != ui->dpiBox) ui->dpiBox->setCurrentIndex(0);
447     // Anim
448     if(box != ui->animBox) ui->animBox->setCurrentIndex(0);
449     // Special
450     if(box != ui->modeBox) ui->modeBox->setCurrentIndex(0);
451     if(box != ui->lightBox) ui->lightBox->setCurrentIndex(0);
452     if(box != ui->lockBox) ui->lockBox->setCurrentIndex(0);
453     // Program
454     if(box != ui->programKpBox && box != ui->programKrBox){
455         ui->programKpButton->setChecked(false);
456         ui->programKrButton->setChecked(false);
457     }
458     // Clear macro panel
459     if (box != ui->pteMacroBox) {
460         ui->pteMacroBox->setPlainText("");
461         ui->txtBuffer->setText("");
462         helpStatus(1);
463     }
464 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.80.3.49 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 892 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().

```
892                                                     {
893     if (!macdef.contains(QRegExp("=\\d+,"))) {
894         ui->rb_delay_default->setChecked(true);
895         return;
896     }
897     if (macdef.contains(QRegExp("=\\d\\d+,"))) {
898         ui->rb_delay_asTyped->setChecked(true);
899         return;
900     }
901     ui->rb_delay_no->setChecked(true);
902 }
```

Here is the caller graph for this function:

12.80.3.50 void RebindWidget::setSelection (const QStringList & *newSelection*, bool *applyPrevious* = `false`)

Definition at line 129 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(), firstCall, 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().

```
129                                                                                                    {
130     if(bind){
131         // Populate animation list
132         // FIXME: There should be a trigger to update this whenever an animation is added/removed, even if
        the key selection hasn't changed
133         ui->animBox->clear();
134         ui->animBox->addItem(" ");
135         foreach(KbAnim* anim, bind->light()->animList())
136             ui->animBox->addItem(anim->name());
137     }
138
139     // Apply changes to previous selection (if any)
140     if(!selection.isEmpty() && applyPrevious){
141         QStringList previous = selection;
142         selection = QStringList();
143         applyChanges(previous, false);
144     }
145
146     selection = newSelection;
147     if(newSelection.isEmpty()){
148         hide();
149         return;
150     } else
151         show();
152
153     bool hasAction = false;
154     QString action;
155     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
        if (firstCall) {
            ui->tabWidget->setCurrentIndex(TAB_MOUSE);
            firstCall = false;
        }
        // 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:

12.80.4 Field Documentation

12.80.4.1 KbBind* RebindWidget::bind [private]

Definition at line 95 of file rebindwidget.h.

Referenced by applyChanges(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), on_resetButton_clicked(), on_unbindButton_clicked(), setBind(), and setSelection().

12.80.4.2 bool RebindWidget::firstCall [private]

Definition at line 81 of file rebindwidget.h.

Referenced by RebindWidget(), and setSelection().

12.80.4.3 QStringList RebindWidget::fnKeys [private]

Definition at line 101 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.80.4.4 MacroReader* RebindWidget::macReader [private]

Definition at line 107 of file rebindwidget.h.

Referenced by on_btnStartMacro_clicked(), and on_btnStopMacro_clicked().

12.80.4.5 QStringList RebindWidget::mediaKeys [private]

Definition at line 103 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.80.4.6 QStringList RebindWidget::modKeys [private]

Definition at line 100 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.80.4.7 QStringList RebindWidget::mouseExtKeys [private]

Definition at line 105 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.80.4.8 QStringList RebindWidget::mouseKeys [private]

Definition at line 104 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.80.4.9 QStringList RebindWidget::numKeys [private]

Definition at line 102 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.80.4.10 KbProfile* RebindWidget::profile [private]

Definition at line 96 of file rebindwidget.h.

Referenced by setBind().

12.80.4.11 QStringList RebindWidget::selection [private]

Definition at line 97 of file rebindwidget.h.

Referenced by on_applyButton_clicked(), on_cancelButton_clicked(), on_resetButton_clicked(), on_unbindButton-_clicked(), and setSelection().

12.80.4.12 const int RebindWidget::TAB_ANIM = 2 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.13 const int RebindWidget::TAB_KB = 0 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.14 const int RebindWidget::TAB_MACRO = 5 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.15 const int RebindWidget::TAB_MOUSE = 1 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.16 const int RebindWidget::TAB_PROGRAM = 4 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.17 const int RebindWidget::TAB_SPECIAL = 3 [static], [private]

Definition at line 84 of file rebindwidget.h.

Referenced by setSelection().

12.80.4.18 QStringList RebindWidget::typingKeys [private]

Definition at line 99 of file rebindwidget.h.

Referenced by applyChanges(), setBind(), and setSelection().

12.80.4.19 Ui::RebindWidget* RebindWidget::ui [private]

Definition at line 80 of file rebindwidget.h.

Referenced by applyChanges(), convertMacroBox(), helpStatus(), on_animBox_currentIndexChanged(), on_animButton_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().

12.80.4.20 QStringList RebindWidget::wheelKeys [private]

Definition at line 106 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

12.81 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 * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_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
- 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 * 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
- QGroupBox * groupBox
- QLabel * lbl_macro
- QPlainTextEdit * pteMacroBox
- QHBoxLayout * delayButtons
- QLabel * txtBuffer
- QRadioButton * rb_delay_asTyped

- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_no
- QHBoxLayout * horizontalLayout
- QSpacerItem * horizontalSpacer_14
- QPushButton * unbindButton
- QPushButton * resetButton
- QPushButton * cancelButton
- QPushButton * applyButton

12.81.1 Detailed Description

Definition at line 1068 of file ui_rebindwidget.h.

12.81.2 Member Function Documentation

12.81.2.1 void Ui_RebindWidget::retranslateUi (QWidget * *RebindWidget*) [inline], [inherited]

Definition at line 909 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, Ui_RebindWidget::groupBox_2, Ui_RebindWidget::groupBox_3, Ui_RebindWidget::groupBox_4, Ui_RebindWidget::keyTab, 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", "T&yping:", 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", "Misce&llaneous:", 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", "(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", "Whee&l:", 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));
        groupBox->setTitle(QApplication::translate("RebindWidget", "Macro recording", Q_NULLPTR));
        lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help", Q_NULLPTR));
        txtBuffer->setText(QString());
#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));
#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_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));
        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:

12.81.2.2 void Ui_RebindWidget::setupUi (QWidget * *RebindWidget*) [inline],[inherited]

Definition at line 158 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, 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_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_8, Ui_RebindWidget::keyTab, Ui_RebindWidget::layoutWidget, Ui_RebindWidget::layoutWidget1, 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(958, 477);
        QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
        RebindWidget->setSizePolicy(sizePolicy);
        verticalLayout = new QVBoxLayout(RebindWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        tabWidget = new QTabWidget(RebindWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        sizePolicy.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy);
        keyTab = new QWidget();
        keyTab->setObjectName(QStringLiteral("keyTab"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
        keyTab->setSizePolicy(sizePolicy1);
```

```
        gridLayout_2 = new QGridLayout(keyTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(-1, -1, -1, 6);
        numBox = new QComboBox(keyTab);
        numBox->setObjectName(QStringLiteral("numBox"));
        QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
        numBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(numBox, 6, 4, 1, 1);

        typingBox = new QComboBox(keyTab);
        typingBox->setObjectName(QStringLiteral("typingBox"));
        sizePolicy2.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
        typingBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);

        fnBox = new QComboBox(keyTab);
        fnBox->setObjectName(QStringLiteral("fnBox"));
        sizePolicy2.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
        fnBox->setSizePolicy(sizePolicy2);

        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);

        horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 50, QSizePolicy::Minimum, QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer_3, 15, 2, 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"));
        sizePolicy2.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
        modBox->setSizePolicy(sizePolicy2);

        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);

        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"));
        sizePolicy2.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
        mediaBox->setSizePolicy(sizePolicy2);

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        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(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_17, 1, 5, 1, 1);

        tabWidget->addTab(keyTab, QString());
        mouseTab = new QWidget();
        mouseTab->setObjectName(QStringLiteral("mouseTab"));
        sizePolicy1.setHeightForWidth(mouseTab->sizePolicy().hasHeightForWidth());
        mouseTab->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy2.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
        mb2Box->setSizePolicy(sizePolicy2);

        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"));
        sizePolicy2.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
        mbBox->setSizePolicy(sizePolicy2);

        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);
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        dpiCustXBox->setMaximum(8500);
        dpiCustXBox->setSingleStep(50);

        gridLayout->addWidget(dpiCustXBox, 4, 5, 1, 1);

        dpiWarning = new QLabel(mouseTab);
        dpiWarning->setObjectName(QStringLiteral("dpiWarning"));
        QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
        dpiWarning->setSizePolicy(sizePolicy3);

        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"));
        sizePolicy1.setHeightForWidth(animTab->sizePolicy().hasHeightForWidth());
        animTab->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy2.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy2);

        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(0, 0, 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);
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```qt_ui_ui_mainwindow.h

        gridLayout_5->addItem(horizontalSpacer_26, 4, 5, 1, 1);

        animButton = new QRadioButton(animTab);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);

        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"));
        sizePolicy1.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
        actionTab->setSizePolicy(sizePolicy1);
        gridLayout_3 = new QGridLayout(actionTab);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        gridLayout_3->setContentsMargins(-1, -1, -1, 6);
        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"));
        sizePolicy2.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
        lightBox->setSizePolicy(sizePolicy2);

        gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);

        lockBox = new QComboBox(actionTab);
        lockBox->setObjectName(QStringLiteral("lockBox"));
        sizePolicy2.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
        lockBox->setSizePolicy(sizePolicy2);

        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);

```

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        modeBox = new QComboBox(actionTab);
        modeBox->setObjectName(QStringLiteral("modeBox"));
        sizePolicy2.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
        modeBox->setSizePolicy(sizePolicy2);

        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);

        tabWidget->addTab(actionTab, QString());
        programTab = new QWidget();
        programTab->setObjectName(QStringLiteral("programTab"));
        sizePolicy1.setHeightForWidth(programTab->sizePolicy().hasHeightForWidth());
        programTab->setSizePolicy(sizePolicy1);
        gridLayout_4 = new QGridLayout(programTab);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);

        horizontalSpacer = new QSpacerItem(0, 0, QSizePolicy::Preferred, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);

        programKpButton = new QCheckBox(programTab);
        programKpButton->setObjectName(QStringLiteral("programKpButton"));
        sizePolicy2.setHeightForWidth(programKpButton->sizePolicy().hasHeightForWidth());
        programKpButton->setSizePolicy(sizePolicy2);

        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(0, 0, 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(0, 0, 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"));
        sizePolicy2.setHeightForWidth(programKpSIBox->sizePolicy().hasHeightForWidth());
        programKpSIBox->setSizePolicy(sizePolicy2);

        horizontalLayout_2->addWidget(programKpSIBox);

        programKpModeBox = new QComboBox(programKpExtra);
        programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));
        sizePolicy2.setHeightForWidth(programKpModeBox->sizePolicy().hasHeightForWidth());
        programKpModeBox->setSizePolicy(sizePolicy2);
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        horizontalLayout_2->addWidget(programKpModeBox);

        horizontalSpacer_15 = new QSpacerItem(0, 0, 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"));
        sizePolicy2.setHeightForWidth(programKrSIBox->sizePolicy().hasHeightForWidth());
        programKrSIBox->setSizePolicy(sizePolicy2);

        horizontalLayout_3->addWidget(programKrSIBox);

        programKrModeBox = new QComboBox(programKrExtra);
        programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));
        sizePolicy2.setHeightForWidth(programKrModeBox->sizePolicy().hasHeightForWidth());
        programKrModeBox->setSizePolicy(sizePolicy2);

        horizontalLayout_3->addWidget(programKrModeBox);

        horizontalSpacer_16 = new QSpacerItem(0, 0, 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"));
        sizePolicy1.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
        progTipLabel->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy1.setHeightForWidth(macroTab->sizePolicy().hasHeightForWidth());
        macroTab->setSizePolicy(sizePolicy1);
        layoutWidget1 = new QWidget(macroTab);
        layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
        layoutWidget1->setGeometry(QRect(40, 12, 239, 36));
        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"));

        gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);

        pteMacroComment = new QPlainTextEdit(macroTab);
        pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
        pteMacroComment->setEnabled(true);
        pteMacroComment->setGeometry(QRect(450, 20, 311, 41));
        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(450, 70, 311, 121));
        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(310, 20, 131, 81));
        verticalLayout_2 = new QVBoxLayout(layoutWidget);
        verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
        verticalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
        verticalLayout_2->setContentsMargins(0, 0, 0, 0);
        groupBox_3 = new QGroupBox(layoutWidget);
        groupBox_3->setObjectName(QStringLiteral("groupBox_3"));
        sizePolicy.setHeightForWidth(groupBox_3->sizePolicy().hasHeightForWidth());
        groupBox_3->setSizePolicy(sizePolicy);

        verticalLayout_2->addWidget(groupBox_3);

        groupBox_4 = new QGroupBox(layoutWidget);
        groupBox_4->setObjectName(QStringLiteral("groupBox_4"));
        sizePolicy.setHeightForWidth(groupBox_4->sizePolicy().hasHeightForWidth());
        groupBox_4->setSizePolicy(sizePolicy);
        QFont font;
        font.setPointSize(8);
        groupBox_4->setFont(font);

        verticalLayout_2->addWidget(groupBox_4);

        layoutWidget_2 = new QWidget(macroTab);
        layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
        layoutWidget_2->setGeometry(QRect(300, 160, 436, 33));
        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);
        sizePolicy.setHeightForWidth(btnStopMacro->sizePolicy().hasHeightForWidth());
        btnStopMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);

        btnClearMacro = new QPushButton(layoutWidget_2);
        btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));
        sizePolicy.setHeightForWidth(btnClearMacro->sizePolicy().hasHeightForWidth());
        btnClearMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);

        btnStartMacro = new QPushButton(layoutWidget_2);
        btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));
        sizePolicy.setHeightForWidth(btnStartMacro->sizePolicy().hasHeightForWidth());
        btnStartMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);

        groupBox = new QGroupBox(layoutWidget_2);
        groupBox->setObjectName(QStringLiteral("groupBox"));
        sizePolicy.setHeightForWidth(groupBox->sizePolicy().hasHeightForWidth());
        groupBox->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(groupBox, 0, 0, 1, 1);

        lbl_macro = new QLabel(macroTab);
        lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
        lbl_macro->setGeometry(QRect(50, 200, 711, 21));
        QSizePolicy sizePolicy4(QSizePolicy::MinimumExpanding, QSizePolicy::Minimum);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(lbl_macro->sizePolicy().hasHeightForWidth());
        lbl_macro->setSizePolicy(sizePolicy4);
        pteMacroBox = new QPlainTextEdit(macroTab);
        pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
        pteMacroBox->setGeometry(QRect(40, 50, 239, 101));
        delayButtons = new QHBoxLayout(pteMacroBox);
        delayButtons->setSpacing(0);
        delayButtons->setObjectName(QStringLiteral("delayButtons"));
        delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
        txtBuffer = new QLabel(macroTab);
        txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
        txtBuffer->setEnabled(false);
        txtBuffer->setGeometry(QRect(40, 30, 0, 0));
        sizePolicy1.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
        txtBuffer->setSizePolicy(sizePolicy1);
        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);
        rb_delay_asTyped = new QRadioButton(macroTab);
        rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
        rb_delay_asTyped->setGeometry(QRect(210, 170, 91, 21));
        rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_asTyped->setChecked(true);
        rb_delay_default = new QRadioButton(macroTab);
        rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
        rb_delay_default->setGeometry(QRect(129, 170, 71, 21));
        rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_default->setChecked(false);
        rb_delay_default->setAutoExclusive(true);
        rb_delay_no = new QRadioButton(macroTab);
        rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
        rb_delay_no->setGeometry(QRect(45, 170, 74, 21));
        rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        tabWidget->addTab(macroTab, QString());
        txtBuffer->raise();
        pteMacroComment->raise();
        layoutWidget1->raise();
        layoutWidget->raise();
        pteMacroText->raise();
        layoutWidget_2->raise();
        lbl_macro->raise();
        pteMacroBox->raise();
        rb_delay_asTyped->raise();
        rb_delay_default->raise();
        rb_delay_no->raise();

        verticalLayout->addWidget(tabWidget);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        horizontalSpacer_14 = new QSpacerItem(0, 0, QSizePolicy::Minimum,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_14);

        unbindButton = new QPushButton(RebindWidget);
        unbindButton->setObjectName(QStringLiteral("unbindButton"));
        QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Minimum);
        sizePolicy5.setHorizontalStretch(0);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(unbindButton->sizePolicy().hasHeightForWidth());
        unbindButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(unbindButton);

        resetButton = new QPushButton(RebindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));
        sizePolicy5.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
        resetButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(resetButton);

        cancelButton = new QPushButton(RebindWidget);
        cancelButton->setObjectName(QStringLiteral("cancelButton"));
        sizePolicy5.setHeightForWidth(cancelButton->sizePolicy().hasHeightForWidth());
        cancelButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(cancelButton);

        applyButton = new QPushButton(RebindWidget);
        applyButton->setObjectName(QStringLiteral("applyButton"));
        sizePolicy5.setHeightForWidth(applyButton->sizePolicy().hasHeightForWidth());
        applyButton->setSizePolicy(sizePolicy5);

        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()), 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()));
        QObject::connect(cancelButton, SIGNAL(clicked()), pteMacroBox, SLOT(clear()));

        tabWidget->setCurrentIndex(5);
        applyButton->setDefault(true);


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

Here is the call graph for this function:

Here is the caller graph for this function:

12.81.3 Field Documentation

12.81.3.1 QWidget* Ui_RebindWidget::actionTab [inherited]

Definition at line 90 of file ui_rebindwidget.h.

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

12.81.3.2 QComboBox* Ui_RebindWidget::animBox [inherited]

Definition at line 82 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().

12.81.3.3 QRadioButton* Ui_RebindWidget::animButton [inherited]

Definition at line 88 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_animBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.4 QCheckBox* Ui_RebindWidget::animKrBox [inherited]

Definition at line 85 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.5 QCheckBox* Ui_RebindWidget::animOnceBox [inherited]

Definition at line 86 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.6 QWidget* Ui_RebindWidget::animTab [inherited]

Definition at line 79 of file ui_rebindwidget.h.

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

12.81.3.7 QPushButton* Ui_RebindWidget::applyButton [inherited]

Definition at line 156 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.8 QPushButton* Ui_RebindWidget::btnClearMacro [inherited]

Definition at line 141 of file ui_rebindwidget.h.

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

12.81.3.9 QPushButton* Ui_RebindWidget::btnStartMacro [inherited]

Definition at line 142 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.10 QPushButton* Ui_RebindWidget::btnStopMacro [inherited]

Definition at line 140 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.11 QPushButton* Ui_RebindWidget::cancelButton [inherited]

Definition at line 155 of file ui_rebindwidget.h.

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

12.81.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons [inherited]

Definition at line 146 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.13 QComboBox* Ui_RebindWidget::dpiBox [inherited]

Definition at line 66 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().

12.81.3.14 QRadioButton* Ui_RebindWidget::dpiButton [inherited]

Definition at line 60 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.81.3.15 QLabel* Ui_RebindWidget::dpiCustLabel [inherited]

Definition at line 76 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.81.3.16 QSpinBox* Ui_RebindWidget::dpiCustXBox [inherited]

Definition at line 71 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.17 QSpinBox* Ui_RebindWidget::dpiCustYBox [inherited]

Definition at line 67 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.18 QLabel* Ui_RebindWidget::dpiWarning [inherited]

Definition at line 72 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.81.3.19 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().

12.81.3.20 QRadioButton* Ui_RebindWidget::fnButton [inherited]

Definition at line 54 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_fnBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.21 QGridLayout* Ui_RebindWidget::gridLayout [inherited]

Definition at line 59 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10 [inherited]

Definition at line 139 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.23 QGridLayout* Ui_RebindWidget::gridLayout_2 [inherited]

Definition at line 41 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.24 QGridLayout* Ui_RebindWidget::gridLayout_3 [inherited]

Definition at line 91 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4 [inherited]

Definition at line 107 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5 [inherited]

Definition at line 80 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8 [inherited]

Definition at line 130 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.28 QGroupBox* Ui_RebindWidget::groupBox [inherited]

Definition at line 143 of file ui_rebindwidget.h.

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

12.81.3.29 QGroupBox* Ui_RebindWidget::groupBox_2 [inherited]

Definition at line 131 of file ui_rebindwidget.h.

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

12.81.3.30 QGroupBox* Ui_RebindWidget::groupBox_3 [inherited]

Definition at line 136 of file ui_rebindwidget.h.

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

12.81.3.31 QGroupBox* Ui_RebindWidget::groupBox_4 [inherited]

Definition at line 137 of file ui_rebindwidget.h.

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

12.81.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout [inherited]

Definition at line 151 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2 [inherited]

Definition at line 118 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.34 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3 [inherited]

Definition at line 123 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer [inherited]

Definition at line 109 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10 [inherited]

Definition at line 105 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11 [inherited]

Definition at line 112 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12 [inherited]

Definition at line 116 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13 [inherited]

Definition at line 113 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14 [inherited]

Definition at line 152 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15 [inherited]

Definition at line 121 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16 [inherited]

Definition at line 126 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17 [inherited]

Definition at line 57 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18 [inherited]

Definition at line 63 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19 [inherited]

Definition at line 77 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20 [inherited]

Definition at line 64 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21 [inherited]

Definition at line 78 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22 [inherited]

Definition at line 74 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23 [inherited]

Definition at line 89 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24 [inherited]

Definition at line 83 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25 [inherited]

Definition at line 84 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26 [inherited]

Definition at line 87 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.53 QSpacerItem* Ui_RebindWidget::horizontalSpacer_3 [inherited]

Definition at line 50 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.54 QSpacerItem* Ui_RebindWidget::horizontalSpacer_4 [inherited]

Definition at line 46 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5 [inherited]

Definition at line 92 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8 [inherited]

Definition at line 104 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.57 QWidget* Ui_RebindWidget::keyTab [inherited]

Definition at line 40 of file ui_rebindwidget.h.

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

12.81.3.58 QWidget* Ui_RebindWidget::layoutWidget [inherited]

Definition at line 134 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.59 QWidget* Ui_RebindWidget::layoutWidget1 [inherited]

Definition at line 129 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.60 QWidget* Ui_RebindWidget::layoutWidget_2 [inherited]

Definition at line 138 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.61 QLabel* Ui_RebindWidget::lbl_macro [inherited]

Definition at line 144 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.62 QComboBox* Ui_RebindWidget::lightBox [inherited]

Definition at line 100 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().

12.81.3.63 QRadioButton* Ui_RebindWidget::lightButton [inherited]

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.64 QCheckBox* Ui_RebindWidget::lightWrapBox [inherited]

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.65 QComboBox* Ui_RebindWidget::lockBox [inherited]

Definition at line 101 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().

12.81.3.66 QRadioButton* Ui_RebindWidget::lockButton [inherited]

Definition at line 98 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.67 QWidget* Ui_RebindWidget::macroTab [inherited]

Definition at line 128 of file ui_rebindwidget.h.

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

12.81.3.68 QComboBox* Ui_RebindWidget::mb2Box [inherited]

Definition at line 65 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().

12.81.3.69 QRadioButton* Ui_RebindWidget::mb2Button [inherited]

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.70 QComboBox* Ui_RebindWidget::mbBox [inherited]

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), RebindWidget::on_mbButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.71 QRadioButton* Ui_RebindWidget::mbButton [inherited]

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.72 QComboBox* Ui_RebindWidget::mediaBox [inherited]

Definition at line 55 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mediaBox_currentIndexChanged(), RebindWidget::on_mediaButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.73 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().

12.81.3.74 QComboBox* Ui_RebindWidget::modBox [inherited]

Definition at line 49 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modBox_currentIndexChanged(), RebindWidget::on_modButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.75 QRadioButton* Ui_RebindWidget::modButton [inherited]

Definition at line 53 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.76 QComboBox* Ui_RebindWidget::modeBox [inherited]

Definition at line 103 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().

12.81.3.77 QRadioButton* Ui_RebindWidget::modeButton [inherited]

Definition at line 93 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.78 QCheckBox* Ui_RebindWidget::modeWrapBox [inherited]

Definition at line 94 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.79 QWidget* Ui_RebindWidget::mouseTab [inherited]

Definition at line 58 of file ui_rebindwidget.h.

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

12.81.3.80 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().

12.81.3.81 QRadioButton* Ui_RebindWidget::numButton [inherited]

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.82 QLineEdit* Ui_RebindWidget::programKpBox [inherited]

Definition at line 111 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().

12.81.3.83 QCheckBox* Ui_RebindWidget::programKpButton [inherited]

Definition at line 110 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.81.3.84 QWidget* Ui_RebindWidget::programKpExtra [inherited]

Definition at line 117 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.81.3.85 QComboBox* Ui_RebindWidget::programKpModeBox [inherited]

Definition at line 120 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.86 QCheckBox* Ui_RebindWidget::programKpSIBox [inherited]

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.87 QLineEdit* Ui_RebindWidget::programKrBox [inherited]

Definition at line 114 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().

12.81.3.88 QCheckBox* Ui_RebindWidget::programKrButton [inherited]

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.81.3.89 QWidget* Ui_RebindWidget::programKrExtra [inherited]

Definition at line 122 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.81.3.90 QComboBox* Ui_RebindWidget::programKrModeBox [inherited]

Definition at line 125 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.91 QCheckBox* Ui_RebindWidget::programKrSIBox [inherited]

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.92 QWidget* Ui_RebindWidget::programTab [inherited]

Definition at line 106 of file ui_rebindwidget.h.

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

12.81.3.93 QLabel* Ui_RebindWidget::progTipLabel [inherited]

Definition at line 127 of file ui_rebindwidget.h.

Referenced by RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.94 QPlainTextEdit* Ui_RebindWidget::pteMacroBox [inherited]

Definition at line 145 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().

12.81.3.95 QPlainTextEdit* Ui_RebindWidget::pteMacroComment [inherited]

Definition at line 132 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.96 QPlainTextEdit* Ui_RebindWidget::pteMacroText [inherited]

Definition at line 133 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.97 QRadioButton* Ui_RebindWidget::rb_delay_asTyped [inherited]

Definition at line 148 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().

12.81.3.98 QRadioButton* Ui_RebindWidget::rb_delay_default [inherited]

Definition at line 149 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().

12.81.3.99 QRadioButton* Ui_RebindWidget::rb_delay_no [inherited]

Definition at line 150 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().

12.81.3.100 QPushButton* Ui_RebindWidget::resetButton [inherited]

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.101 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().

12.81.3.102 QLabel* Ui_RebindWidget::txtBuffer [inherited]

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.81.3.103 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().

12.81.3.104 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().

12.81.3.105 QPushButton* Ui_RebindWidget::unbindButton [inherited]

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.81.3.106 QVBoxLayout* Ui_RebindWidget::verticalLayout [inherited]

Definition at line 38 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.107 QVBoxLayout* Ui_RebindWidget::verticalLayout_2 [inherited]

Definition at line 135 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.108 QSpacerItem* Ui_RebindWidget::verticalSpacer [inherited]

Definition at line 108 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.109 QSpacerItem* Ui_RebindWidget::verticalSpacer_10 [inherited]

Definition at line 45 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.110 QSpacerItem* Ui_RebindWidget::verticalSpacer_11 [inherited]

Definition at line 81 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.111 QSpacerItem* Ui_RebindWidget::verticalSpacer_2 [inherited]

Definition at line 61 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.112 QSpacerItem* Ui_RebindWidget::verticalSpacer_3 [inherited]

Definition at line 47 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer_4 [inherited]

Definition at line 52 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_5 [inherited]

Definition at line 99 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_6 [inherited]

Definition at line 97 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_7 [inherited]

Definition at line 96 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_8 [inherited]

Definition at line 62 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.81.3.118 QComboBox* Ui_RebindWidget::wheelBox [inherited]

Definition at line 69 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().

12.81.3.119 QRadioButton* Ui_RebindWidget::wheelButton [inherited]

Definition at line 73 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

12.82 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().

```
{
    QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
}
```

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().

```
                            {
    QList<QVariant> newItems;
    int c = count();
    for(int i = 0; i < c; i++){
        QVariant data = this->item(i)->data(DATA_ROLE);
        if(data.isNull()){
```

```
            // Generate the ID for this item if it doesn't already exist
            data = QUuid::createUuid();
            this->item(i)->setData(DATA_ROLE, data);
        }
        newItems.append(data);
    }
    previousItems = newItems;
}
```

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 ()

  SettingsWidget::showLayoutDialog pops up a modal window to select the keyboard layout. Before the modal windows is created, look for a popssible open info-window about read only config file. If showLayoutDialog() finds an info window, it waits with creating the keyboard-selection until the info window has gone.
- 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);
```

```
    idx = modKeys.indexOf(KbBind::globalRemap("lctrl"));
    if(idx >= 0)
        ui->ctrlBox->setCurrentIndex(idx);
    idx = modKeys.indexOf(KbBind::globalRemap("lwin"));
    if(idx >= 0)
        ui->winBox->setCurrentIndex(idx);
    idx = modKeys.indexOf(KbBind::globalRemap("lalt"));
    if(idx >= 0)
        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 171 of file settingswidget.cpp.

References updateModifiers().

```
171                                                 {
172     updateModifiers();
173 }
```

Here is the call graph for this function:

12.83.3.2 void SettingsWidget::on_autoFWBox_clicked (bool *checked*) [private],[slot]

Definition at line 179 of file settingswidget.cpp.

References CkbSettings::set().

```
179                                                 {
180     CkbSettings::set("Program/DisableAutoFWCheck", !checked);
181 }
```

Here is the call graph for this function:

12.83.3.3 void SettingsWidget::on_capsBox_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:

12.83.3.4 void SettingsWidget::on_ctrlBox_activated (int *index*) [private],[slot]

Definition at line 167 of file settingswidget.cpp.

References updateModifiers().

```
167                                                 {
168     updateModifiers();
169 }
```

Here is the call graph for this function:

12.83.3.5 void SettingsWidget::on_extraButton_clicked ( ) [private],[slot]

Definition at line 196 of file settingswidget.cpp.

References extra.

```
196                                         {
197     extra->exec();
198 }
```

12.83.3.6 void SettingsWidget::on_layoutBox_activated (int *index*) [private],[slot]

Definition at line 190 of file settingswidget.cpp.

References KeyMap::getLayout(), Kb::layout(), and CkbSettings::set().

Referenced by showLayoutDialog().

```
190                                                 {
191     KeyMap::Layout layout = (KeyMap::Layout)index;
192     CkbSettings::set("Program/KbdLayout", KeyMap::getLayout(layout));
193     Kb::layout(layout);
194 }
```

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 183 of file settingswidget.cpp.

References AutoRun::disable(), and AutoRun::enable().

```
183                                                     {
184     if(checked)
185         AutoRun::enable();
186     else
187         AutoRun::disable();
188 }
```

Here is the call graph for this function:

12.83.3.8 void SettingsWidget::on_pushButton_clicked ( ) [private],[slot]

Definition at line 155 of file settingswidget.cpp.

```
155                                         {
156     qApp->quit();
157 }
```

12.83.3.9 void SettingsWidget::on_shiftBox_activated (int *index*) [private],[slot]

Definition at line 163 of file settingswidget.cpp.

References updateModifiers().

```
163                                                 {
164     updateModifiers();
165 }
```

Here is the call graph for this function:

12.83.3.10 void SettingsWidget::on_winBox_activated (int *index*) [private],[slot]

Definition at line 175 of file settingswidget.cpp.

References updateModifiers().

```
175                                                 {
176     updateModifiers();
177 }
```

Here is the call graph for this function:

12.83.3.11 void SettingsWidget::pollUpdates ( )

Definition at line 122 of file settingswidget.cpp.

References extra, and ExtraSettingsWidget::pollUpdates().

Referenced by MainWindow::timerTick().

```
122                                 {
123     extra->pollUpdates();
124 }
```

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 126 of file settingswidget.cpp.

References Ui_SettingsWidget::devicesLabel, and ui.

Referenced by MainWindow::updateVersion().

```
126                                                 {
127     ui->devicesLabel->setText(text);
128 }
```

Here is the caller graph for this function:

12.83.3.13 void SettingsWidget::setVersion (const QString & *version*)

Definition at line 130 of file settingswidget.cpp.

References ui, and Ui_SettingsWidget::versionLabel.

Referenced by MainWindow::MainWindow().

```
130                                                 {
131     ui->versionLabel->setText(version);
132 }
```

Here is the caller graph for this function:

12.83.3.14 void SettingsWidget::showLayoutDialog ( ) [private],[slot]

If the profile is read only and the info panel is open, wait asynchronous until the panel is closed.

Now create the panel to select the keyboard layout

Definition at line 104 of file settingswidget.cpp.

References Ui_SettingsWidget::layoutBox, on_layoutBox_activated(), LayoutDialog::selected(), and ui.

Referenced by SettingsWidget().

```
104                                     {
105
107     foreach (QWidget *widget, QApplication::topLevelWidgets()) {
108         if (widget->property("Title") == "Profile is read only") {
109             QTimer::singleShot(333, this, SLOT(showLayoutDialog()));   // Run the function
      after a delay as the dialog may not appear correctly otherwise
110             return;
111         }
112     }
113
115     LayoutDialog dialog(this);
116     dialog.exec();
117     // Set selected layout
118     ui->layoutBox->setCurrentIndex((int)dialog.selected());
119     on_layoutBox_activated((int)dialog.selected());         // Call activated()
      signal manually to trigger save
120 }
```

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 140 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().

```
{
    QHash<QString, QString> newMods;
    newMods["caps"] = modKeys[ui->capsBox->currentIndex()];
    newMods["lshift"] = modKeys[ui->shiftBox->currentIndex()];
    newMods["rshift"] = right(modKeys[ui->shiftBox->currentIndex()]);
    newMods["lctrl"] = modKeys[ui->ctrlBox->currentIndex()];
    newMods["rctrl"] = right(modKeys[ui->ctrlBox->currentIndex()]);
    newMods["lalt"] = modKeys[ui->altBox->currentIndex()];
    newMods["ralt"] = right(modKeys[ui->altBox->currentIndex()]);
    newMods["lwin"] = modKeys[ui->winBox->currentIndex()];
    newMods["rwin"] = right(modKeys[ui->winBox->currentIndex()]);
    KbBind::setGlobalRemap(newMods);
    KbBind::saveGlobalRemap();
}
```

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 67 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 70 of file ckbsettings.h.

References CkbSettings::beginGroup().

```
70 : _settings(settings) { settings.beginGroup(prefix); }
```

Here is the call graph for this function:

12.85.2.2 SGroup::~SGroup ( ) [inline]

Definition at line 71 of file ckbsettings.h.

References _settings, and CkbSettings::endGroup().

```
71 { _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 74 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().

```
136     {
137         AnimAddDialog->setWindowTitle(QApplication::translate("AnimAddDialog", "Add Animation", Q_NULLPTR))
    ;
138         label_2->setText(QApplication::translate("AnimAddDialog", "Preset:", Q_NULLPTR));
139         label->setText(QApplication::translate("AnimAddDialog", "Animation:", Q_NULLPTR));
140         previewBox->setText(QApplication::translate("AnimAddDialog", "Show preview", Q_NULLPTR));
141     } // 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().

```
45     {
46         if (AnimAddDialog->objectName().isEmpty())
47             AnimAddDialog->setObjectName(QStringLiteral("AnimAddDialog"));
48         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(675, 218);
        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:

12.91.3 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 182 of file ui_kbbindwidget.h.

References copyButton, label, label_2, resetButton, and selectLabel.

Referenced by setupUi().

```
183     {
184         KbBindWidget->setWindowTitle(QApplication::translate("KbBindWidget", "Form", Q_NULLPTR));
185         label->setText(QApplication::translate("KbBindWidget", "Keys", Q_NULLPTR));
186         copyButton->setText(QApplication::translate("KbBindWidget", "Copy to mode...", Q_NULLPTR)
    );
187         selectLabel->setText(QApplication::translate("KbBindWidget", "Click to select keys",
    Q_NULLPTR));
188         resetButton->setText(QApplication::translate("KbBindWidget", "Reset", Q_NULLPTR));
189         label_2->setText(QApplication::translate("KbBindWidget", "Binding", Q_NULLPTR));
190     } // 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(533, 230);
56         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Expanding);
57         sizePolicy.setHorizontalStretch(0);
58         sizePolicy.setVerticalStretch(0);
59         sizePolicy.setHeightForWidth(KbBindWidget->sizePolicy().hasHeightForWidth());
60         KbBindWidget->setSizePolicy(sizePolicy);
61         verticalLayout = new QVBoxLayout(KbBindWidget);
62         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
63         verticalLayout->setContentsMargins(0, 0, 0, -1);
64         label = new QLabel(KbBindWidget);
65         label->setObjectName(QStringLiteral("label"));
66         QFont font;
67         font.setBold(true);
68         font.setWeight(75);
69         label->setFont(font);
70
71         verticalLayout->addWidget(label);
72
73         line = new QFrame(KbBindWidget);
74         line->setObjectName(QStringLiteral("line"));
75         line->setFrameShape(QFrame::HLine);
76         line->setFrameShadow(QFrame::Sunken);
77
78         verticalLayout->addWidget(line);
79
80         gridLayout = new QGridLayout();
81         gridLayout->setObjectName(QStringLiteral("gridLayout"));
82         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
```

```
        gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);

        keyWidget = new KeyWidget(KbBindWidget);
        keyWidget->setObjectName(QStringLiteral("keyWidget"));
        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"));
         horizontalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
         copyButton = new QPushButton(KbBindWidget);
         copyButton->setObjectName(QStringLiteral("copyButton"));
         copyButton->setEnabled(true);
         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
         sizePolicy1.setHorizontalStretch(0);
         sizePolicy1.setVerticalStretch(0);
         sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
         copyButton->setSizePolicy(sizePolicy1);
         copyButton->setMinimumSize(QSize(140, 0));

         horizontalLayout_2->addWidget(copyButton);

         selectLabel = new QLabel(KbBindWidget);
         selectLabel->setObjectName(QStringLiteral("selectLabel"));
         sizePolicy1.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
         selectLabel->setSizePolicy(sizePolicy1);
         selectLabel->setLineWidth(1);
         selectLabel->setAlignment(Qt::AlignCenter);
         selectLabel->setMargin(10);
         selectLabel->setIndent(-1);

         horizontalLayout_2->addWidget(selectLabel);

         resetButton = new QPushButton(KbBindWidget);
         resetButton->setObjectName(QStringLiteral("resetButton"));
         sizePolicy1.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
         resetButton->setSizePolicy(sizePolicy1);
         resetButton->setMinimumSize(QSize(140, 0));

         horizontalLayout_2->addWidget(resetButton);


         gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);


         verticalLayout->addLayout(gridLayout);

         verticalSpacer = new QSpacerItem(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

         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"));
         sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
         widget->setSizePolicy(sizePolicy);
         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 sizePolicy2(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
         sizePolicy2.setHorizontalStretch(0);
         sizePolicy2.setVerticalStretch(0);
         sizePolicy2.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
```

```
        rbWidget->setSizePolicy(sizePolicy2);

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


        verticalLayout->addWidget(widget);


        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 * verticalSpacer
- 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 253 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 64 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, verticalSpacer_2, verticalSpacer_3, and widget.

Referenced by KbLightWidget::KbLightWidget().

```
    {
        if (KbLightWidget->objectName().isEmpty())
            KbLightWidget->setObjectName(QStringLiteral("KbLightWidget"));
        KbLightWidget->resize(596, 450);
        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"));
         horizontalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
         horizontalSpacer_5 = new QSpacerItem(0, 0, 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::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
        bgButton->setSizePolicy(sizePolicy2);

        horizontalLayout->addWidget(bgButton);

        selLabel = new QLabel(KbLightWidget);
        selLabel->setObjectName(QStringLiteral("selLabel"));
        sizePolicy2.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
        selLabel->setSizePolicy(sizePolicy2);
        selLabel->setAlignment(Qt::AlignCenter);

        horizontalLayout->addWidget(selLabel);

        animButton = new QPushButton(KbLightWidget);
        animButton->setObjectName(QStringLiteral("animButton"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);

        horizontalLayout->addWidget(animButton);


        gridLayout->addLayout(horizontalLayout, 2, 0, 1, 3);

        verticalSpacer = new QSpacerItem(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

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


        horizontalLayout_2->addLayout(gridLayout);

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

        horizontalLayout_2->addItem(horizontalSpacer_6);


        verticalLayout->addLayout(horizontalLayout_2);

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

        verticalLayout->addItem(verticalSpacer_2);

        gridLayout_2 = new QGridLayout();
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        brightnessBox = new QComboBox(KbLightWidget);
        brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
        QSizePolicy sizePolicy3(QSizePolicy::Minimum, QSizePolicy::Minimum);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
        brightnessBox->setSizePolicy(sizePolicy3);

        gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);

        label = new QLabel(KbLightWidget);
        label->setObjectName(QStringLiteral("label"));
        sizePolicy3.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
        label->setSizePolicy(sizePolicy3);
        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(0, 20, QSizePolicy::Minimum, QSizePolicy::Fixed);

        verticalLayout->addItem(verticalSpacer_3);

        label_2 = new QLabel(KbLightWidget);
        label_2->setObjectName(QStringLiteral("label_2"));
        QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Minimum);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
        label_2->setSizePolicy(sizePolicy4);
        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"));
        sizePolicy1.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
        widget->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy1.setHeightForWidth(animWidget->sizePolicy().hasHeightForWidth());
        animWidget->setSizePolicy(sizePolicy1);

        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 62 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 53 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 52 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4

Definition at line 61 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 55 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4

Definition at line 56 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 50 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 54 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.17 QLabel* Ui_KbLightWidget::label_2

Definition at line 58 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 59 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

Definition at line 49 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2

Definition at line 51 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.26 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3

Definition at line 57 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.27 QWidget* Ui_KbLightWidget::widget

Definition at line 60 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().

```
    {
        KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles", Q_NULLPTR));
    } // 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(108, 152);
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);
45
46         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
     QSizePolicy::Minimum);
47
48         gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);
49
50         profileList = new RListWidget(KbProfileDialog);
51         profileList->setObjectName(QStringLiteral("profileList"));
52         profileList->setContextMenuPolicy(Qt::CustomContextMenu);
53         profileList->setFrameShadow(QFrame::Plain);
54         profileList->setIconSize(QSize(24, 24));
55
56         gridLayout->addWidget(profileList, 0, 1, 1, 1);
57
58         buttonBox = new QDialogButtonBox(KbProfileDialog);
59         buttonBox->setObjectName(QStringLiteral("buttonBox"));
60         buttonBox->setOrientation(Qt::Horizontal);
61         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
62
63         gridLayout->addWidget(buttonBox, 1, 0, 1, 3);
64
65
66         retranslateUi(KbProfileDialog);
67         QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
68         QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));
69
70         QMetaObject::connectSlotsByName(KbProfileDialog);
71     } // 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 277 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(933, 323);
        QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(KbWidget->sizePolicy().hasHeightForWidth());
        KbWidget->setSizePolicy(sizePolicy);
        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 sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy1.setHorizontalStretch(18);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
        profileBox->setSizePolicy(sizePolicy1);
        profileBox->setIconSize(QSize(24, 24));

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

        tabWidget = new QTabWidget(KbWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        QSizePolicy sizePolicy2(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
```

```
        sizePolicy2.setHorizontalStretch(82);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy2);
        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"));
        sizePolicy.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
        lightWidget->setSizePolicy(sizePolicy);

        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"));
        sizePolicy.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
        bindWidget->setSizePolicy(sizePolicy);

        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"));
        QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(kPerfWidget->sizePolicy().hasHeightForWidth());
        kPerfWidget->setSizePolicy(sizePolicy4);

        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"));
        sizePolicy4.setHeightForWidth(mPerfWidget->sizePolicy().hasHeightForWidth());
        mPerfWidget->setSizePolicy(sizePolicy4);

        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 sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy5.setHorizontalStretch(18);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
        modesList->setSizePolicy(sizePolicy5);
        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 sizePolicy6(QSizePolicy::Minimum, QSizePolicy::Fixed);
        sizePolicy6.setHorizontalStretch(18);
        sizePolicy6.setVerticalStretch(0);
        sizePolicy6.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
        hwSaveButton->setSizePolicy(sizePolicy6);

        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(424, 233);
     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 76 of file ui_mainwindow.h.

References actionAbout, and actionExit.

Referenced by setupUi().

```
77     {
78         MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
79         actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
80         actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
81         actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
82     } // 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(153, 20);
38         QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
39         sizePolicy.setHorizontalStretch(0);
40         sizePolicy.setVerticalStretch(0);
41         sizePolicy.setHeightForWidth(MainWindow->sizePolicy().hasHeightForWidth());
42         MainWindow->setSizePolicy(sizePolicy);
43         QIcon icon;
44         icon.addFile(QStringLiteral(":/img/ckb-logo.png"), QSize(), QIcon::Normal, QIcon::Off);
45         MainWindow->setWindowIcon(icon);
46         MainWindow->setUnifiedTitleAndToolBarOnMac(true);
47         actionExit = new QAction(MainWindow);
48         actionExit->setObjectName(QStringLiteral("actionExit"));
49         actionAbout = new QAction(MainWindow);
50         actionAbout->setObjectName(QStringLiteral("actionAbout"));
```

```
        centralWidget = new QWidget(MainWindow);
        centralWidget->setObjectName(QStringLiteral("centralWidget"));
        sizePolicy.setHeightForWidth(centralWidget->sizePolicy().hasHeightForWidth());
        centralWidget->setSizePolicy(sizePolicy);
        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"));
        sizePolicy.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy);

        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(415, 192);
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(773, 802);
        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 * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_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
- 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 * 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
- QGroupBox * groupBox
- QLabel * lbl_macro
- QPlainTextEdit * pteMacroBox
- QHBoxLayout * delayButtons
- QLabel * txtBuffer
- QRadioButton * rb_delay_asTyped
- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_no

- 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 909 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, dpiBox, dpiButton, dpiCustLabel, dpiWarning, fnBox, fnButton, groupBox, groupBox_2, groupBox_3, groupBox_4, keyTab, lbl_macro, lightBox, lightButton, lightWrapBox, lockBox, lockButton, macroTab, mb2Box, mb2Button, mbBox, mbButton, mediaBox, mediaButton, modBox, modButton, modeBox, modeButton, modeWrapBox, mouseTab, numBox, numButton, programKpButton, programKpModeBox, programKpSIBox, programKrButton, programKrModeBox, programKrSIBox, 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().

```
    {
        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", "T&yping:", 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", "Misce&llaneous:", 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", "(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", "Whee&l:", 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));
        groupBox->setTitle(QApplication::translate("RebindWidget", "Macro recording", Q_NULLPTR));
        lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help", Q_NULLPTR));
        txtBuffer->setText(QString());
#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));
#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_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));
        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 158 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, delayButtons, dpiBox, dpiButton, dpiCustLabel, dpiCustXBox, dpiCustYBox, dpiWarning, fnBox, fnButton, gridLayout, gridLayout_10, gridLayout_2, gridLayout_3, gridLayout_4, gridLayout_5, gridLayout_8, groupBox, 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_20, horizontalSpacer_21, horizontalSpacer_22, horizontalSpacer_23, horizontalSpacer_24, horizontalSpacer_25, horizontalSpacer_26, horizontalSpacer_3,

horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_8, keyTab, layoutWidget, layoutWidget1, 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(958, 477);
        QSizePolicy sizePolicy(QSizePolicy::MinimumExpanding, QSizePolicy::MinimumExpanding);
        sizePolicy.setHorizontalStretch(0);
        sizePolicy.setVerticalStretch(0);
        sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
        RebindWidget->setSizePolicy(sizePolicy);
        verticalLayout = new QVBoxLayout(RebindWidget);
        verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
        tabWidget = new QTabWidget(RebindWidget);
        tabWidget->setObjectName(QStringLiteral("tabWidget"));
        sizePolicy.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
        tabWidget->setSizePolicy(sizePolicy);
        keyTab = new QWidget();
        keyTab->setObjectName(QStringLiteral("keyTab"));
        QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
        sizePolicy1.setHorizontalStretch(0);
        sizePolicy1.setVerticalStretch(0);
        sizePolicy1.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
        keyTab->setSizePolicy(sizePolicy1);
        gridLayout_2 = new QGridLayout(keyTab);
        gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
        gridLayout_2->setContentsMargins(-1, -1, -1, 6);
        numBox = new QComboBox(keyTab);
        numBox->setObjectName(QStringLiteral("numBox"));
        QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
        sizePolicy2.setHorizontalStretch(0);
        sizePolicy2.setVerticalStretch(0);
        sizePolicy2.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
        numBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(numBox, 6, 4, 1, 1);

        typingBox = new QComboBox(keyTab);
        typingBox->setObjectName(QStringLiteral("typingBox"));
        sizePolicy2.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
        typingBox->setSizePolicy(sizePolicy2);

        gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);

        fnBox = new QComboBox(keyTab);
        fnBox->setObjectName(QStringLiteral("fnBox"));
        sizePolicy2.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
        fnBox->setSizePolicy(sizePolicy2);

        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);

        horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);

        verticalSpacer_3 = new QSpacerItem(20, 50, QSizePolicy::Minimum,
    QSizePolicy::Expanding);

        gridLayout_2->addItem(verticalSpacer_3, 15, 2, 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"));
        sizePolicy2.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
        modBox->setSizePolicy(sizePolicy2);

        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);

        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"));
        sizePolicy2.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
        mediaBox->setSizePolicy(sizePolicy2);

        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(0, 0, QSizePolicy::Expanding, QSizePolicy::Minimum);

        gridLayout_2->addItem(horizontalSpacer_17, 1, 5, 1, 1);

        tabWidget->addTab(keyTab, QString());
        mouseTab = new QWidget();
        mouseTab->setObjectName(QStringLiteral("mouseTab"));
        sizePolicy1.setHeightForWidth(mouseTab->sizePolicy().hasHeightForWidth());
        mouseTab->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy2.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
```

```
        mb2Box->setSizePolicy(sizePolicy2);

        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"));
        sizePolicy2.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
        mbBox->setSizePolicy(sizePolicy2);

        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 sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Fixed);
        sizePolicy3.setHorizontalStretch(0);
        sizePolicy3.setVerticalStretch(0);
        sizePolicy3.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
        dpiWarning->setSizePolicy(sizePolicy3);

        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"));
```

```
        sizePolicy1.setHeightForWidth(animTab->sizePolicy().hasHeightForWidth());
        animTab->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy2.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
        animBox->setSizePolicy(sizePolicy2);

        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(0, 0, 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"));
        sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
        animButton->setSizePolicy(sizePolicy2);

        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"));
        sizePolicy1.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
        actionTab->setSizePolicy(sizePolicy1);
        gridLayout_3 = new QGridLayout(actionTab);
        gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
        gridLayout_3->setContentsMargins(-1, -1, -1, 6);
        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"));
        sizePolicy2.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
        lightBox->setSizePolicy(sizePolicy2);

        gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);

        lockBox = new QComboBox(actionTab);
        lockBox->setObjectName(QStringLiteral("lockBox"));
        sizePolicy2.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
        lockBox->setSizePolicy(sizePolicy2);

        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"));
        sizePolicy2.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
        modeBox->setSizePolicy(sizePolicy2);

        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);

        tabWidget->addTab(actionTab, QString());
        programTab = new QWidget();
        programTab->setObjectName(QStringLiteral("programTab"));
        sizePolicy1.setHeightForWidth(programTab->sizePolicy().hasHeightForWidth());
        programTab->setSizePolicy(sizePolicy1);
        gridLayout_4 = new QGridLayout(programTab);
        gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
        verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Fixed);

        gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);

        horizontalSpacer = new QSpacerItem(0, 0, QSizePolicy::Preferred, QSizePolicy::Minimum);

        gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);

        programKpButton = new QCheckBox(programTab);
        programKpButton->setObjectName(QStringLiteral("programKpButton"));
        sizePolicy2.setHeightForWidth(programKpButton->sizePolicy().hasHeightForWidth());
        programKpButton->setSizePolicy(sizePolicy2);

        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(0, 0, 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(0, 0, 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"));
        sizePolicy2.setHeightForWidth(programKpSIBox->sizePolicy().hasHeightForWidth());
        programKpSIBox->setSizePolicy(sizePolicy2);

        horizontalLayout_2->addWidget(programKpSIBox);

        programKpModeBox = new QComboBox(programKpExtra);
        programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));
        sizePolicy2.setHeightForWidth(programKpModeBox->sizePolicy().hasHeightForWidth());
        programKpModeBox->setSizePolicy(sizePolicy2);

        horizontalLayout_2->addWidget(programKpModeBox);

        horizontalSpacer_15 = new QSpacerItem(0, 0, 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"));
        sizePolicy2.setHeightForWidth(programKrSIBox->sizePolicy().hasHeightForWidth());
        programKrSIBox->setSizePolicy(sizePolicy2);

        horizontalLayout_3->addWidget(programKrSIBox);

        programKrModeBox = new QComboBox(programKrExtra);
        programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));
        sizePolicy2.setHeightForWidth(programKrModeBox->sizePolicy().hasHeightForWidth());
        programKrModeBox->setSizePolicy(sizePolicy2);

        horizontalLayout_3->addWidget(programKrModeBox);

        horizontalSpacer_16 = new QSpacerItem(0, 0, 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"));
        sizePolicy1.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
        progTipLabel->setSizePolicy(sizePolicy1);
        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"));
        sizePolicy1.setHeightForWidth(macroTab->sizePolicy().hasHeightForWidth());
        macroTab->setSizePolicy(sizePolicy1);
        layoutWidget1 = new QWidget(macroTab);
        layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
        layoutWidget1->setGeometry(QRect(40, 12, 239, 36));
        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"));

        gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);

        pteMacroComment = new QPlainTextEdit(macroTab);
        pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
        pteMacroComment->setEnabled(true);
        pteMacroComment->setGeometry(QRect(450, 20, 311, 41));
        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(450, 70, 311, 121));
        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(310, 20, 131, 81));
        verticalLayout_2 = new QVBoxLayout(layoutWidget);
        verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
        verticalLayout_2->setSizeConstraint(QLayout::SetDefaultConstraint);
        verticalLayout_2->setContentsMargins(0, 0, 0, 0);
        groupBox_3 = new QGroupBox(layoutWidget);
        groupBox_3->setObjectName(QStringLiteral("groupBox_3"));
        sizePolicy.setHeightForWidth(groupBox_3->sizePolicy().hasHeightForWidth());
        groupBox_3->setSizePolicy(sizePolicy);

        verticalLayout_2->addWidget(groupBox_3);

        groupBox_4 = new QGroupBox(layoutWidget);
        groupBox_4->setObjectName(QStringLiteral("groupBox_4"));
        sizePolicy.setHeightForWidth(groupBox_4->sizePolicy().hasHeightForWidth());
        groupBox_4->setSizePolicy(sizePolicy);
        QFont font;
        font.setPointSize(8);
        groupBox_4->setFont(font);

        verticalLayout_2->addWidget(groupBox_4);

        layoutWidget_2 = new QWidget(macroTab);
        layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
        layoutWidget_2->setGeometry(QRect(300, 160, 436, 33));
        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);
        sizePolicy.setHeightForWidth(btnStopMacro->sizePolicy().hasHeightForWidth());
        btnStopMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);

        btnClearMacro = new QPushButton(layoutWidget_2);
        btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));
        sizePolicy.setHeightForWidth(btnClearMacro->sizePolicy().hasHeightForWidth());
        btnClearMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);

        btnStartMacro = new QPushButton(layoutWidget_2);
        btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));
```

```
        sizePolicy.setHeightForWidth(btnStartMacro->sizePolicy().hasHeightForWidth());
        btnStartMacro->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);

        groupBox = new QGroupBox(layoutWidget_2);
        groupBox->setObjectName(QStringLiteral("groupBox"));
        sizePolicy.setHeightForWidth(groupBox->sizePolicy().hasHeightForWidth());
        groupBox->setSizePolicy(sizePolicy);

        gridLayout_10->addWidget(groupBox, 0, 0, 1, 1);

        lbl_macro = new QLabel(macroTab);
        lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
        lbl_macro->setGeometry(QRect(50, 200, 711, 21));
        QSizePolicy sizePolicy4(QSizePolicy::MinimumExpanding, QSizePolicy::Minimum);
        sizePolicy4.setHorizontalStretch(0);
        sizePolicy4.setVerticalStretch(0);
        sizePolicy4.setHeightForWidth(lbl_macro->sizePolicy().hasHeightForWidth());
        lbl_macro->setSizePolicy(sizePolicy4);
        pteMacroBox = new QPlainTextEdit(macroTab);
        pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
        pteMacroBox->setGeometry(QRect(40, 50, 239, 101));
        delayButtons = new QHBoxLayout(pteMacroBox);
        delayButtons->setSpacing(0);
        delayButtons->setObjectName(QStringLiteral("delayButtons"));
        delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
        txtBuffer = new QLabel(macroTab);
        txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
        txtBuffer->setEnabled(false);
        txtBuffer->setGeometry(QRect(40, 30, 0, 0));
        sizePolicy1.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
        txtBuffer->setSizePolicy(sizePolicy1);
        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);
        rb_delay_asTyped = new QRadioButton(macroTab);
        rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
        rb_delay_asTyped->setGeometry(QRect(210, 170, 91, 21));
        rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_asTyped->setChecked(true);
        rb_delay_default = new QRadioButton(macroTab);
        rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
        rb_delay_default->setGeometry(QRect(129, 170, 71, 21));
        rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        rb_delay_default->setChecked(false);
        rb_delay_default->setAutoExclusive(true);
        rb_delay_no = new QRadioButton(macroTab);
        rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
        rb_delay_no->setGeometry(QRect(45, 170, 74, 21));
        rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
        tabWidget->addTab(macroTab, QString());
        txtBuffer->raise();
        pteMacroComment->raise();
        layoutWidget1->raise();
        layoutWidget->raise();
        pteMacroText->raise();
        layoutWidget_2->raise();
        lbl_macro->raise();
        pteMacroBox->raise();
        rb_delay_asTyped->raise();
        rb_delay_default->raise();
        rb_delay_no->raise();

        verticalLayout->addWidget(tabWidget);

        horizontalLayout = new QHBoxLayout();
        horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
        horizontalSpacer_14 = new QSpacerItem(0, 0, QSizePolicy::Minimum,
    QSizePolicy::Minimum);

        horizontalLayout->addItem(horizontalSpacer_14);

```

```
        unbindButton = new QPushButton(RebindWidget);
        unbindButton->setObjectName(QStringLiteral("unbindButton"));
        QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Minimum);
        sizePolicy5.setHorizontalStretch(0);
        sizePolicy5.setVerticalStretch(0);
        sizePolicy5.setHeightForWidth(unbindButton->sizePolicy().hasHeightForWidth());
        unbindButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(unbindButton);

        resetButton = new QPushButton(RebindWidget);
        resetButton->setObjectName(QStringLiteral("resetButton"));
        sizePolicy5.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
        resetButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(resetButton);

        cancelButton = new QPushButton(RebindWidget);
        cancelButton->setObjectName(QStringLiteral("cancelButton"));
        sizePolicy5.setHeightForWidth(cancelButton->sizePolicy().hasHeightForWidth());
        cancelButton->setSizePolicy(sizePolicy5);

        horizontalLayout->addWidget(cancelButton);

        applyButton = new QPushButton(RebindWidget);
        applyButton->setObjectName(QStringLiteral("applyButton"));
        sizePolicy5.setHeightForWidth(applyButton->sizePolicy().hasHeightForWidth());
        applyButton->setSizePolicy(sizePolicy5);

        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()),
```

```
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()));
        QObject::connect(cancelButton, SIGNAL(clicked()), pteMacroBox, SLOT(clear()));

        tabWidget->setCurrentIndex(5);
        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 90 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.2 QComboBox* Ui_RebindWidget::animBox

Definition at line 82 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 88 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 85 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 86 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 79 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.7 QPushButton* Ui_RebindWidget::applyButton

Definition at line 156 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 141 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.9 QPushButton* Ui_RebindWidget::btnStartMacro

Definition at line 142 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 140 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 155 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons

Definition at line 146 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.13 QComboBox∗ Ui_RebindWidget::dpiBox

Definition at line 66 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 60 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 76 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 71 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 67 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 72 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 54 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 59 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10

Definition at line 139 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 91 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4

Definition at line 107 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5

Definition at line 80 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8

Definition at line 130 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.28 QGroupBox* Ui_RebindWidget::groupBox

Definition at line 143 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.29 QGroupBox* Ui_RebindWidget::groupBox_2

Definition at line 131 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.30 QGroupBox* Ui_RebindWidget::groupBox_3

Definition at line 136 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.31 QGroupBox* Ui_RebindWidget::groupBox_4

Definition at line 137 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout

Definition at line 151 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2

Definition at line 118 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.34 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3

Definition at line 123 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer

Definition at line 109 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10

Definition at line 105 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11

Definition at line 112 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12

Definition at line 116 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13

Definition at line 113 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14

Definition at line 152 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15

Definition at line 121 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16

Definition at line 126 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17

Definition at line 57 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18

Definition at line 63 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19

Definition at line 77 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20

Definition at line 64 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21

Definition at line 78 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22

Definition at line 74 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23

Definition at line 89 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24

Definition at line 83 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25

Definition at line 84 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26

Definition at line 87 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 46 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5

Definition at line 92 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8

Definition at line 104 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.57 QWidget* Ui_RebindWidget::keyTab

Definition at line 40 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.58 QWidget* Ui_RebindWidget::layoutWidget

Definition at line 134 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.59 QWidget* Ui_RebindWidget::layoutWidget1

Definition at line 129 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.60 QWidget* Ui_RebindWidget::layoutWidget_2

Definition at line 138 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.61 QLabel* Ui_RebindWidget::lbl_macro

Definition at line 144 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), retranslateUi(), and setupUi().

12.101.3.62 QComboBox* Ui_RebindWidget::lightBox

Definition at line 100 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::on_lightButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.63 QRadioButton* Ui_RebindWidget::lightButton

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.64 QCheckBox* Ui_RebindWidget::lightWrapBox

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.65 QComboBox* Ui_RebindWidget::lockBox

Definition at line 101 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lockBox_currentIndexChanged(), RebindWidget::on_lockButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.66 QRadioButton* Ui_RebindWidget::lockButton

Definition at line 98 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.67 QWidget* Ui_RebindWidget::macroTab

Definition at line 128 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.68 QComboBox* Ui_RebindWidget::mb2Box

Definition at line 65 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mb2Box_currentIndexChanged(), RebindWidget::on_mb2Button_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.69 QRadioButton* Ui_RebindWidget::mb2Button

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.70 QComboBox* Ui_RebindWidget::mbBox

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), RebindWidget::on_mbButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.71 QRadioButton* Ui_RebindWidget::mbButton

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.72 QComboBox* Ui_RebindWidget::mediaBox

Definition at line 55 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().

12.101.3.73 QRadioButton* Ui_RebindWidget::mediaButton

Definition at line 51 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mediaBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.74 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().

12.101.3.75 QRadioButton* Ui_RebindWidget::modButton

Definition at line 53 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.76 QComboBox* Ui_RebindWidget::modeBox

Definition at line 103 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().

12.101.3.77 QRadioButton* Ui_RebindWidget::modeButton

Definition at line 93 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.78 QCheckBox* Ui_RebindWidget::modeWrapBox

Definition at line 94 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.79 QWidget* Ui_RebindWidget::mouseTab

Definition at line 58 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.80 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().

12.101.3.81 QRadioButton* Ui_RebindWidget::numButton

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.82 QLineEdit* Ui_RebindWidget::programKpBox

Definition at line 111 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpBox_textChanged(), RebindWidget::on_programKpButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.83 QCheckBox* Ui_RebindWidget::programKpButton

Definition at line 110 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.84 QWidget* Ui_RebindWidget::programKpExtra

Definition at line 117 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.85 QComboBox* Ui_RebindWidget::programKpModeBox

Definition at line 120 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.86 QCheckBox* Ui_RebindWidget::programKpSIBox

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.87 QLineEdit* Ui_RebindWidget::programKrBox

Definition at line 114 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrBox_textChanged(), RebindWidget::on_programKrButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.88 QCheckBox* Ui_RebindWidget::programKrButton

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.89 QWidget* Ui_RebindWidget::programKrExtra

Definition at line 122 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.90 QComboBox* Ui_RebindWidget::programKrModeBox

Definition at line 125 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.91 QCheckBox* Ui_RebindWidget::programKrSIBox

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.92 QWidget* Ui_RebindWidget::programTab

Definition at line 106 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.93 QLabel* Ui_RebindWidget::progTipLabel

Definition at line 127 of file ui_rebindwidget.h.

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

12.101.3.94 QPlainTextEdit* Ui_RebindWidget::pteMacroBox

Definition at line 145 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().

12.101.3.95 QPlainTextEdit* Ui_RebindWidget::pteMacroComment

Definition at line 132 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.96 QPlainTextEdit* Ui_RebindWidget::pteMacroText

Definition at line 133 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.97 QRadioButton* Ui_RebindWidget::rb_delay_asTyped

Definition at line 148 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.98 QRadioButton* Ui_RebindWidget::rb_delay_default

Definition at line 149 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.99 QRadioButton* Ui_RebindWidget::rb_delay_no

Definition at line 150 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.100 QPushButton* Ui_RebindWidget::resetButton

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.101 QTabWidget* Ui_RebindWidget::tabWidget

Definition at line 39 of file ui_rebindwidget.h.

Referenced by retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.102 QLabel* Ui_RebindWidget::txtBuffer

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.103 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().

12.101.3.104 QRadioButton* Ui_RebindWidget::typingButton

Definition at line 48 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_typingBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.105 QPushButton* Ui_RebindWidget::unbindButton

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.106 QVBoxLayout* Ui_RebindWidget::verticalLayout

Definition at line 38 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.107 QVBoxLayout* Ui_RebindWidget::verticalLayout_2

Definition at line 135 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.108 QSpacerItem* Ui_RebindWidget::verticalSpacer

Definition at line 108 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.109 QSpacerItem* Ui_RebindWidget::verticalSpacer_10

Definition at line 45 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.110 QSpacerItem* Ui_RebindWidget::verticalSpacer_11

Definition at line 81 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.111 QSpacerItem* Ui_RebindWidget::verticalSpacer_2

Definition at line 61 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.112 QSpacerItem* Ui_RebindWidget::verticalSpacer_3

Definition at line 47 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer_4

Definition at line 52 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_5

Definition at line 99 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_6

Definition at line 97 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_7

Definition at line 96 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_8

Definition at line 62 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.118 QComboBox* Ui_RebindWidget::wheelBox

Definition at line 69 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_wheelBox_currentIndexChanged(), RebindWidget::on_wheelButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.119 QRadioButton* Ui_RebindWidget::wheelButton

Definition at line 73 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().

```
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));
363 #endif // QT_NO_TOOLTIP
364         autoFWBox->setText(QApplication::translate("SettingsWidget", "Check for new firmware
       automatically", Q_NULLPTR));
365         label_8->setText(QApplication::translate("SettingsWidget", "These will override the keyboard
       profile. See \"Binding\" tab for more settings.", Q_NULLPTR));
366         shiftLabel->setText(QApplication::translate("SettingsWidget", "Shift:", Q_NULLPTR));
367         capsLabel->setText(QApplication::translate("SettingsWidget", "Caps Lock:", Q_NULLPTR));
368         ctrlLabel->setText(QApplication::translate("SettingsWidget", "Ctrl:", Q_NULLPTR));
369         winLabel->setText(QApplication::translate("SettingsWidget", "Windows:", Q_NULLPTR));
370         altLabel->setText(QApplication::translate("SettingsWidget", "Alt:", Q_NULLPTR));
371         versionLabel->setText(QApplication::translate("SettingsWidget", "ckb-next", Q_NULLPTR))
      ;
372         extraButton->setText(QApplication::translate("SettingsWidget", "More settings",
      Q_NULLPTR));
373     } // 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 "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 58 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 67 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().

```
67                                          {
68      char* word = malloc(strlen(line) + 1);
69      int wordlen;
70      const char* newline = 0;
71      const devcmd* vt = kb->vtable;
72      usbprofile* profile = kb->profile;
73      usbmode* mode = 0;
74      int notifynumber = 0;
75      // Read words from the input
76      cmd command = NONE;
77      while(sscanf(line, "%s%n", word, &wordlen) == 1){
78          line += wordlen;
79          // If we passed a newline, reset the context
80          if(line > newline){
81              mode = profile->currentmode;
82              command = NONE;
83              notifynumber = 0;
84              newline = strchr(line, '\n');
85              if(!newline)
86                  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 9 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,
47     UNBIND,
48     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 67 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().

```
67                                          {
68     char* word = malloc(strlen(line) + 1);
69     int wordlen;
70     const char* newline = 0;
71     const devcmd* vt = kb->vtable;
72     usbprofile* profile = kb->profile;
73     usbmode* mode = 0;
74     int notifynumber = 0;
75     // Read words from the input
76     cmd command = NONE;
77     while(sscanf(line, "%s%n", word, &wordlen) == 1){
78         line += wordlen;
79         // If we passed a newline, reset the context
80         if(line > newline){
81             mode = profile->currentmode;
82             command = NONE;
83             notifynumber = 0;
84             newline = strchr(line, '\n');
85             if(!newline)
86                 newline = line + strlen(line);
87         }
88         // Check for a command word
89         for(int i = 0; i < CMD_COUNT - 1; i++){
90             if(!strcmp(word, cmd_strings[i])){
91                 command = i + CMD_FIRST;
92 #ifndef OS_MAC
93                 // Layout and mouse acceleration aren't used on Linux; ignore
94                 if(command == LAYOUT || command == ACCEL || command ==
    SCROLLSPEED)
95                     command = NONE;
96 #endif
97                 // Most commands require parameters, but a few are actions in and of themselves
98                 if(command != SWITCH
99                         && command != HWLOAD && command != HWSAVE
100                         && command != ACTIVE && command != IDLE
101                         && command != ERASE && command != ERASEPROFILE
102                         && command != RESTART)
103                     goto next_loop;
104                 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 }
- pthread_mutex_t inputmutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }
- pthread_mutex_t macromutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

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 23 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().

```
23                                          {
24     // Get the firmware version from the device
25     if(kb->pollrate == 0){
33         if(!hwload_mode || (HAS_FEATURES(kb, FEAT_HWLOAD) &&
     getfwversion(kb))){
34             if(hwload_mode == 2)
35                 // hwload=always. Report setup failure.
36                 return -1;
```

```
            else if(hwload_mode){
                // hwload=once. Log failure, prevent trying again, and continue.
                ckb_warn("Unable to load firmware version/poll rate\n");
                kb->features &= ~FEAT_HWLOAD;
            }
            kb->pollrate = 0;
            kb->features &= ~(FEAT_POLLRATE | FEAT_ADJRATE);
            if(kb->fwversion == 0)
                kb->features &= ~(FEAT_FWVERSION |
    FEAT_FWUPDATE);
        }
    }
    if(NEEDS_FW_UPDATE(kb)){
        ckb_info("Device needs a firmware update. Please issue a fwupdate command.\n");
        kb->features = FEAT_RGB | FEAT_FWVERSION |
    FEAT_FWUPDATE;
        kb->active = 1;
        return 0;
    }
    if(!kb->hw && hwload_mode && HAS_FEATURES(kb,
    FEAT_HWLOAD)){
        if(hwloadprofile(kb, 1)){
            if(hwload_mode == 2)
                return -1;
            ckb_warn("Unable to load hardware profile\n");
            kb->features &= ~FEAT_HWLOAD;
        }
    }
    // Active software mode if requested
    if(makeactive)
        return setactive(kb, 1);
    return 0;
}
```

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 78 of file device.c.

References _start_dev(), USB_DELAY_DEFAULT, and usbdevice::usbdelay.

```
78                                          {
79     // Force USB interval to 10ms during initial setup phase; return to nominal 5ms after setup completes.
80     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.

13.8 src/ckb-daemon/device.h File Reference

```
#include "includes.h"
#include "keymap.h"
#include <limits.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 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]
- pthread_mutex_t inputmutex [9]
- pthread_mutex_t macromutex [9]

13.8.1 Macro Definition Documentation

13.8.1.1 #define ACT_LIGHT 1

Definition at line 64 of file device.h.

Referenced by setactive_kb().

13.8.1.2 #define ACT_LOCK 8

Definition at line 67 of file device.h.

Referenced by setactive_kb().

13.8.1.3 #define ACT_M1 10

Definition at line 69 of file device.h.

Referenced by setactive_kb().

13.8.1.4 #define ACT_M2 11

Definition at line 70 of file device.h.

Referenced by setactive_kb().

13.8.1.5 #define ACT_M3 12

Definition at line 71 of file device.h.

Referenced by setactive_kb().

13.8.1.6 #define ACT_MR_RING 9

Definition at line 68 of file device.h.

Referenced by setactive_kb().

13.8.1.7 #define ACT_NEXT 3

Definition at line 65 of file device.h.

13.8.1.8 #define ACT_NEXT_NOWRAP 5

Definition at line 66 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 61 of file device.h.

Referenced by setactive_kb(), and setactive_mouse().

13.8.1.13 #define IN_HID 0x80

Definition at line 60 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 _usbsend(), and inputupdate_keys().

13.8.1.16 #define setactive(*kb, makeactive*) ((makeactive) ? (kb)->vtable->active((kb), 0, 0, 0, 0) : (kb)->vtable->idle((kb), 0, 0, 0, 0))

Definition at line 40 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 112 of file device_keyboard.c.

References setactive_kb().

```
112                                                                                                                {
113     return setactive_kb(kb, 1);
114 }
```

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     return setactive_mouse(kb, 1);
46 }
```

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 116 of file device_keyboard.c.

References setactive_kb().

```
116                                                                                                                {
117     return setactive_kb(kb, 0);
118 }
```

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 48 of file device_mouse.c.

References setactive_mouse().

```
48                                                                                                  {
49     return setactive_mouse(kb, 0);
50 }
```

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 52 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
52                                                                                                  {
53     uchar msg[MSG_SIZE] = {
54         0x07, 0x0a, 0, 0, (uchar)rate
55     };
56     if(!usbsend(kb, msg, 1))
57         return -1;
58     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
59     kb->pollrate = rate;
60     return 0;
61 }
```

13.8.2.6 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 18 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().

```
{
    if(NEEDS_FW_UPDATE(kb))
        return 0;

    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));

    uchar msg[3][MSG_SIZE] = {
        { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
        { 0x07, 0x40, 0 },                  // Selects key input
        { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
    };
    if(active){
        // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
        msg[0][2] = 2;
        if(!usbsend(kb, msg[0], 1))
            return -1;
        DELAY_MEDIUM(kb);
        // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
        // Keys are referenced in byte pairs, with the first byte representing the key and the second byte representing the mode.
        for(int key = 0; key < N_KEYS_HW; ){
            int pair;
            for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
                // 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:

13.8.2.7 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().

```
9                                           {
10      if(NEEDS_FW_UPDATE(kb))
11          return 0;
12      const int keycount = 20;
13      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 120 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
{
    switch(index % 3){
    case 0:
        nk95cmd(kb, NK95_M1);
        break;
    case 1:
        nk95cmd(kb, NK95_M2);
        break;
    case 2:
        nk95cmd(kb, NK95_M3);
        break;
    }
}
```

13.8.2.9 int start_dev (usbdevice * *kb*, int *makeactive*)

Definition at line 78 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:

13.8.2.10 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.

```
{
    // 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;
}
```

13.8.3 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.

13.9 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 112 of file device_keyboard.c.

References setactive_kb().

```
{
    return setactive_kb(kb, 1);
}
```

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 116 of file device_keyboard.c.

References setactive_kb().

```
{
    return setactive_kb(kb, 0);
}
```

Here is the call graph for this function:

13.9.1.3 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 18 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().

```
{
    if(NEEDS_FW_UPDATE(kb))
        return 0;

    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));

    uchar msg[3][MSG_SIZE] = {
        { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
        { 0x07, 0x40, 0 },                  // Selects key input
        { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
    };
    if(active){
        // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
        msg[0][2] = 2;
        if(!usbsend(kb, msg[0], 1))
            return -1;
        DELAY_MEDIUM(kb);
        // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
        // Keys are referenced in byte pairs, with the first byte representing the key and the second byte representing the mode.
        for(int key = 0; key < N_KEYS_HW; ){
            int pair;
            for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
                // 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 120 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
120                                                 {
121     switch(index % 3){
122     case 0:
123         nk95cmd(kb, NK95_M1);
124         break;
125     case 1:
126         nk95cmd(kb, NK95_M2);
127         break;
128     case 2:
129         nk95cmd(kb, NK95_M3);
130         break;
131     }
132 }
```

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.

```
{
    // 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().

```
{
    return setactive_mouse(kb, 1);
}
```

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 48 of file device_mouse.c.

References setactive_mouse().

```
48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
49     return setactive_mouse(kb, 0);
50 }
```

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 52 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
52                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
53     uchar msg[MSG_SIZE] = {
54         0x07, 0x0a, 0, 0, (uchar)rate
55     };
56     if(!usbsend(kb, msg, 1))
57         return -1;
58     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
59     kb->pollrate = rate;
60     return 0;
61 }
```

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().

```
{
    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:

13.11 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 13 of file device_vtable.c.

```
13                                                                                                  {
14     return 0;
15 }
```

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 16 of file device_vtable.c.

```
16
        {
17 }
```

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 }
```

13.11.1.4 static int int1_int_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 23 of file device_vtable.c.

```
23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
24     return 0;
25 }
```

13.11.1.5 static void int1_void_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 21 of file device_vtable.c.

```
21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {
22 }
```

13.11.1.6 static int loadprofile_none (usbdevice * *kb*) [static]

Definition at line 18 of file device_vtable.c.

```
18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
19     return 0;
20 }
```

13.11.2 Variable Documentation

13.11.2.1 const devcmd vtable_keyboard

Definition at line 29 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.2 const devcmd vtable_keyboard_nonrgb

Definition at line 76 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.3 const devcmd vtable_mouse

Definition at line 123 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");
```

```
        if(pfile){
            fprintf(pfile, "%u\n", getpid());
            fclose(pfile);
            chmod(ppath, S_READ);
            if(gid >= 0)
                chown(vpath, 0, gid);
        } else {
            ckb_warn("Unable to create %s: %s\n", ppath, strerror(errno));
            remove(ppath);
        }
    } else {
        // Create command FIFO
        char inpath[sizeof(path) + 4];
        snprintf(inpath, sizeof(inpath), "%s/cmd", path);
        if(mkfifo(inpath, gid >= 0 ? S_CUSTOM : S_READWRITE) != 0
                // Open the node in RDWR mode because RDONLY will lock the thread
                || (kb->infifo = open(inpath, O_RDWR) + 1) == 0){
            // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
            ckb_err("Unable to create %s: %s\n", inpath, strerror(errno));
            rm_recursive(path);
            kb->infifo = 0;
            return -1;
        }
        if(gid >= 0)
            fchown(kb->infifo - 1, 0, gid);

        // Create notification FIFO
        _mknotifynode(kb, 0);

        // Write the model and serial to files
        char mpath[sizeof(path) + 6], spath[sizeof(path) + 7];
        snprintf(mpath, sizeof(mpath), "%s/model", path);
        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){
        // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
        ckb_warn("Unable to create %s: %s\n", outpath, strerror(errno));
        kb->outfifo[notify] = 0;
         remove(outpath);
         return -1;
    }
    if(gid >= 0)
        fchown(kb->outfifo[notify] - 1, 0, gid);
    return 0;
}
```

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().

```
55                          {
56     pthread_mutex_lock(devmutex);
57     char cpath[strlen(devpath) + 12];
58     snprintf(cpath, sizeof(cpath), "%s0/connected", devpath);
59     FILE* cfile = fopen(cpath, "w");
60     if(!cfile){
61         ckb_warn("Unable to update %s: %s\n", cpath, strerror(errno));
62         pthread_mutex_unlock(devmutex);
63         return;
64     }
65     int written = 0;
66     for(int i = 1; i < DEV_MAX; i++){
67         if(IS_CONNECTED(keyboard + i)){
68             written = 1;
69             fprintf(cfile, "%s%d %s %s\n", devpath, i, keyboard[i].serial,
      keyboard[i].name);
70         }
71     }
72     if(!written)
73         fputc('\n', cfile);
74     fclose(cfile);
75     chmod(cpath, S_GID_READ);
76     if(gid >= 0)
77         chown(cpath, 0, gid);
78     pthread_mutex_unlock(devmutex);
79 }
```

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().

```
268                             {
269     euid_guard_start;
270     int res = _mkdevpath(kb);
271     euid_guard_stop;
272     return res;
273 }
```

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, usbdevice::product, S_GID_READ, and usbdevice::vendor.

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:0x%04x:0x%04x", kb->fwversion, kb->vendor, kb->
    product);
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);
```

```
    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, usbdevice::product, S_GID_READ, and usbdevice::vendor.

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:0x%04x:0x%04x", kb->fwversion, kb->vendor, kb->
product);
        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().

```
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:

13.13.3.4 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().

```
{
    free(ctx->buffer);
    free(ctx);
}
```

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().

```
{
    // 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:

13.13.3.7 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().

```
{
    euid_guard_start;
    int index = INDEX_OF(kb, keyboard);
    if(kb->infifo != 0){
#ifdef OS_LINUX
        write(kb->infifo - 1, "\n", 1); // hack to prevent the FIFO thread from perma-blocking
#endif
        close(kb->infifo - 1);
        kb->infifo = 0;
    }
    for(int i = 0; i < OUTFIFO_MAX; i++)
        _rmnotifynode(kb, i);
    char path[strlen(devpath) + 2];
    snprintf(path, sizeof(path), "%s%d", devpath, index);
    if(rm_recursive(path) != 0 && errno != ENOENT){
        ckb_warn("Unable to delete %s: %s\n", path, strerror(errno));
        euid_guard_stop;
        return -1;
    }
    ckb_info("Removed device path %s\n", path);
    euid_guard_stop;
    return 0;
}
```

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     int disable = 0;
6     ushort x, y;
7     // Try to scan X,Y values
8     if(sscanf(values, "%hu,%hu", &x, &y) != 2){
9         // If that doesn't work, scan single number
10         if(sscanf(values, "%hu", &x) == 1)
11             y = x;
12         else if(!strncmp(values, "off", 3))
13             // If the right side says "off", disable the level(s)
14             disable = 1;
15         else
16             // Otherwise, quit
17             return;
18     }
19     if((x == 0 || y == 0) && !disable)
20         return;
21     // Scan the left side for stage numbers (comma-separated)
22     int left = strlen(stages);
23     int position = 0, field = 0;
24     char stagename[3];
25     while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
26         uchar stagenum;
27         if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
28             // Set DPI for this stage
29             if(disable){
30                 mode->dpi.enabled &= ~(1 << stagenum);
31                 mode->dpi.x[stagenum] = 0;
32                 mode->dpi.y[stagenum] = 0;
33             } else {
34                 mode->dpi.enabled |= 1 << stagenum;
35                 mode->dpi.x[stagenum] = x;
36                 mode->dpi.y[stagenum] = y;
37             }
```

```
        }
        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 44 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
44                                                                                                  {
45     uchar stagenum;
46     if(sscanf(stage, "%hhu", &stagenum) != 1)
47         return;
48     if(stagenum > DPI_COUNT)
49         return;
50     mode->dpi.current = stagenum;
51 }
```

13.14.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 53 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
53                                                                                                  {
54     uchar heightnum;
55     if(sscanf(height, "%hhu", &heightnum) != 1)
56         return;
57     if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
58         return;
59     mode->dpi.lift = heightnum;
60 }
```

13.14.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 62 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
62                                                                                                  {
63     if(!strcmp(enable, "on"))
64         mode->dpi.snap = 1;
65     if(!strcmp(enable, "off"))
66         mode->dpi.snap = 0;
67 }
```

13.14.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 152 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().

```
152                                                                 {
153     // Ask for settings
154     uchar data_pkt[4][MSG_SIZE] = {
155         { 0x0e, 0x13, 0x05, 1, },
156         { 0x0e, 0x13, 0x02, 1, },
157         { 0x0e, 0x13, 0x03, 1, },
158         { 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:

13.14.1.6 char* printdpi (const dpiset * *dpi*, const usbdevice * *kb*)

Definition at line 69 of file dpi.c.

References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
69                                                  {
70     // Print all DPI settings
71     const int BUFFER_LEN = 100;
72     char* buffer = malloc(BUFFER_LEN);
73     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:

13.14.1.7 int savedpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 124 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().

```
124                                                         {
125     // Send X/Y DPIs
126     for(int i = 0; i < DPI_COUNT; i++){
127         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
128         data_pkt[2] |= i;
129         *(ushort*)(data_pkt + 5) = dpi->x[i];
130         *(ushort*)(data_pkt + 7) = dpi->y[i];
131         // Save the RGB value for this setting too
132         data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
133         data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
134         data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
135         if(!usbsend(kb, data_pkt, 1))
136             return -1;
137     }
138
139     // Send settings
140     uchar data_pkt[4][MSG_SIZE] = {
141         { 0x07, 0x13, 0x05, 1, dpi->enabled },
142         { 0x07, 0x13, 0x02, 1, dpi->current },
143         { 0x07, 0x13, 0x03, 1, dpi->lift },
144         { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
145     };
146     if(!usbsend(kb, data_pkt[0], 4))
147         return -2;
148     // Finished
149     return 0;
150 }
```

Here is the caller graph for this function:

13.14.1.8 int updatedpi (usbdevice * *kb*, int *force*)

Definition at line 89 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.

```
89                                      {
90     if(!kb->active)
91         return 0;
92     dpiset* lastdpi = &kb->profile->lastdpi;
93     dpiset* newdpi = &kb->profile->currentmode->dpi;
94     // Don't do anything if the settings haven't changed
95     if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
96             && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
97         return 0;
98     lastdpi->forceupdate = newdpi->forceupdate = 0;
99
100     // Send X/Y DPIs
101     for(int i = 0; i < DPI_COUNT; i++){
102         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
103         data_pkt[2] |= i;
104         *(ushort*)(data_pkt + 5) = newdpi->x[i];
105         *(ushort*)(data_pkt + 7) = newdpi->y[i];
106         if(!usbsend(kb, data_pkt, 1))
107             return -1;
108     }
109
110     // Send settings
111     uchar data_pkt[4][MSG_SIZE] = {
112         { 0x07, 0x13, 0x05, 0, newdpi->enabled },
113         { 0x07, 0x13, 0x02, 0, newdpi->current },
114         { 0x07, 0x13, 0x03, 0, newdpi->lift },
115         { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 }
116     };
117     if(!usbsend(kb, data_pkt[0], 4))
118         return -2;
119     // Finished
120     memcpy(lastdpi, newdpi, sizeof(dpiset));
121     return 0;
122 }
```

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     int disable = 0;
6     ushort x, y;
7     // Try to scan X,Y values
8     if(sscanf(values, "%hu,%hu", &x, &y) != 2){
9         // If that doesn't work, scan single number
10         if(sscanf(values, "%hu", &x) == 1)
11             y = x;
12         else if(!strncmp(values, "off", 3))
13             // If the right side says "off", disable the level(s)
14             disable = 1;
15         else
16             // Otherwise, quit
17             return;
18     }
```

```
    if((x == 0 || y == 0) && !disable)
        return;
    // Scan the left side for stage numbers (comma-separated)
    int left = strlen(stages);
    int position = 0, field = 0;
    char stagename[3];
    while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
        uchar stagenum;
        if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
            // Set DPI for this stage
            if(disable){
                mode->dpi.enabled &= ~(1 << stagenum);
                mode->dpi.x[stagenum] = 0;
                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++;
    }
}
```

13.15.1.2 void cmd_dpisel (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *stage*)

Definition at line 44 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
44                                                                                  {
45     uchar stagenum;
46     if(sscanf(stage, "%hhu", &stagenum) != 1)
47         return;
48     if(stagenum > DPI_COUNT)
49         return;
50     mode->dpi.current = stagenum;
51 }
```

13.15.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 53 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
53                                                                                  {
54     uchar heightnum;
55     if(sscanf(height, "%hhu", &heightnum) != 1)
56         return;
57     if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
58         return;
59     mode->dpi.lift = heightnum;
60 }
```

13.15.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 62 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
62                                                                                  {
63     if(!strcmp(enable, "on"))
64         mode->dpi.snap = 1;
65     if(!strcmp(enable, "off"))
66         mode->dpi.snap = 0;
67 }
```

13.15.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 152 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().

```
152                                                     {
153     // Ask for settings
154     uchar data_pkt[4][MSG_SIZE] = {
155         { 0x0e, 0x13, 0x05, 1, },
156         { 0x0e, 0x13, 0x02, 1, },
157         { 0x0e, 0x13, 0x03, 1, },
158         { 0x0e, 0x13, 0x04, 1, }
159     };
160     uchar in_pkt[4][MSG_SIZE];
161     for(int i = 0; i < 4; i++){
162         if(!usbrecv(kb, data_pkt[i], in_pkt[i]))
163             return -2;
164         if(memcmp(in_pkt[i], data_pkt[i], 4)){
165             ckb_err("Bad input header\n");
166             return -3;
167         }
168     }
169     // Copy data from device
170     dpi->enabled = in_pkt[0][4];
171     dpi->enabled &= (1 << DPI_COUNT) - 1;
172     dpi->current = in_pkt[1][4];
173     if(dpi->current >= DPI_COUNT)
174         dpi->current = 0;
175     dpi->lift = in_pkt[2][4];
176     if(dpi->lift < LIFT_MIN || dpi->lift > LIFT_MAX)
177         dpi->lift = LIFT_MIN;
178     dpi->snap = !!in_pkt[3][4];
179
180     // Get X/Y DPIs
181     for(int i = 0; i < DPI_COUNT; i++){
182         uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0xd0, 1 };
183         uchar in_pkt[MSG_SIZE];
184         data_pkt[2] |= i;
185         if(!usbrecv(kb, data_pkt, in_pkt))
186             return -2;
187         if(memcmp(in_pkt, data_pkt, 4)){
188             ckb_err("Bad input header\n");
189             return -3;
190         }
191         // Copy to profile
192         dpi->x[i] = *(ushort*)(in_pkt + 5);
193         dpi->y[i] = *(ushort*)(in_pkt + 7);
194         light->r[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[9];
195         light->g[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[10];
196         light->b[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[11];
197     }
198     // Finished. Set SW DPI light to the current hardware level
199     light->r[LED_MOUSE + 2] = light->r[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
200     light->g[LED_MOUSE + 2] = light->g[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
201     light->b[LED_MOUSE + 2] = light->b[LED_MOUSE +
      N_MOUSE_ZONES + dpi->current];
202     return 0;
203 }
```

Here is the caller graph for this function:

13.15.1.6 char* printdpi (const dpiset * *dpi*, const usbdevice * *kb*)

Definition at line 69 of file dpi.c.

References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
69                                                  {
70     // Print all DPI settings
71     const int BUFFER_LEN = 100;
72     char* buffer = malloc(BUFFER_LEN);
73     int length = 0;
74     for(int i = 0; i < DPI_COUNT; i++){
75         // Print the stage number
76         int newlen = 0;
77         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%d%n" : " %d%n", i, &newlen);
78         length += newlen;
79         // Print the DPI settings
80         if(!(dpi->enabled & (1 << i)))
81             snprintf(buffer + length, BUFFER_LEN - length, ":off%n", &newlen);
82         else
83             snprintf(buffer + length, BUFFER_LEN - length, ":%u,%u%n", dpi->x[i], dpi->
      y[i], &newlen);
84         length += newlen;
85     }
86     return buffer;
87 }
```

Here is the caller graph for this function:

13.15.1.7 int savedpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 124 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().

```
124                                                     {
125     // Send X/Y DPIs
126     for(int i = 0; i < DPI_COUNT; i++){
127         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
128         data_pkt[2] |= i;
129         *(ushort*)(data_pkt + 5) = dpi->x[i];
130         *(ushort*)(data_pkt + 7) = dpi->y[i];
131         // Save the RGB value for this setting too
132         data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
133         data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
134         data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
135         if(!usbsend(kb, data_pkt, 1))
136             return -1;
137     }
138
139     // Send settings
140     uchar data_pkt[4][MSG_SIZE] = {
141         { 0x07, 0x13, 0x05, 1, dpi->enabled },
142         { 0x07, 0x13, 0x02, 1, dpi->current },
143         { 0x07, 0x13, 0x03, 1, dpi->lift },
144         { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
145     };
```

```
    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 89 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.

```
89                                          {
90      if(!kb->active)
91          return 0;
92      dpiset* lastdpi = &kb->profile->lastdpi;
93      dpiset* newdpi = &kb->profile->currentmode->dpi;
94      // Don't do anything if the settings haven't changed
95      if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
96              && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
97          return 0;
98      lastdpi->forceupdate = newdpi->forceupdate = 0;
99
100     // Send X/Y DPIs
101     for(int i = 0; i < DPI_COUNT; i++){
102         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
103         data_pkt[2] |= i;
104         *(ushort*)(data_pkt + 5) = newdpi->x[i];
105         *(ushort*)(data_pkt + 7) = newdpi->y[i];
106         if(!usbsend(kb, data_pkt, 1))
107             return -1;
108     }
109
110     // Send settings
111     uchar data_pkt[4][MSG_SIZE] = {
112         { 0x07, 0x13, 0x05, 0, newdpi->enabled },
113         { 0x07, 0x13, 0x02, 0, newdpi->current },
114         { 0x07, 0x13, 0x03, 0, newdpi->lift },
115         { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 }
116     };
117     if(!usbsend(kb, data_pkt[0], 4))
118         return -2;
119     // Finished
120     memcpy(lastdpi, newdpi, sizeof(dpiset));
121     return 0;
122 }
```

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     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
156         return 0;
157     // Update the firmware
158     int ret = fwupdate(kb, path, nnumber);
159     while(ret == FW_USBFAIL){
160         // Try to reset the device if it fails
161         if(usb_tryreset(kb))
162             break;
163         ret = fwupdate(kb, path, nnumber);
164     }
165     switch(ret){
166     case FW_OK:
167         nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
168         break;
169     case FW_NOFILE:
170     case FW_WRONGDEV:
171         nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
172         break;
173     case FW_USBFAIL:
174         nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
175         return -1;
176     }
177     return 0;
178 }
```

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().

```
55                                                          {
56     // Read the firmware from the given path
57     char* fwdata = calloc(1, FW_MAXSIZE + 256);
58     int fd = open(path, O_RDONLY);
59     if(fd == -1){
60         ckb_err("Failed to open firmware file %s: %s\n", path, strerror(errno));
61         return FW_NOFILE;
62     }
63     ssize_t length = read(fd, fwdata, FW_MAXSIZE + 1);
64     if(length <= 0x108 || length > FW_MAXSIZE){
65         ckb_err("Failed to read firmware file %s: %s\n", path, length <= 0 ? strerror(errno) : "
    Wrong size");
66         close(fd);
67         return FW_NOFILE;
68     }
69     close(fd);
70
71     short vendor, product, version;
72     // Copy the vendor ID, product ID, and version from the firmware file
73     memcpy(&vendor, fwdata + 0x102, 2);
74     memcpy(&product, fwdata + 0x104, 2);
75     memcpy(&version, fwdata + 0x106, 2);
76     // Check against the actual device
77     if(vendor != kb->vendor || product != kb->product){
78         ckb_err("Firmware file %s doesn't match device (V: %04x P: %04x)\n", path, vendor, product);
79         return FW_WRONGDEV;
80     }
81     ckb_info("Loading firmware version %04x from %s\n", version, path);
82     nprintf(kb, nnumber, 0, "fwupdate %s 0/%d\n", path, (int)length);
83     // Force the device to 10ms delay (we need to deliver packets very slowly to make sure it doesn't get
    overwhelmed)
84     kb->usbdelay = 10;
85     // Send the firmware messages (256 bytes at a time)
86     uchar data_pkt[7][MSG_SIZE] = {
87         { 0x07, 0x0c, 0xf0, 0x01, 0 },
88         { 0x07, 0x0d, 0xf0, 0 },
89         { 0x7f, 0x01, 0x3c, 0 },
90         { 0x7f, 0x02, 0x3c, 0 },
91         { 0x7f, 0x03, 0x3c, 0 },
92         { 0x7f, 0x04, 0x3c, 0 },
93         { 0x7f, 0x05, 0x10, 0 }
94     };
95     int output = 0, last = 0;
96     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");
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:

13.18 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     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
156         return 0;
157     // Update the firmware
```

```
    int ret = fwupdate(kb, path, nnumber);
    while(ret == FW_USBFAIL){
        // Try to reset the device if it fails
        if(usb_tryreset(kb))
            break;
        ret = fwupdate(kb, path, nnumber);
    }
    switch(ret){
    case FW_OK:
        nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
        break;
    case FW_NOFILE:
    case FW_WRONGDEV:
        nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
        break;
    case FW_USBFAIL:
        nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
        return -1;
    }
    return 0;
}
```

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
```

```
    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:

13.19 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 <limits.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 41 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 50 of file includes.h.

Referenced by _mkdevpath(), fwupdate(), getfwversion(), loaddpi(), loadrgb_kb(), loadrgb_mouse(), 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 49 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 48 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 47 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 46 of file includes.h.

13.19.1.7 #define ckb_fatal_nofile(*fmt, args...*) fprintf(ckb_s_err, "[F] " fmt, ## args)

Definition at line 45 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 56 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 55 of file includes.h.

13.19.1.10 #define ckb_info_nofile(*fmt, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 54 of file includes.h.

Referenced by main().

13.19.1.11 #define ckb_s_err stdout

Definition at line 37 of file includes.h.

13.19.1.12 #define ckb_s_out stdout

Definition at line 36 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 53 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 52 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 51 of file includes.h.

Referenced by main().

13.19.1.16 #define INDEX_OF(*entry, array*) (int)(entry - array)

Definition at line 28 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 61 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 62 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 60 of file includes.h.

13.19.1.20 #define timespec_le(left, right) (!timespec_gt(left, right))

Definition at line 64 of file includes.h.

13.19.1.21 #define timespec_lt(left, right) (!timespec_ge(left, right))

Definition at line 63 of file includes.h.

13.19.2 Typedef Documentation

13.19.2.1 typedef unsigned char uchar

Definition at line 25 of file includes.h.

13.19.2.2 typedef unsigned short ushort

Definition at line 26 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 "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))

Functions

- int macromask (const uchar ∗key1, const uchar ∗key2)
- static void inputupdate_keys (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 ∗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)

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))

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 236 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().

```
                                                                    {
    binding* bind = &mode->bind;
    if(!keys && !assignment){
        // Null strings = "macro clear" -> erase the whole thing
        for(int i = 0; i < bind->macrocount; i++)
            free(bind->macros[i].actions);
        bind->macrocount = 0;
        return;
    }
    if(bind->macrocount >= MACRO_MAX)
        return;
    // Create a key macro
    keymacro macro;
    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 198 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
{
    if(keyindex >= N_KEYS_INPUT)
        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;
        }
    }
}
```

13.20.2.3 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 358 of file input.c.

References _cmd_macro(), and imutex.

```
{
    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 228 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
{
    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 220 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
220                                                                                                    {
221     if(keyindex >= N_KEYS_INPUT)
222         return;
223     pthread_mutex_lock(imutex(kb));
224     mode->bind.base[keyindex] = KEY_UNBOUND;
225     pthread_mutex_unlock(imutex(kb));
226 }
```

13.20.2.6 void freebind (binding * *bind*)

Definition at line 191 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
191                                 {
192     for(int i = 0; i < bind->macrocount; i++)
193         free(bind->macros[i].actions);
194     free(bind->macros);
195     memset(bind, 0, sizeof(*bind));
196 }
```

Here is the caller graph for this function:

13.20.2.7 void initbind (binding * *bind*)

Definition at line 183 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
183                                 {
184     for(int i = 0; i < N_KEYS_INPUT; i++)
185         bind->base[i] = keymap[i].scan;
186     bind->macros = calloc(32, sizeof(keymacro));
187     bind->macrocap = 32;
188     bind->macrocount = 0;
189 }
```

Here is the caller graph for this function:

13.20.2.8 void inputupdate (usbdevice * *kb*)

Definition at line 132 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().

```
132                                 {
133 #ifdef OS_LINUX
134     if((!kb->uinput_kb || !kb->uinput_mouse)
135 #else
136     if(!kb->event
137 #endif
138             || !kb->profile)
139         return;
140     // Process key/button input
141     inputupdate_keys(kb);
142     // Process mouse movement
143     usbinput* input = &kb->input;
144     if(input->rel_x != 0 || input->rel_y != 0){
145         os_mousemove(kb, input->rel_x, input->rel_y);
146         input->rel_x = input->rel_y = 0;
147     }
148     // Finish up
149     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
150 }
```

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]

Definition at line 15 of file input.c.

References keymacro::actioncount, keymacro::actions, usbdevice::active, binding::base, usbmode::bind, keymacro::combo, usbprofile::currentmode, macroaction::delay, usbdevice::delay, macroaction::down, usbdevice::input, IS_MOD, IS_WHEEL, keymap, usbinput::keys, binding::macrocount, macromask(), binding::macros, mmutex, N_KEYBYTES_INPUT, N_KEYS_INPUT, usbmode::notify, nprintkey(), os_keypress(), os_mousemove(), OUTFIFO_MAX, usbinput::prevkeys, usbdevice::profile, macroaction::rel_x, macroaction::rel_y, macroaction::scan, key::scan, SCAN_SILENT, and keymacro::triggered.

Referenced by inputupdate().

```
15                                          {
16     usbmode* mode = kb->profile->currentmode;
17     binding* bind = &mode->bind;
18     usbinput* input = &kb->input;
19     // Don't do anything if the state hasn't changed
20     if(!memcmp(input->prevkeys, input->keys, N_KEYBYTES_INPUT))
21         return;
22     // Look for macros matching the current state
23     int macrotrigger = 0;
24     if(kb->active){
25         for(int i = 0; i < bind->macrocount; i++){
26             keymacro* macro = &bind->macros[i];
27             if(macromask(input->keys, macro->combo)){
28                 if(!macro->triggered){
29                     macrotrigger = 1;
30                     macro->triggered = 1;
31                     // Send events for each keypress in the macro
32                     pthread_mutex_lock(mmutex(kb)); // Synchonization between macro output and color
     information
33                     for(int a = 0; a < macro->actioncount; a++){
34                         macroaction* action = macro->actions + a;
35                         if(action->rel_x != 0 || action->rel_y != 0)
36                             os_mousemove(kb, action->rel_x, action->
    rel_y);
37                         else {
38                             os_keypress(kb, action->scan, action->
    down);
39                             if (action->delay != UINT_MAX) {    // local delay set
40                                 usleep(action->delay);
41                             } else if (kb->delay != UINT_MAX) { // use default global delay
42                                 usleep(kb->delay);
43                             } else if (a < (macro->actioncount - 1)) { // use delays depending
     on macro length
44                                 if (a > 200) {
45                                     usleep (100);
46                                 } else if (a > 20) {
47                                     usleep(30);
48                                 }
49                             }
50                         }
51                     }
52                     pthread_mutex_unlock(mmutex(kb));
53                 }
54             } else {
55                 macro->triggered = 0;
56                 macrotrigger = 0;
57             }
58         }
59     }
60     // Make a list of keycodes to send. Rearrange them so that modifier keydowns always come first
61     // and modifier keyups always come last. This ensures that shortcut keys will register properly
```

```
    // even if both keydown events happen at once.
    // N_KEYS + 4 is used because the volume wheel generates keydowns and keyups at the same time
    // (it's currently impossible to press all four at once, but safety first)
    int events[N_KEYS_INPUT + 4];
    int modcount = 0, keycount = 0, rmodcount = 0;
    for(int byte = 0; byte < N_KEYBYTES_INPUT; byte++){
        char oldb = input->prevkeys[byte], newb = input->keys[byte];
        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 a macro was triggered or if there's no scancode associated
                if(!macrotrigger && !(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))
                         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);
                         }
                     }
                 }
             }
         }
     }
     // Process all queued keypresses
     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 int macromask (const uchar * *key1*, const uchar * *key2*)

Definition at line 5 of file input.c.

References N_KEYBYTES_INPUT.

Referenced by inputupdate_keys().

```
5                                                   {
6     // Scan a macro against key input. Return 0 if any of them don't match
7     for(int i = 0; i < N_KEYBYTES_INPUT; i++){
8         // if((key1[i] & key2[i]) != key2[i])
9         if(key1[i] != key2[i])  // Changed to detect G-keys + modifiers
10            return 0;
11     }
12     return 1;
13 }
```

Here is the caller graph for this function:

13.20.2.11 void updateindicators_kb (usbdevice * *kb*, int *force*)

Definition at line 152 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.

```
152                                                 {
153     // Read current hardware indicator state (set externally)
154     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
155     uchar new = kb->hw_ileds, hw_new = new;
156     // Update them if needed
157     if(kb->active){
158         usbmode* mode = kb->profile->currentmode;
159         new = (new & ~mode->ioff) | mode->ion;
160     }
161     kb->ileds = new;
162     kb->hw_ileds_old = hw_new;
163     if(old != new || force){
164         DELAY_SHORT(kb);
165         os_sendindicators(kb);
166     }
167     // Print notifications if desired
168     if(!kb->active)
169         return;
170     usbmode* mode = kb->profile->currentmode;
171     uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
172     for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
173         uchar mask = indicators[i];
174         if((hw_old & mask) == (hw_new & mask))
175             continue;
176         for(int notify = 0; notify < OUTFIFO_MAX; notify++){
177             if(mode->inotify[notify] & mask)
178                 nprintind(kb, notify, mask, hw_new & mask);
179         }
180     }
181 }
```

Here is the call graph for this function:

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:

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)

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 Macro Definition Documentation

13.21.1.1 #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().

13.21.2 Function Documentation

13.21.2.1 void cmd_bind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 198 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
198                                                                                 {
199     if(keyindex >= N_KEYS_INPUT)
200         return;
201     // Find the key to bind to
202     int tocode = 0;
203     if(sscanf(to, "#x%ux", &tocode) != 1 && sscanf(to, "#%u", &tocode) == 1 && tocode <
      N_KEYS_INPUT){
204         pthread_mutex_lock(imutex(kb));
205         mode->bind.base[keyindex] = tocode;
206         pthread_mutex_unlock(imutex(kb));
207         return;
208     }
209     // If not numeric, look it up
210     for(int i = 0; i < N_KEYS_INPUT; i++){
211         if(keymap[i].name && !strcmp(to, keymap[i].name)){
212             pthread_mutex_lock(imutex(kb));
213             mode->bind.base[keyindex] = keymap[i].scan;
214             pthread_mutex_unlock(imutex(kb));
215             return;
216         }
217     }
218 }
```

13.21.2.2 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 358 of file input.c.

References _cmd_macro(), and imutex.

```
358
          {
359     pthread_mutex_lock(imutex(kb));
360     _cmd_macro(mode, keys, assignment);
361     pthread_mutex_unlock(imutex(kb));
362 }
```

Here is the call graph for this function:

13.21.2.3 void cmd_rebind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 228 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
228                                                                                 {
229     if(keyindex >= N_KEYS_INPUT)
```

```
        return;
    pthread_mutex_lock(imutex(kb));
    mode->bind.base[keyindex] = keymap[keyindex].scan;
    pthread_mutex_unlock(imutex(kb));
}
```

13.21.2.4 void cmd_unbind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 220 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
220                                                                                                    {
221     if(keyindex >= N_KEYS_INPUT)
222         return;
223     pthread_mutex_lock(imutex(kb));
224     mode->bind.base[keyindex] = KEY_UNBOUND;
225     pthread_mutex_unlock(imutex(kb));
226 }
```

13.21.2.5 void freebind (binding * *bind*)

Definition at line 191 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
191                                 {
192     for(int i = 0; i < bind->macrocount; i++)
193         free(bind->macros[i].actions);
194     free(bind->macros);
195     memset(bind, 0, sizeof(*bind));
196 }
```

Here is the caller graph for this function:

13.21.2.6 void initbind (binding * *bind*)

Definition at line 183 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
183                                 {
184     for(int i = 0; i < N_KEYS_INPUT; i++)
185         bind->base[i] = keymap[i].scan;
186     bind->macros = calloc(32, sizeof(keymacro));
187     bind->macrocap = 32;
188     bind->macrocount = 0;
189 }
```

Here is the caller graph for this function:

13.21.2.7 void inputupdate (usbdevice * *kb*)

Definition at line 132 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().

```
132                                 {
133 #ifdef OS_LINUX
134     if((!kb->uinput_kb || !kb->uinput_mouse)
135 #else
136     if(!kb->event
137 #endif
138             || !kb->profile)
139         return;
140     // Process key/button input
141     inputupdate_keys(kb);
142     // Process mouse movement
143     usbinput* input = &kb->input;
144     if(input->rel_x != 0 || input->rel_y != 0){
145         os_mousemove(kb, input->rel_x, input->rel_y);
146         input->rel_x = input->rel_y = 0;
147     }
148     // Finish up
149     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
150 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.21.2.8 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:

13.21.2.9 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:

13.21.2.10 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().

```
{
    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:

13.21.2.11 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 inputupdate_keys().

```
{
    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:

13.21.2.12 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:

13.21.2.13 void updateindicators_kb (usbdevice * *kb*, int *force*)

Definition at line 152 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.

```
152                                                 {
153     // Read current hardware indicator state (set externally)
154     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
155     uchar new = kb->hw_ileds, hw_new = new;
156     // Update them if needed
157     if(kb->active){
158         usbmode* mode = kb->profile->currentmode;
159         new = (new & ~mode->ioff) | mode->ion;
160     }
161     kb->ileds = new;
162     kb->hw_ileds_old = hw_new;
163     if(old != new || force){
164         DELAY_SHORT(kb);
165         os_sendindicators(kb);
166     }
167     // Print notifications if desired
168     if(!kb->active)
169         return;
170     usbmode* mode = kb->profile->currentmode;
171     uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
172     for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
173         uchar mask = indicators[i];
174         if((hw_old & mask) == (hw_new & mask))
175             continue;
176         for(int notify = 0; notify < OUTFIFO_MAX; notify++){
177             if(mode->inotify[notify] & mask)
178                 nprintind(kb, notify, mask, hw_new & mask);
179         }
180     }
181 }
```

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;
```

```
    // 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().

```
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 inputupdate_keys().

```
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)
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:

13.22.1.8 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){
```

```
        // If that didn't work, try /dev/input/uinput instead
        fd = open("/dev/input/uinput", O_RDWR);
        if(fd < 0){
            ckb_err("Failed to open uinput: %s\n", strerror(errno));
            return 0;
        }
    }
    // Enable all keys and mouse buttons
    ioctl(fd, UI_SET_EVBIT, EV_KEY);
    for(int i = 0; i < KEY_CNT; i++)
        ioctl(fd, UI_SET_KEYBIT, i);
    if(mouse){
        // Enable mouse axes
        ioctl(fd, UI_SET_EVBIT, EV_REL);
        for(int i = 0; i < REL_CNT; i++)
            ioctl(fd, UI_SET_RELBIT, i);
    } else {
        // Enable LEDs
        ioctl(fd, UI_SET_EVBIT, EV_LED);
        for(int i = 0; i < LED_CNT; i++)
            ioctl(fd, UI_SET_LEDBIT, i);
        // Eanble autorepeat
        ioctl(fd, UI_SET_EVBIT, EV_REP);
    }
    // Enable sychronization
    ioctl(fd, UI_SET_EVBIT, EV_SYN);
    // Create the device
    if(write(fd, indev, sizeof(*indev)) <= 0)
        ckb_warn("uinput write failed: %s\n", strerror(errno));
    if(ioctl(fd, UI_DEV_CREATE)){
        ckb_err("Failed to create uinput device: %s\n", strerror(errno));
        close(fd);
        return 0;
    }
    return fd + 1;
}
```

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)+11)]

13.25.1 Macro Definition Documentation

13.25.1.1 #define BUTTON_HID_COUNT 5

Definition at line 364 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 394 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
394                                                                                                                 {
395     if(endpoint == 2 || endpoint == -2){
396         if(urbinput[0] != 3)
397             return;
398         urbinput++;
399     }
400     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
401 }
```

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 403 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
403                                                                                                                 {
404     if(endpoint == 2 || endpoint == -2){
405         if(urbinput[0] != 3)
406             return;
407         urbinput++;
408     }
409     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
410         int byte = bit / 8;
411         uchar test = 1 << (bit % 8);
412         if(urbinput[byte] & test)
413             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
414         else
415             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
416     }
417 }
```

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 223 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
223                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
224     if(length < 1)
225         return;
226     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
227     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with array indices and K95 keys added
228     static const short hid_codes[256] = {
229         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
230         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
231         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
232         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
233          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
234         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
235        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
236         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
237        130, 131,  -1,  -1,  -1,  -2,  -1,  -2,  -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,
238         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
239         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
240         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -3,  -1,  -1,  -1,  // <- -3 = non-RGB program key
242        120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 136, 137, 138, 139, 140, 141,
243         60,  48,  62,  61,  91,  90,  67,  68, 142, 143,  99, 101,  -2, 130, 131,  97,
244         -2, 133, 134, 135,  -2,  96,  -2, 132,  -2,  -2,  71,  71,  71,  71,  -1,  -1,
245     };
246     switch(endpoint){
247     case 1:
248     case -1:
249         // EP 1: 6KRO input (RGB and non-RGB)
250         // Clear previous input
251         for(int i = 0; i < 256; i++){
252             if(hid_codes[i] >= 0)
253                 CLEAR_KEYBIT(kbinput, hid_codes[i]);
254         }
255         // Set new input
256         for(int i = 0; i < 8; i++){
257             if((urbinput[0] >> i) & 1)
258                 SET_KEYBIT(kbinput, hid_codes[i + 224]);
259         }
260         for(int i = 2; i < length; i++){
261             if(urbinput[i] > 3){
262                 int scan = hid_codes[urbinput[i]];
263                 if(scan >= 0)
264                     SET_KEYBIT(kbinput, scan);
265                 else
266                     ckb_warn("Got unknown key press %d on EP 1\n", urbinput[i]);
267             }
268         }
269         break;
270     case -2:
271         // EP 2 RGB: NKRO input
272         if(urbinput[0] == 1){
273             // Type 1: standard key
274             if(length != 21)
275                 return;
276             for(int bit = 0; bit < 8; bit++){
277                 if((urbinput[1] >> bit) & 1)
278                     SET_KEYBIT(kbinput, hid_codes[bit + 224]);
279                 else
280                     CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
281             }
282             for(int byte = 0; byte < 19; byte++){
283                 char input = urbinput[byte + 2];
284                 for(int bit = 0; bit < 8; bit++){
285                     int keybit = byte * 8 + bit;
286                     int scan = hid_codes[keybit];
287                     if((input >> bit) & 1){
288                         if(scan >= 0)
289                             SET_KEYBIT(kbinput, hid_codes[keybit]);
290                         else
291                             ckb_warn("Got unknown key press %d on EP 2\n", keybit);
292                     } else if(scan >= 0)
293                         CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
294                 }
295             }
296             break;
297         } else if(urbinput[0] == 2)
```

```
            ;       // Type 2: media key (fall through)
        else
            break;  // No other known types
    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 366 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
                                {
    if((endpoint != 2 && endpoint != -2) || length < 10)
        return;
    // EP 2: mouse input
    if(urbinput[0] != 1)
        return;
    // Byte 1 = mouse buttons (bitfield)
    for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
        if(urbinput[1] & (1 << bit))
            SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
        else
            CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
    }
    // Bytes 5 - 8: movement
    *xaxis += *(short*)(urbinput + 5);
    *yaxis += *(short*)(urbinput + 7);
    // Byte 9: wheel
    char wheel = urbinput[9];
    if(wheel > 0)
        SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
    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)+11)]

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 54 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
54                                                                                                  {
55     uchar bits = iselect(led);
56     // Remove the bits from both ioff and ion
57     mode->ioff &= ~bits;
58     mode->ion &= ~bits;
59     kb->vtable->updateindicators(kb, 0);
60 }
```

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 62 of file led.c.

References usbmode::inotify, and iselect().

```
62                                                                                                  {
63     uchar bits = iselect(led);
64     if(strstr(led, ":off"))
65         // Turn notifications for these bits off
66         mode->inotify[nnumber] &= ~bits;
67     else
68         // Turn notifications for these bits on
69         mode->inotify[nnumber] |= bits;
70 }
```

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 38 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
38                                                                                  {
39     uchar bits = iselect(led);
40     // Add the bits to ioff, remove them from ion
41     mode->ioff |= bits;
42     mode->ion &= ~bits;
43     kb->vtable->updateindicators(kb, 0);
44 }
```

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 46 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
46                                                                                  {
47     uchar bits = iselect(led);
48     // Remove the bits from ioff, add them to ion
49     mode->ioff &= ~bits;
50     mode->ion |= bits;
51     kb->vtable->updateindicators(kb, 0);
52 }
```

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     int index = keymap[keyindex].led;
```

```
    if(index < 0) {
        if (index == -2){     // Process strafe sidelights
            uchar sideshine;
            if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
                mode->light.sidelight = sideshine;
        }
        return;
    }
    uchar r, g, b;
    if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
        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 73 of file led.c.

References IS_K65, IS_K95, IS_MOUSE, IS_SABRE, IS_SCIMITAR, usbdevice::product, and usbdevice::vendor.

Referenced by printrgb().

```
73                                                          {
74      if(!name)
75          return 0;
76      if(IS_MOUSE(kb->vendor, kb->product)){
77          // Mice only have the RGB zones
78          if((IS_SABRE(kb) || IS_SCIMITAR(kb)) && !strcmp(name, "wheel"))
79              return 1;
80          if(IS_SCIMITAR(kb) && !strcmp(name, "thumb"))
81              return 1;
82          if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back"))
83              return 1;
84          return 0;
85      } else {
86          // But keyboards don't have them at all
87          if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back") || !strcmp(name,
        "wheel") || !strcmp(name, "thumb"))
88              return 0;
89          // Only K95 has G keys and M keys (G1 - G18, MR, M1 - M3)
90          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'))))
91              return 0;
92          // Only K65 has lights on VolUp/VolDn
93          if(!IS_K65(kb) && (!strcmp(name, "volup") || !strcmp(name, "voldn")))
94              return 0;
95          // K65 lacks numpad and media buttons
96          if(IS_K65(kb) && (strstr(name, "num") == name || !strcmp(name, "stop") || !strcmp(name, "prev
        ") || !strcmp(name, "play") || !strcmp(name, "next")))
97              return 0;
98      }
99      return 1;
100 }
```

Here is the caller graph for this function:

13.27.1.7 static uchar iselect (const char * *led*) [static]

Definition at line 25 of file led.c.

References I_CAPS, I_NUM, and I_SCROLL.

Referenced by cmd_iauto(), cmd_inotify(), cmd_ioff(), and cmd_ion().

```
{
    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 102 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 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 54 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
54                                                                                  {
55     uchar bits = iselect(led);
56     // Remove the bits from both ioff and ion
57     mode->ioff &= ~bits;
58     mode->ion &= ~bits;
59     kb->vtable->updateindicators(kb, 0);
60 }
```

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 62 of file led.c.

References usbmode::inotify, and iselect().

```
62                                                                                  {
63     uchar bits = iselect(led);
64     if(strstr(led, ":off"))
65         // Turn notifications for these bits off
66         mode->inotify[nnumber] &= ~bits;
67     else
68         // Turn notifications for these bits on
69         mode->inotify[nnumber] |= bits;
70 }
```

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 38 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
38                                                                                  {
39     uchar bits = iselect(led);
40     // Add the bits to ioff, remove them from ion
41     mode->ioff |= bits;
42     mode->ion &= ~bits;
43     kb->vtable->updateindicators(kb, 0);
44 }
```

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 46 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
46                                                                                                  {
47     uchar bits = iselect(led);
48     // Remove the bits from ioff, add them to ion
49     mode->ioff &= ~bits;
50     mode->ion |= bits;
51     kb->vtable->updateindicators(kb, 0);
52 }
```

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     int index = keymap[keyindex].led;
8     if(index < 0) {
9         if (index == -2){     // Process strafe sidelights
10            uchar sideshine;
11            if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
12                mode->light.sidelight = sideshine;
13         }
14         return;
15     }
16     uchar r, g, b;
17     if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
18         mode->light.r[index] = r;
19         mode->light.g[index] = g;
20         mode->light.b[index] = b;
21     }
22 }
```

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 181 of file led_keyboard.c.

References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70-_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
181                                                         {
182     if(kb->fwversion >= 0x0120){
183         uchar data_pkt[12][MSG_SIZE] = {
184             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
185             { 0xff, 0x01, 60, 0 },
186             { 0xff, 0x02, 60, 0 },
187             { 0xff, 0x03, 24, 0 },
188             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
189             { 0xff, 0x01, 60, 0 },
190             { 0xff, 0x02, 60, 0 },
191             { 0xff, 0x03, 24, 0 },
192             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
193             { 0xff, 0x01, 60, 0 },
194             { 0xff, 0x02, 60, 0 },
195             { 0xff, 0x03, 24, 0 },
196         };
197         uchar in_pkt[4][MSG_SIZE] = {
198             { 0x0e, 0x14, 0x03, 0x01 },
199             { 0xff, 0x01, 60, 0 },
200             { 0xff, 0x02, 60, 0 },
201             { 0xff, 0x03, 24, 0 },
202         };
203
209
210         uchar cmp_pkt[4][4] = {
211             { 0x0e, 0x14, 0x03, 0x01 },
212             { 0x0e, 0xff, 0x01, 60 },
213             { 0x0e, 0xff, 0x02, 60 },
214             { 0x0e, 0xff, 0x03, 24 },
215         };
217         uchar* colors[3] = { light->r, light->g, light->b };
218         for(int clr = 0; clr < 3; clr++){
219             for(int i = 0; i < 4; i++){
220                 if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
221                     return -1;
222
223                 uchar* comparePacket = data_pkt[i + clr * 4];
224                 if ((kb->fwversion >= 0x205)
228                         || ((kb->fwversion >= 0x204)
229                             && ((kb->product == P_K70_LUX_NRGB) || (kb->
    product == P_K70_LUX)))) {
230                     comparePacket = cmp_pkt[i];
231                 }
232
233                 if (memcmp(in_pkt[i], comparePacket, 4)) {
234                     ckb_err("Bad input header\n");
235                     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,
236                         comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
237                         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]);
238                     in_pkt[2][0] = 0x99;
239                     in_pkt[2][1] = 0x99;
240                     in_pkt[2][2] = 0x99;
241                     in_pkt[2][3] = 0x99;
242                     usbrecv(kb, in_pkt[2], in_pkt[2]); // just to find it in the wireshark log
243                     return -1;
244                 }
```

```
            }
            // 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 81 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().

```
81                                                          {
82     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
83     uchar in_pkt[MSG_SIZE] = { 0 };
84     // Load each RGB zone
85     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
86     for(int i = 0; i < zonecount; i++){
87         if(!usbrecv(kb, data_pkt, in_pkt))
88             return -1;
89         if(memcmp(in_pkt, data_pkt, 4)){
90             ckb_err("Bad input header\n");
91             return -2;
92         }
93         // Copy data
94         int led = LED_MOUSE + i;
95         if(led >= LED_DPI)
96             led++;          // Skip DPI light
97         light->r[led] = in_pkt[4];
98         light->g[led] = in_pkt[5];
99         light->b[led] = in_pkt[6];
100         // Set packet for next zone
101         data_pkt[2]++;
102     }
103     return 0;
104 }
```

Here is the caller graph for this function:

13.28.1.8 char* printrgb (const lighting * *light*, const usbdevice * *kb*)

Definition at line 102 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().

```
102                                                         {
103     uchar r[N_KEYS_EXTENDED], g[N_KEYS_EXTENDED], b[
      N_KEYS_EXTENDED];
104     const uchar* mr = light->r;
105     const uchar* mg = light->g;
106     const uchar* mb = light->b;
107     for(int i = 0; i < N_KEYS_EXTENDED; i++){
108         // Translate the key index to an RGB index using the key map
109         int k = keymap[i].led;
110         if(k < 0)
111             continue;
112         r[i] = mr[k];
113         g[i] = mg[k];
114         b[i] = mb[k];
115     }
116     // Make a buffer to track key names and to filter out duplicates
117     char names[N_KEYS_EXTENDED][11];
118     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 139 of file led_keyboard.c.

References usbdevice::dither, usbdevice::fwversion, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

Referenced by cmd_hwsave_kb().

```
139                                                     {
140     if(kb->fwversion >= 0x0120){
141         uchar data_pkt[12][MSG_SIZE] = {
142             // Red
143             { 0x7f, 0x01, 60, 0 },
144             { 0x7f, 0x02, 60, 0 },
145             { 0x7f, 0x03, 24, 0 },
146             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
147             // Green
148             { 0x7f, 0x01, 60, 0 },
149             { 0x7f, 0x02, 60, 0 },
150             { 0x7f, 0x03, 24, 0 },
151             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
152             // Blue
153             { 0x7f, 0x01, 60, 0 },
154             { 0x7f, 0x02, 60, 0 },
155             { 0x7f, 0x03, 24, 0 },
156             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
157         };
158         makergb_full(light, data_pkt);
159         if(!usbsend(kb, data_pkt[0], 12))
160             return -1;
161         if (IS_STRAFE(kb)){ // end save
162             uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
163             if(!usbsend(kb, save_end_pkt, 1))
164                 return -1;
165         }
166     } else {
167         uchar data_pkt[5][MSG_SIZE] = {
168             { 0x7f, 0x01, 60, 0 },
169             { 0x7f, 0x02, 60, 0 },
170             { 0x7f, 0x03, 60, 0 },
171             { 0x7f, 0x04, 36, 0 },
172             { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
173         };
174         makergb_512(light, data_pkt, kb->dither ? ordered8to3 :
    quantize8to3);
175         if(!usbsend(kb, data_pkt[0], 5))
176             return -1;
177     }
178     return 0;
179 }
```

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 62 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().

```
62                                                          {
63     uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
64     // Save each RGB zone, minus the DPI light which is sent in the DPI packets
65     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
66     for(int i = 0; i < zonecount; i++){
67         int led = LED_MOUSE + i;
68         if(led >= LED_DPI)
69             led++;           // Skip DPI light
70         data_pkt[4] = light->r[led];
71         data_pkt[5] = light->g[led];
72         data_pkt[6] = light->b[led];
73         if(!usbsend(kb, data_pkt, 1))
74             return -1;
75         // Set packet for next zone
76         data_pkt[2]++;
77     }
78     return 0;
79 }
```

Here is the caller graph for this function:

13.28.1.11 int updatergb_kb (usbdevice * *kb*, int *force*)

Definition at line 77 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.

```
77                                                          {
```

```
    if(!kb->active)
        return 0;
    lighting* lastlight = &kb->profile->lastlight;
    lighting* newlight = &kb->profile->currentmode->light;
    // Don't do anything if the lighting hasn't changed
    if(!force && !lastlight->forceupdate && !newlight->forceupdate
            && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->sidelight)   // strafe sidelights
        return 0;
    lastlight->forceupdate = newlight->forceupdate = 0;

    if(IS_FULLRANGE(kb)){
        // Update strafe sidelights if necessary
        if(lastlight->sidelight != newlight->sidelight) {
            uchar data_pkt[2][MSG_SIZE] = {
                 { 0x07, 0x05, 0x08, 0x00, 0x00 },
                 { 0x07, 0x05, 0x02, 0, 0x03 }
             };
             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:

13.28.1.12 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, 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     // Send the RGB values for each zone to the mouse
32     uchar data_pkt[2][MSG_SIZE] = {
33         { 0x07, 0x22, N_MOUSE_ZONES, 0x01, 0 }, // RGB colors
34         { 0x07, 0x05, 0x02, 0 }                 // Lighting on/off
35     };
36     uchar* rgb_data = &data_pkt[0][4];
37     for(int i = 0; i < N_MOUSE_ZONES; i++){
38         *rgb_data++ = i + 1;
39         *rgb_data++ = newlight->r[LED_MOUSE + i];
40         *rgb_data++ = newlight->g[LED_MOUSE + i];
41         *rgb_data++ = newlight->b[LED_MOUSE + i];
42     }
43     // Send RGB data
44     if(!usbsend(kb, data_pkt[0], 1))
45         return -1;
46     int was_black = isblack(kb, lastlight), is_black = isblack(kb, newlight);
47     if(is_black){
48         // If the lighting is black, send the deactivation packet (M65 only)
49         if(!usbsend(kb, data_pkt[1], 1))
50             return -1;
51     } else if(was_black || force){
52         // If the lighting WAS black, or if we're on forced update, send the activation packet
53         data_pkt[1][4] = 1;
54         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) | (((((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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 0x0f) << 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) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 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)) & 0x0f) >> 4) | ((((((((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((((((((0) + 16) + 4) + 2) + 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)) & 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)) & 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)) & 0x0f) >> 4) |

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) + 16 ) + 8 ) + 4 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0x33)
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+ 16 ) + 8 ) + 4 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 32 ) + 16 ) + 8 ) + 4 ) + 2 ) & 0xaa)
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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)) & 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)) & 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) 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+ 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 2) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 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)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 2) + 1) & 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& 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 64) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 64) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 64) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 64) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | 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>> 1) | ((((0) + 127) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 1) & 0xaa) >> 1) | ((((0) + 127) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 127) + 2) & 0xaa) >> 1) | ((((0) + 127) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 2) & 0xaa) >> 1) | ((((0) + 127) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 2) & 0xaa) >> 1) | ((((0) + 127) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 2) & 0xaa) >> 1) | ((((0) + 127) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 127) + 2) + 1) & 0xaa) >> 1) | (((((0) + 127) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 2) + 1) & 0xaa) >> 1) | (((((0) + 127) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 2) + 1) & 0xaa) >> 1) | (((((0) + 127) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 2) + 1) & 0xaa) >> 1) | (((((0) + 127) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), 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+ 8 ) & 0xaa) >> 1) | ((( ( ( 0 ) + 127 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( 0 )
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& 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 4 ) + 2 ) + 1 ) & 0xaa) >>
1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( ( 0 ) + 127 ) + 32 )
+ 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2))
& 0xf0) >> 4) | (((((((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) +
4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 4 ) + 2 ) + 1 ) & 0xaa) >> 1) |
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127 ) + 32 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( 0 )
+ 127 ) + 32 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0)
>> 4) | (((((((((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0x55) << 1)) &
0xcc) >> 2) | (((((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) & 0x55) << 1))
& 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127
) + 32 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 1 ) & 0xaa) >> 1) | (((
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32 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( (
( ( 0 ) + 127 ) + 32 ) + 8 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33)
<< 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 )
+ 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0
) + 127 ) + 32 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8
) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( 0 ) +
127 ) + 32 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) & 0x55) << 1)) & 0x33) << 2))
& 0x0f) << 4)), ((((((((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 )
+ 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1)
| ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( ( 0
) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0x55) << 1)) &
0xcc) >> 2) | (((((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 )
+ 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 4 ) & 0xaa)
>> 1) | ((( ( ( ( ( 0 ) + 127 ) + 32 ) + 8 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | (((((( ( ( ( ( 0 ) + 127 ) + 32 ) +
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8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) >> 4) | (((((((((((((0) + 127) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) &

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+ 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 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)) & 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) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 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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) & 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& 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) + 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>> 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 ) +
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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 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 8 ) + 4 ) +
2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) &
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64 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 8 ) + 4 ) + 2 ) + 1
) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 8 ) + 4 ) + 2 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0x0f)
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<< 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) & 0xaa) >> 1) | ((( ( ( ( 0 ) + 127
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0 ) + 127 ) + 64 ) + 16 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 16 ) + 4 ) +
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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) >>
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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) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 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) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) 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( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 2 ) & 0x55) << 1)) &
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) + 127 ) + 64 ) + 32 ) + 2 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 2 ) +
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+ 1 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 2 ) + 1 ) & 0xaa) >> 1) | ((( ( ( (
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127 ) + 64 ) + 32 ) + 4 ) & 0x55) << 1)) & 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 4 ) & 0xaa) >>
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& 0xcc) >> 2) | ((((((( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( 0 ) + 127 ) + 64 ) +
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) + 127 ) + 64 ) + 32 ) + 8 ) + 1 ) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((( ( ( ( ( 0 ) + 127 ) +
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127 ) + 64 ) + 32 ) + 8 ) + 2 ) & 0xaa) >> 1) | ((( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 8 ) + 2 ) & 0x55) << 1)) &
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+ 4 ) + 1 ) & 0xaa) >> 1) | ((( ( ( ( ( ( ( 0 ) + 127 ) + 64 ) + 32 ) + 8 ) + 4 ) + 1 ) & 0x55) << 1)) & 0xcc) >> 2)
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| ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 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)) & 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)) & 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)) & 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 181 of file led_keyboard.c.

References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
181                                                         {
182     if(kb->fwversion >= 0x0120){
183         uchar data_pkt[12][MSG_SIZE] = {
184             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
185             { 0xff, 0x01, 60, 0 },
186             { 0xff, 0x02, 60, 0 },
187             { 0xff, 0x03, 24, 0 },
188             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
189             { 0xff, 0x01, 60, 0 },
190             { 0xff, 0x02, 60, 0 },
191             { 0xff, 0x03, 24, 0 },
192             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
193             { 0xff, 0x01, 60, 0 },
194             { 0xff, 0x02, 60, 0 },
195             { 0xff, 0x03, 24, 0 },
196         };
197         uchar in_pkt[4][MSG_SIZE] = {
198             { 0x0e, 0x14, 0x03, 0x01 },
199             { 0xff, 0x01, 60, 0 },
200             { 0xff, 0x02, 60, 0 },
201             { 0xff, 0x03, 24, 0 },
202         };
203
209
210         uchar cmp_pkt[4][4] = {
211             { 0x0e, 0x14, 0x03, 0x01 },
212             { 0x0e, 0xff, 0x01, 60 },
213             { 0x0e, 0xff, 0x02, 60 },
214             { 0x0e, 0xff, 0x03, 24 },
215         };
217         uchar* colors[3] = { light->r, light->g, light->b };
218         for(int clr = 0; clr < 3; clr++){
219             for(int i = 0; i < 4; i++){
220                 if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
221                     return -1;
222
223                 uchar* comparePacket = data_pkt[i + clr * 4];
224                 if ((kb->fwversion >= 0x205)
228                         || ((kb->fwversion >= 0x204)
229                             && ((kb->product == P_K70_LUX_NRGB) || (kb->
      product == P_K70_LUX)))) {
230                     comparePacket = cmp_pkt[i];
231                 }
232
233                 if (memcmp(in_pkt[i], comparePacket, 4)) {
234                     ckb_err("Bad input header\n");
235                     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,
236                         comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
237                         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]);
238                     in_pkt[2][0] = 0x99;
239                     in_pkt[2][1] = 0x99;
240                     in_pkt[2][2] = 0x99;
241                     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 36 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 56 of file led_keyboard.c.

References lighting::b, lighting::g, and lighting::r.

Referenced by savergb_kb(), and updatergb_kb().

```
{
    const uchar* r = light->r, *g = light->g, *b = light->b;
    // Red
    memcpy(data_pkt[0] + 4, r, 60);
    memcpy(data_pkt[1] + 4, r + 60, 60);
    memcpy(data_pkt[2] + 4, r + 120, 24);
    // Green (final R packet is blank)
    memcpy(data_pkt[4] + 4, g, 60);
    memcpy(data_pkt[5] + 4, g + 60, 60);
    memcpy(data_pkt[6] + 4, g + 120, 24);
    // Blue (final G packet is blank)
    memcpy(data_pkt[8] + 4, b, 60);
    memcpy(data_pkt[9] + 4, b + 60, 60);
    memcpy(data_pkt[10] + 4, b + 120, 24);
}
```

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                                                  {
25     int m = value * 7;
26     int b = m / 255;
27     if((m % 255) > bit_reverse_table[index & 0xff])
28         b++;
29     return b;
30 }
```

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     return value >> 5;
34 }
```

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 72 of file led_keyboard.c.

References lighting::b, lighting::g, N_KEYS_HW, and lighting::r.

Referenced by updatergb_kb().

```
72                                                          {
73     // Compare two light structures, ignore mouse zones
74     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);
75 }
```

Here is the caller graph for this function:

13.29.2.7 int savergb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 139 of file led_keyboard.c.

References usbdevice::dither, usbdevice::fwversion, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

Referenced by cmd_hwsave_kb().

```
139                                                          {
140     if(kb->fwversion >= 0x0120){
141         uchar data_pkt[12][MSG_SIZE] = {
142             // Red
143             { 0x7f, 0x01, 60, 0 },
144             { 0x7f, 0x02, 60, 0 },
145             { 0x7f, 0x03, 24, 0 },
146             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
147             // Green
148             { 0x7f, 0x01, 60, 0 },
149             { 0x7f, 0x02, 60, 0 },
150             { 0x7f, 0x03, 24, 0 },
```

```
            { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
            // Blue
            { 0x7f, 0x01, 60, 0 },
            { 0x7f, 0x02, 60, 0 },
            { 0x7f, 0x03, 24, 0 },
            { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
        };
        makergb_full(light, data_pkt);
        if(!usbsend(kb, data_pkt[0], 12))
            return -1;
        if (IS_STRAFE(kb)){ // end save
            uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
            if(!usbsend(kb, save_end_pkt, 1))
                return -1;
        }
    } else {
        uchar data_pkt[5][MSG_SIZE] = {
            { 0x7f, 0x01, 60, 0 },
            { 0x7f, 0x02, 60, 0 },
            { 0x7f, 0x03, 60, 0 },
            { 0x7f, 0x04, 36, 0 },
            { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
        };
        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:

13.29.2.8 int updatergb_kb (usbdevice * *kb*, int *force*)

Definition at line 77 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.

```
77                                          {
78     if(!kb->active)
79         return 0;
80     lighting* lastlight = &kb->profile->lastlight;
81     lighting* newlight = &kb->profile->currentmode->light;
82     // Don't do anything if the lighting hasn't changed
83     if(!force && !lastlight->forceupdate && !newlight->forceupdate
84             && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->sidelight)   // strafe sidelights
85         return 0;
86     lastlight->forceupdate = newlight->forceupdate = 0;
87
88     if(IS_FULLRANGE(kb)){
89         // Update strafe sidelights if necessary
90         if(lastlight->sidelight != newlight->sidelight) {
91             uchar data_pkt[2][MSG_SIZE] = {
92                  { 0x07, 0x05, 0x08, 0x00, 0x00 },
93                  { 0x07, 0x05, 0x02, 0, 0x03 }
94              };
95              if (newlight->sidelight)
96                  data_pkt[0][4]=1;    // turn on
97              if(!usbsend(kb, data_pkt[0], 2))
98                  return -1;
99         }
100         // 16.8M color lighting works fine on strafe and is the only way it actually works
101         uchar data_pkt[12][MSG_SIZE] = {
102             // Red
103             { 0x7f, 0x01, 0x3c, 0 },
104             { 0x7f, 0x02, 0x3c, 0 },
105             { 0x7f, 0x03, 0x18, 0 },
106             { 0x07, 0x28, 0x01, 0x03, 0x01, 0},
107             // Green
108             { 0x7f, 0x01, 0x3c, 0 },
109             { 0x7f, 0x02, 0x3c, 0 },
110             { 0x7f, 0x03, 0x18, 0 },
111             { 0x07, 0x28, 0x02, 0x03, 0x01, 0},
112             // Blue
113             { 0x7f, 0x01, 0x3c, 0 },
114             { 0x7f, 0x02, 0x3c, 0 },
115             { 0x7f, 0x03, 0x18, 0 },
116             { 0x07, 0x28, 0x03, 0x03, 0x02, 0}
117         };
118         makergb_full(newlight, data_pkt);
119         if(!usbsend(kb, data_pkt[0], 12))
120             return -1;
121     } else {
122         // On older keyboards it looks flickery and causes lighting glitches, so we don't use it.
123         uchar data_pkt[5][MSG_SIZE] = {
124             { 0x7f, 0x01, 60, 0 },
125             { 0x7f, 0x02, 60, 0 },
126             { 0x7f, 0x03, 60, 0 },
127             { 0x7f, 0x04, 36, 0 },
128             { 0x07, 0x27, 0x00, 0x00, 0xD8 }
129         };
130         makergb_512(newlight, data_pkt, kb->dither ? ordered8to3 : quantize8to3);
131         if(!usbsend(kb, data_pkt[0], 5))
132             return -1;
133     }
134
135     memcpy(lastlight, newlight, sizeof(lighting));
136     return 0;
137 }
```

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) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 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) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 32) + 4) & 0xaa) >> 1) | ((((0) + 32) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 4) & 0xaa) >> 1) | ((((0) + 32) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 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) + 64) & 0xaa) >> 1) | (((0) + 64) & 0x55) << 1)) & 0xcc) >> 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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) + 128) & 0xaa) >> 1) | (((0) + 128) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 128) & 0xaa) >> 1) | (((0) + 128) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) + 128) & 0xaa) >> 1) | (((0) + 128) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 128) & 0xaa) >> 1) | (((0) + 128) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 128) + 1) & 0xaa) >> 1) | ((((0) + 128) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 128) + 1) & 0xaa) >> 1) | ((((0) + 128) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 128) + 1) & 0xaa) >> 1) | ((((0) + 128) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 128) + 1) & 0xaa) >> 1) | ((((0) + 128) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 128) + 2) & 0xaa) >> 1) | ((((0) + 128) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 128) + 2) & 0xaa) >> 1) | ((((0) + 128) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 128) + 2) & 0xaa) >> 1) | ((((0) + 128) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 128) + 2) & 0xaa) >> 1) | ((((0) + 128) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 128) + 2) + 1) & 0xaa) >> 1) | (((((0) + 128) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 128) + 2) + 1) & 0xaa) >> 1) | (((((0) + 128) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 128) + 2) + 1) & 0xaa) >> 1) | (((((0) + 128) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 128) + 2) + 1) & 0xaa) >> 1) | (((((0) + 128) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 128) + 4) & 0xaa) >> 1) | ((((0) + 128) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 128) + 4) & 0xaa) >> 1) | ((((0) + 128) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) + 128) + 4) & 0xaa) >> 1) | ((((0) + 128) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 128) + 4) & 0xaa) >> 1) | ((((0) + 128) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 128) + 4) + 1) & 0xaa) >> 1) | (((((0) + 128) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 128) + 4) + 1) & 0xaa) >> 1) | (((((0) + 128) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 128) + 4) + 1) & 0xaa) >> 1) | (((((0) + 128) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 128) + 4) + 1) & 0xaa) >> 1) | (((((0) + 128) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 128) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 128) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 128) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 128) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 128

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 81 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().

```
81                                                          {
82     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
83     uchar in_pkt[MSG_SIZE] = { 0 };
84     // Load each RGB zone
85     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
86     for(int i = 0; i < zonecount; i++){
87         if(!usbrecv(kb, data_pkt, in_pkt))
88             return -1;
89         if(memcmp(in_pkt, data_pkt, 4)){
90             ckb_err("Bad input header\n");
91             return -2;
92         }
93         // Copy data
94         int led = LED_MOUSE + i;
95         if(led >= LED_DPI)
96             led++;          // Skip DPI light
97         light->r[led] = in_pkt[4];
98         light->g[led] = in_pkt[5];
99         light->b[led] = in_pkt[6];
100         // Set packet for next zone
101         data_pkt[2]++;
102     }
103     return 0;
104 }
```

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 62 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().

```
62                                                          {
63     uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
64     // Save each RGB zone, minus the DPI light which is sent in the DPI packets
65     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
66     for(int i = 0; i < zonecount; i++){
67         int led = LED_MOUSE + i;
68         if(led >= LED_DPI)
69             led++;          // Skip DPI light
70         data_pkt[4] = light->r[led];
71         data_pkt[5] = light->g[led];
72         data_pkt[6] = light->b[led];
73         if(!usbsend(kb, data_pkt, 1))
74             return -1;
75         // Set packet for next zone
76         data_pkt[2]++;
77     }
78     return 0;
79 }
```

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, isblack(), usbprofile::lastlight, LED_MOUSE, usbmode::light, MSG_SIZE, N_MOUSE_ZONES, usbdevice::profile, lighting::r, rgbcmp(), and usbsend.

```
{
    if(!kb->active)
        return 0;
    lighting* lastlight = &kb->profile->lastlight;
    lighting* newlight = &kb->profile->currentmode->light;
    // Don't do anything if the lighting hasn't changed
    if(!force && !lastlight->forceupdate && !newlight->forceupdate
            && !rgbcmp(lastlight, newlight))
        return 0;
    lastlight->forceupdate = newlight->forceupdate = 0;

    // Send the RGB values for each zone to the mouse
    uchar data_pkt[2][MSG_SIZE] = {
        { 0x07, 0x22, N_MOUSE_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++){
        *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:

13.31 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.

```
71                                                          {
72      char* ldst = dst + length;
73      char s;
74      while((s = *src++)){
75          if(s == '_')
76              s = '-';
77          else
78              s = tolower(s);
79          *dst++ = s;
80          if(dst == ldst){
81              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().

```
88                                  {
89      // Set output pipes to buffer on newlines, if they weren't set that way already
90      setlinebuf(stdout);
91      setlinebuf(stderr);
92      main_ac = argc;
93      main_av = argv;
94
95      printf("    ckb: Corsair RGB driver %s\n", CKB_VERSION_STR);
96      // If --help occurs anywhere in the command-line, don't launch the program but instead print usage
97      for(int i = 1; i < argc; i++){
98          if(!strcmp(argv[i], "--help")){
99              printf(
100 #ifdef OS_MAC
101                         "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify]
        [--nobind] [--nomouseaccel] [--nonroot]\n"
102 #else
103                         "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify]
        [--nobind] [--nonroot]\n"
104 #endif
105                         "\n"
106                         "See https://github.com/ccMSC/ckb/blob/master/DAEMON.md for full instructions.\n"
107                         "\n"
108                         "Command-line parameters:\n"
109                         "    --gid=<gid>\n"
110                         "        Restrict access to %s* nodes to users in group <gid>.\n"
111                         "        (Ordinarily they are accessible to anyone)\n"
112                         "    --hwload=<always|try|never>\n"
113                         "        --hwload=always will force loading of stored hardware profiles on
        compatible devices. May result in long start up times.\n"
114                         "        --hwload=try will try to load the profiles, but give up if not immediately
        successful (default).\n"
115                         "        --hwload=never will ignore hardware profiles completely.\n"
116                         "    --nonotify\n"
117                         "        Disables key monitoring/notifications.\n"
118                         "        Note that this makes reactive lighting impossible.\n"
119                         "    --nobind\n"
120                         "        Disables all key rebinding, macros, and notifications. Implies --nonotify.
       \n"
121 #ifdef OS_MAC
122                         "    --nomouseaccel\n"
123                         "        Disables mouse acceleration, even if the system preferences enable it.\n"
124 #endif
125                         "    --nonroot\n"
126                         "        Allows running ckb-daemon as a non root user.\n"
127                         "        This will almost certainly not work. Use only if you know what you're
        doing.\n"
128                         "\n", devpath);
129             exit(0);
130         }
131     }
132
133     // Check PID, quit if already running
134     char pidpath[strlen(devpath) + 6];
135     snprintf(pidpath, sizeof(pidpath), "%s0/pid", devpath);
136     FILE* pidfile = fopen(pidpath, "r");
137     if(pidfile){
138         pid_t pid;
139         fscanf(pidfile, "%d", &pid);
140         fclose(pidfile);
141         if(pid > 0){
142             // kill -s 0 checks if the PID is active but doesn't send a signal
143             if(!kill(pid, 0)){
144                 ckb_fatal_nofile("ckb-daemon is already running (PID %d). Try `killall
        ckb-daemon`.\n", pid);
145                 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);
```

```
    // Timing/input parameters
    CKB_KPMODE(CKB_KP_NAME);
    CKB_TIMEMODE(CKB_TIME_DURATION);
    CKB_LIVEPARAMS(TRUE);

    // Presets
    CKB_PRESET_START("Fade in");
    CKB_PRESET_PARAM("color", "ff000000");
    CKB_PRESET_PARAM("duration", "1.0");
    CKB_PRESET_PARAM("stop", "0");
    CKB_PRESET_PARAM("kpstop", "0");
    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("trigger", "0");
    CKB_PRESET_PARAM("kptrigger", "1");
    CKB_PRESET_END;
}
```

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 40 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 65 of file main.c.

References ffade, keyanim::pressed, keyanim::timing, and keyanim::usages.

Referenced by ckb_keypress(), and ckb_start().

```
65                          {
66     anims[index].usages += ffade;
67     anims[index].pressed = 1;
68     anims[index].timing = 0.f;
69 }
```

Here is the caller graph for this function:

13.33.2.2 void anim_remove (int *index*)

Definition at line 71 of file main.c.

References keyanim::pressed.

Referenced by ckb_keypress(), and ckb_start().

```
71                              {
72      anims[index].pressed = 0;
73  }
```

Here is the caller graph for this function:

13.33.2.3 int ckb_frame (ckb_runctx * *context*)

Definition at line 101 of file main.c.

References ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ffade, ckb_runctx::keycount, ckb_runctx::keys, pressestofull, and randomBright.

```
101                                     {
102     CKB_KEYCLEAR(context);
103     // Draw spots
104     unsigned count = context->keycount;
105     ckb_key* keys = context->keys;
106     unsigned int full = pressestofull*ffade;
107     for(int i =0; i < count; i++){
108         if(!anims[i].usages)
109             continue;
110         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 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_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("2015", "RULER501");
    CKB_LICENSE("LGPLv3");
     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 50 of file main.c.

References ckb_runctx::keycount, ckb_runctx::keys, keyanim::x, ckb_key::x, keyanim::y, and ckb_key::y.

```
50                                  {
51     anims = calloc(context->keycount, sizeof(keyanim));
52     for(int i=0; i < context->keycount; i++){
53         anims[i].x = context->keys[i].x;
54         anims[i].y = context->keys[i].y;
55     }
56 }
```

13.33.2.6 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 75 of file main.c.

References anim_add(), anim_remove(), and ckb_runctx::keys.

```
75                                                                  {
76     // Add or remove a spot on this key
77     if(state)
78         anim_add(key - context->keys);
79     else
80         anim_remove(key - context->keys);
81 }
```

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 58 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, ffade, pressestofull, and randomBright.

```
58                                                                  {
59     CKB_PARSE_AGRADIENT("color", &animcolor){}
60     CKB_PARSE_BOOL("random", &randomBright){}
61     CKB_PARSE_LONG("ffade", &ffade){}
62     CKB_PARSE_DOUBLE("pressestofull", &pressestofull){}
63 }
```

13.33.2.8 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 83 of file main.c.

```
83                                          {
84     return;
85 }
```

13.33.2.9 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 87 of file main.c.

References ckb_runctx::keycount, keyanim::timing, and keyanim::usages.

```
87                                                  {
88     unsigned int count = context->keycount;
89     for(unsigned int i=0; i < count; i++){
90         if(anims[i].usages && !anims[i].pressed){
91             anims[i].timing -= delta;
92             while(anims[i].timing < 0){
93                 anims[i].timing += 1.f/30.f;
94                 if(anims[i].usages > 0)
95                     anims[i].usages--;
96             }
97         }
98     }
99 }
```

13.33.3 Variable Documentation

13.33.3.1 ckb_gradient animcolor = { 0 }

Definition at line 35 of file main.c.

13.33.3.2 keyanim* anims = NULL

Definition at line 48 of file main.c.

13.33.3.3 long ffade = 30

Definition at line 37 of file main.c.

Referenced by anim_add(), ckb_frame(), and ckb_parameter().

13.33.3.4 double pressestofull = 10.f

Definition at line 38 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.33.3.5 int randomBright = 0

Definition at line 36 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 61 of file main.c.

```
61                                                  {
62     return;
63 }
```

13.34.1.2 void anim_remove (float *x*, float *y*)

Definition at line 65 of file main.c.

```
65                                  {
66     return;
67 }
```

13.34.1.3 int ckb_frame (ckb_runctx * *context*)

Definition at line 110 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.

```
110                                 {
111     CKB_KEYCLEAR(context);
112     ckb_key* keys = context->keys;
113     ckb_key* maxkey = keys+context->keycount-1;
114     getFreqDec();
115     unsigned int frames = context->width*context->height - 1;
116     int height = context->height;
117     for(ckb_key* key = keys; key < maxkey; key++){
118         int posl = height*key->x + key->y - 1;
119         posl = max(posl, 0);
120         int posr = height*key->x + key->y + 1;
121         posr = max(posr, 0);
122         int lowi = floorf(pow(2,posl*11.f/frames));
123         int highi = ceilf(pow(2,posr*11.f/frames));
124         highi= min(highi, (int)sizeof(powers)/sizeof(double)-1);
125         lowi = max(lowi, 0);
126         double total = 0;
127         unsigned int height = context->height;
128         for(unsigned int i = lowi; i <= highi; i++)
129             total += powers[i];
130         total /= highi - lowi + 1;
131         float a, r, g, b;
132         ckb_grad_color(&a, &r, &g, &b, &animcolor, total/(
      power ? 150994944.f : 12288.f));
133         ckb_alpha_blend(key, a, r, g, b);
134     }
135     return 0;
136 }
```

Here is the call graph for this function:

13.34.1.4 void ckb_info ( )

Definition at line 11 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.

```
11                {
12     // Plugin info
13     CKB_NAME("Music Visualization");
14     CKB_VERSION("0.2");
15     CKB_COPYRIGHT("2015", "RULER501");
16     CKB_LICENSE("LGPLv3");
17     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25CA1DB0D92C}");
18     CKB_DESCRIPTION("A collection of music visualization effects");
19
20     // Effect parameters
21     CKB_PARAM_AGRADIENT("color", "Fade color:", "", "ffffffff");
22     CKB_PARAM_BOOL("power", "Use Power instead of Magnitude?", 0);
23
24     // Timing/input parameters
25     CKB_KPMODE(CKB_KP_NONE);
26     CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
27     CKB_REPEAT(FALSE);
28     CKB_LIVEPARAMS(TRUE);
29
30     // Presets
31     CKB_PRESET_START("Default");
32     CKB_PRESET_PARAM("power", "0");
33     CKB_PRESET_PARAM("trigger", "0");
34     CKB_PRESET_PARAM("kptrigger", "1");
35     CKB_PRESET_END;
36 }
```

13.34.1.5 void ckb_init (ckb_runctx * *context*)

Definition at line 45 of file main.c.

References pas.

```
45                                {
46     static const pa_sample_spec ss ={
47         .format = PA_SAMPLE_S16LE,
48         .rate = 44100,
49         .channels = 1
50     };
51     pas = pa_simple_new(NULL, "CKB Music Viz", PA_STREAM_RECORD, NULL, "CKB Music Viz", &ss, NULL, NULL,
       NULL);
52     inbuf = malloc(2048*sizeof(kiss_fft_cpx));
53     outbuf = malloc(2048*sizeof(kiss_fft_cpx));
54 }
```

13.34.1.6 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 69 of file main.c.

```
69                                                                    {
70     return;
71 }
```

13.34.1.7 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 56 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, and power.

```
56                                                                    {
57     CKB_PARSE_AGRADIENT("color", &animcolor){}
58     CKB_PARSE_BOOL("power", &power);
59 }
```

13.34.1.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 73 of file main.c.

```
73                                                  {
74     return;
75 }
```

13.34.1.9 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 77 of file main.c.

```
77                                                  {
78     return;
79 }
```

13.34.1.10 void getFreqDec ( )

Definition at line 91 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().

```
91                 {
92     int16_t data[2048];
93     pa_simple_read(pas, data, sizeof(data), NULL);
94     for(int j=0; j<2048; j++){
95         inbuf[j].r = data[j];
96         inbuf[j].i = 0;
97     }
98     kiss_fft_cfg config = kiss_fft_alloc(2048, 0, NULL, NULL);
99     kiss_fft(config, inbuf, outbuf);
100
101     for(unsigned int j=0; j < 2048; j++)
102         if(power)
103             powers[j] = outbuf[j].r*outbuf[j].r + outbuf[j].
      i*outbuf[j].i;
104         else
105             powers[j] = sqrt(outbuf[j].r*outbuf[j].r + outbuf[j].i*
      outbuf[j].i);
106     kiss_fft_free(config);
107     kiss_fft_cleanup();
108 }
```

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 81 of file main.c.

Referenced by ckb_frame().

```
81                      {
82     return a > b ? a : b;
83 }
```

Here is the caller graph for this function:

13.34.1.12 int min (int *a*, int *b*)

Definition at line 85 of file main.c.

Referenced by ckb_frame(), and dpiExp().

```
85                      {
86     return a < b ? a : b;
87 }
```

Here is the caller graph for this function:

13.34.2 Variable Documentation

13.34.2.1 ckb_gradient animcolor = { 0 }

Definition at line 41 of file main.c.

13.34.2.2 int gcounter = 0

Definition at line 89 of file main.c.

13.34.2.3 kiss_fft_cpx* inbuf

Definition at line 39 of file main.c.

13.34.2.4 kiss_fft_cpx* outbuf

Definition at line 40 of file main.c.

13.34.2.5 pa_simple* pas = NULL

Definition at line 42 of file main.c.

Referenced by ckb_init(), and getFreqDec().

13.34.2.6 int power = 0

Definition at line 43 of file main.c.

Referenced by ckb_frame(), ckb_parameter(), and getFreqDec().

13.34.2.7 double powers[2048] = { 0.f }

Definition at line 38 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
```

```
5     CKB_NAME("Pinwheel");
6     CKB_VERSION("0.9");
7     CKB_COPYRIGHT("2014-2016", "MSC");
8     CKB_LICENSE("GPLv2");
9     CKB_GUID("{07551A90-D97A-4DD0-A770-E9E280A90891}");
10     CKB_DESCRIPTION("A spinning pinwheel effect.");
11
12     // Effect parameters
13     CKB_PARAM_AGRADIENT("color", "Wheel color:", "", "ffffffff");
14     CKB_PARAM_DOUBLE("length", "Wheel size:", "%", 100, 1., 100.);
15     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
16     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
17     CKB_PARAM_BOOL("counter_clock", "Counter Clockwise", 0);
18     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
19
20     // Timing/input parameters
21     CKB_KPMODE(CKB_KP_NONE);
22     CKB_TIMEMODE(CKB_TIME_DURATION);
23     CKB_LIVEPARAMS(TRUE);
24     CKB_REPEAT(FALSE);
25
26     // Presets
27     CKB_PRESET_START("Search light");
28     CKB_PRESET_PARAM("duration", "2.0");
29     CKB_PRESET_PARAM("length", "50.0");
30     CKB_PRESET_PARAM("symmetric", "1");
31     CKB_PRESET_END;
32
33     CKB_PRESET_START("Rainbow");
34     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
35     CKB_PRESET_PARAM("duration", "2.0");
36     CKB_PRESET_END;
37 }
```

13.35.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

```
57                                  {
58     // Unused
59 }
```

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.

```
61                                                                  {
62     // Unused
63 }
```

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.

```
45                                                                  {
46     CKB_PARSE_AGRADIENT("color", &animcolor){}
47     double len;
48     CKB_PARSE_DOUBLE("length", &len){
49         animlength = len / 100. * M_PI * 2.;
50     }
51     CKB_PARSE_BOOL("symmetric", &symmetric){}
52     CKB_PARSE_BOOL("counter_clock", &counter_clock){}
53     CKB_PARSE_DOUBLE("x_offset", &x_offset) {}
54     CKB_PARSE_DOUBLE("y_offset", &y_offset) {}
55 }
```

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::mousePressEvent(), os_mousemove(), GradientDialogWidget::paintEvent(), KeyWidget::paintEvent(), Kb::readNotify(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), GradientButton::updateImage(), 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::mousePressEvent(), 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;
    }
```

```
80      CKB_PARSE_LONG("frequency", &frequency){
81          period = 1. / frequency;
82      }
83      CKB_PARSE_BOOL("trigger", &spawn){}
84  }
```

13.36.2.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 94 of file main.c.

References tick.

```
94                                                  {
95      // Start or stop random spawning
96      tick = state ? 0. : -1.;
97  }
```

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.

```
99                                                  {
100     if(delta <= 0.)
101         return;
102     // Process existing drops
103     for(unsigned i = 0; i < DROP_MAX; i++){
104         if(drop[i].active){
105             drop[i].size += delta * speed;
106             if(drop[i].size > drop[i].msize)
107                 drop[i].active = 0;
108         }
109     }
110     if(tick >= 0.){
111         // Spawn a new randomly-placed drop, if the spawn time has passed
112         tick += delta;
113         if(tick > period && spawn){
114             drop_add(rand() / (double)RAND_MAX * context->width, rand() / (double)RAND_MAX *
        context->height, 1);
115             tick -= period;
116         }
117     }
118 }
```

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().

```
                                        {
    for(int i = 0; i < DROP_MAX; i++){
        if(drop[i].active)
            continue;
        drop[i].active = 1;
        drop[i].x = x;
        drop[i].y = y;
        float msize = maxsize * (0.9 + (rand() / (double)RAND_MAX * 0.2));
        drop[i].size = -msize / 2. * slow;
        drop[i].msize = msize;
        return;
    }
}
```

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.

```
109                                 {
110     if(phase < 0.){
111         CKB_KEYCLEAR(context);
112         return 0;
113     }
114     ckb_key* keys = context->keys;
115     unsigned count = context->keycount;
116     for(unsigned i = 0; i < count; i++){
117         // Color each key according to the position between the last color set and the new color set
118         ckb_key* key = keys + i;
119         key->a = round(current[i].a * (1. - phase) + target[i].a *
    phase);
120         key->r = round(current[i].r * (1. - phase) + target[i].r *
    phase);
121         key->g = round(current[i].g * (1. - phase) + target[i].g *
    phase);
122         key->b = round(current[i].b * (1. - phase) + target[i].b *
    phase);
123     }
124     return 0;
125 }
```

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.

```
6                 {
7     // Plugin info
8     CKB_NAME("Random");
9     CKB_VERSION("0.9");
10     CKB_COPYRIGHT("2014-2016", "MSC");
11     CKB_LICENSE("GPLv2");
12     CKB_GUID("{22418DA4-A181-4B93-A4D3-03682BA283D2}");
13     CKB_DESCRIPTION("An effect that changes key colors randomly.");
14
15     // Effect parameters
16     CKB_PARAM_BOOL("fade", "Fade in", 0);
17     CKB_PARAM_BOOL("useopacity", "Randomize opacity", 0);
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_NONE);
21     CKB_TIMEMODE(CKB_TIME_DURATION);
22     CKB_LIVEPARAMS(TRUE);
23     CKB_REPEAT(FALSE);
24
25     // Presets
26     CKB_PRESET_START("Default");
27     CKB_PRESET_PARAM("duration", "1.");
28     CKB_PRESET_END;
29 }
```

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.

```
5               {
6     // Plugin info
7     CKB_NAME("Ripple");
8     CKB_VERSION("0.10");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25A1CDB02C9D}");
12     CKB_DESCRIPTION("An expanding ring effect.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Ripple color:", "", "ffffffff");
16     CKB_PARAM_DOUBLE("length", "Ring length:", "%", 100, 1, 100);
17     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
18     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
19     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
20     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
21
22     // Timing/input parameters
23     CKB_KPMODE(CKB_KP_POSITION);
24     CKB_TIMEMODE(CKB_TIME_DURATION);
25     CKB_LIVEPARAMS(TRUE);
26     CKB_PREEMPT(TRUE);
27
28     // Presets
29     CKB_PRESET_START("Shimmer");
30     CKB_PRESET_PARAM("duration", "2.0");
31     CKB_PRESET_PARAM("length", "50.0");
32     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);
138         free(guid);
139     } else if(!strcmp(setting, ":id")){
140         // Get the current mode ID
141         char* guid = getid(&mode->id);
142         int modified;
143         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     pthread_mutex_lock(imutex(kb));
217     _cmd_get(kb, mode, nnumber, setting);
218     pthread_mutex_unlock(imutex(kb));
219 }
```

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 223 of file notify.c.

References ckb_info, nprintf(), and restart().

```
223                                                                                                 {
224     ckb_info("RESTART called with %s\n", content);
225     nprintf(kb, -1, 0, "RESTART called with %s\n", content);
226     restart();
227 }
```

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     pthread_mutex_lock(imutex(kb));
217     _cmd_get(kb, mode, nnumber, setting);
218     pthread_mutex_unlock(imutex(kb));
219 }
```

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 223 of file notify.c.

References ckb_info, nprintf(), and restart().

```
223                                                                                                 {
224     ckb_info("RESTART called with %s\n", content);
225     nprintf(kb, -1, 0, "RESTART called with %s\n", content);
226     restart();
227 }
```

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().

```
8                                                                                                   {
9     if(!kb)
10        return;
11     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 210 of file profile.c.

References freemode(), usbprofile::mode, MODE_COUNT, and usbdevice::profile.

Referenced by cmd_eraseprofile(), and freeprofile().

```
210                                     {
211     usbprofile* profile = kb->profile;
212     if(!profile)
213         return;
214     // Clear all mode data
215     for(int i = 0; i < MODE_COUNT; i++)
216         freemode(profile->mode + i);
217     free(profile);
218     kb->profile = 0;
219 }
```

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 182 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().

```
{
    if(kb->profile)
        return;
    usbprofile* profile = kb->profile = calloc(1, sizeof(usbprofile));
    for(int i = 0; i < MODE_COUNT; i++)
        initmode(profile->mode + i);
    profile->currentmode = profile->mode;
    profile->lastlight.forceupdate = profile->lastdpi.forceupdate = 1;
}
```

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 203 of file profile.c.

References freemode(), imutex, and initmode().

```
{
    pthread_mutex_lock(imutex(kb));
    freemode(mode);
    initmode(mode);
    pthread_mutex_unlock(imutex(kb));
}
```

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 221 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
221                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
220 {
221     pthread_mutex_lock(imutex(kb));
222     _freeprofile(kb);
223     allocprofile(kb);
224     pthread_mutex_unlock(imutex(kb));
225 }
```

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 160 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
159 {
160     // ID is either a GUID or an 8-digit hex number
161     int newmodified;
162     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
163         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
164 }
```

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     char decoded[strlen(name) + 1];
119     urldecode2(decoded, name);
120     size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
121     u16enc(decoded, mode->name, &srclen, &dstlen);
122 }
```

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 167 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
167                                                                                                 {
168     usbprofile* profile = kb->profile;
169     int newmodified;
170     if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
171         memcpy(profile->id.modified, &newmodified, sizeof(newmodified));
172
173 }
```

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 124 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
124                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
{
    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);
130 }
```

Here is the call graph for this function:

13.43.1.9 static void freemode (usbmode * *mode*) [static]

Definition at line 198 of file profile.c.

References usbmode::bind, and freebind().

Referenced by _freeprofile(), and cmd_erase().

```
198                                 {
199     freebind(&mode->bind);
200     memset(mode, 0, sizeof(*mode));
201 }
```

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 228 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
228                                 {
229     _freeprofile(kb);
230     // Also free HW profile
231     free(kb->hw);
232     kb->hw = 0;
233 }
```

Here is the call graph for this function:

13.43.1.11 char* gethwmodename (hwprofile * *profile*, int *index*)

Definition at line 152 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
152                                                 {
153     return printname(profile->name[index + 1], MD_NAME_LEN);
154 }
```

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 156 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
156                                                 {
157     return printname(profile->name[0], MD_NAME_LEN);
158 }
```

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 144 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

Referenced by _cmd_get().

```
144                                 {
145     return printname(mode->name, MD_NAME_LEN);
146 }
```

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 148 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

Referenced by _cmd_get().

```
148                                         {
149     return printname(profile->name, PR_NAME_LEN);
150 }
```

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 235 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().

```
235                                                                 {
236     // Copy the profile name and ID
237     memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
238     memcpy(&profile->id, hw->id, sizeof(usbid));
239     // Copy the mode settings
240     for(int i = 0; i < modecount; i++){
241         usbmode* mode = profile->mode + i;
242         memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
243         memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
244         memcpy(&mode->light, hw->light + i, sizeof(lighting));
245         memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
246         // Set a force update on the light/DPI since they've been overwritten
247         mode->light.forceupdate = mode->dpi.forceupdate = 1;
248     }
249     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
250 }
```

Here is the caller graph for this function:

13.43.1.17 static void initmode (usbmode * *mode*) [static]

Definition at line 175 of file profile.c.

References usbmode::bind, usbmode::dpi, dpiset::forceupdate, lighting::forceupdate, initbind(), and usbmode::light.

Referenced by allocprofile(), and cmd_erase().

```
175                                 {
176     memset(mode, 0, sizeof(*mode));
177     mode->light.forceupdate = 1;
178     mode->dpi.forceupdate = 1;
179     initbind(&mode->bind);
180 }
```

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 192 of file profile.c.

References hwloadprofile.

```
192                             {
193     if(hwloadprofile(kb, 1))
194         return -1;
195     return 0;
196 }
```

13.43.1.19 void nativetohw (usbprofile * *profile*, hwprofile * *hw*, int *modecount*)

Definition at line 252 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().

```
252                                                             {
253     // Copy name and ID
254     memcpy(hw->name[0], profile->name, PR_NAME_LEN * 2);
255     memcpy(hw->id, &profile->id, sizeof(usbid));
256     // 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:

13.43.1.20 char* printname (ushort * *name*, int *length*)

Definition at line 132 of file profile.c.

References u16dec(), and urlencode2().

Referenced by gethwmodename(), gethwprofilename(), getmodename(), and getprofilename().

```
132                                         {
133     // Convert the name to UTF-8
134     char* buffer = calloc(1, length * 4 - 3);
135     size_t srclen = length, dstlen = length * 4 - 4;
136     u16dec(name, buffer, &srclen, &dstlen);
137     // URL-encode it
138     char* buffer2 = malloc(strlen(buffer) * 3 + 1);
139     urlencode2(buffer2, buffer);
140     free(buffer);
141     return buffer2;
142 }
```

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().

```
64                                      {
65     int32_t data1;
66     int16_t data2, data3, data4a;
67     char data4b[6];
68     if(sscanf(guid, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
69               &data1, &data2, &data3, &data4a, data4b, data4b + 1, data4b + 2, data4b + 3, data4b + 4,
      data4b + 5) != 10)
70         return 0;
71     memcpy(id->guid + 0x0, &data1, 4);
72     memcpy(id->guid + 0x4, &data2, 2);
73     memcpy(id->guid + 0x6, &data3, 2);
74     memcpy(id->guid + 0x8, &data4a, 2);
75     memcpy(id->guid + 0xA, data4b, 6);
76     return 1;
77 }
```

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                                                                  {
98     if(!utf8to16)
99         utf8to16 = iconv_open("UTF-16LE", "UTF-8");
100     memset(out, 0, *dstlen * 2);
101     *dstlen = *dstlen * 2 - 2;
102     iconv(utf8to16, &in, srclen, (char**)&out, dstlen);
103 }
```

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
```

```
                b += '0';
            dst[0] = '%';
            dst[1] = a;
            dst[2] = b;
            dst += 3;
        } else
            *dst++ = s;
    }
    *dst = '\0';
}
```

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 182 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().

```
{
    if(kb->profile)
        return;
    usbprofile* profile = kb->profile = calloc(1, sizeof(usbprofile));
    for(int i = 0; i < MODE_COUNT; i++)
        initmode(profile->mode + i);
    profile->currentmode = profile->mode;
    profile->lastlight.forceupdate = profile->lastdpi.forceupdate = 1;
}
```

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 203 of file profile.c.

References freemode(), imutex, and initmode().

```
{
    pthread_mutex_lock(imutex(kb));
    freemode(mode);
    initmode(mode);
    pthread_mutex_unlock(imutex(kb));
}
```

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 221 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
221                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
222     pthread_mutex_lock(imutex(kb));
223     _freeprofile(kb);
224     allocprofile(kb);
225     pthread_mutex_unlock(imutex(kb));
226 }
```

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
17     DELAY_LONG(kb);
18     hwprofile* hw = calloc(1, sizeof(hwprofile));
19     // Ask for profile and mode IDs
20     uchar data_pkt[2][MSG_SIZE] = {
21         { 0x0e, 0x15, 0x01, 0 },
22         { 0x0e, 0x16, 0x01, 0 }
23     };
24     uchar in_pkt[MSG_SIZE];
25     int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
26     for(int i = 0; i <= modes; i++){
27         data_pkt[0][3] = i;
28         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     DELAY_LONG(kb);
8     hwprofile* hw = calloc(1, sizeof(hwprofile));
9     // Ask for profile and mode IDs
10     uchar data_pkt[2][MSG_SIZE] = {
11         { 0x0e, 0x15, 0x01, 0 },
12         { 0x0e, 0x16, 0x01, 0 }
13     };
14     uchar in_pkt[MSG_SIZE];
15     for(int i = 0; i <= 1; i++){
16         data_pkt[0][3] = i;
17         if(!usbrecv(kb, data_pkt[0], in_pkt)){
18             free(hw);
19             return -1;
20         }
21         memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
22     }
23     // Ask for profile and mode names
24     for(int i = 0; i <= 1; i++){
25         data_pkt[1][3] = i;
26         if(!usbrecv(kb, data_pkt[1],in_pkt)){
27             free(hw);
28             return -1;
29         }
```

```
        memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
    }

    // Load the RGB and DPI settings
    if(loadrgb_mouse(kb, hw->light, 0)
            || loaddpi(kb, hw->dpi, hw->light)){
        free(hw);
        return -1;
    }

    // Make the profile active (if requested)
    if(apply)
        hwtonative(kb->profile, hw, 1);
    // 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:

13.44.2.6 int cmd_hwsave_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 57 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.

```
{
    DELAY_LONG(kb);
    hwprofile* hw = kb->hw;
    if(!hw)
        hw = kb->hw = calloc(1, sizeof(hwprofile));
    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:

13.44.2.7 int cmd_hwsave_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 50 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.

```
50                                                                                                                  {
51      DELAY_LONG(kb);
52      hwprofile* hw = kb->hw;
53      if(!hw)
54          hw = kb->hw = calloc(1, sizeof(hwprofile));
55      nativetohw(kb->profile, hw, 1);
56      // Save the profile and mode names
57      uchar data_pkt[2][MSG_SIZE] = {
58          { 0x07, 0x16, 0x01, 0 },
59          { 0x07, 0x15, 0x01, 0 },
60      };
61      for(int i = 0; i <= 1; i++){
62          data_pkt[0][3] = i;
63          memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
64          if(!usbsend(kb, data_pkt[0], 1))
65              return -1;
66      }
67      // Save the IDs
68      for(int i = 0; i <= 1; i++){
69          data_pkt[1][3] = i;
70          memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
71          if(!usbsend(kb, data_pkt[1], 1))
72              return -1;
73      }
74      // Save the RGB data for the non-DPI zones
75      if(savergb_mouse(kb, hw->light, 0))
76          return -1;
77      // Save the DPI data (also saves RGB for those states)
78      if(savedpi(kb, hw->dpi, hw->light))
79          return -1;
80      DELAY_LONG(kb);
81      return 0;
82  }
```

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 160 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
160                                                                                 {
161     // ID is either a GUID or an 8-digit hex number
162     int newmodified;
163     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
164         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
165 }
```

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     char decoded[strlen(name) + 1];
119     urldecode2(decoded, name);
120     size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
121     u16enc(decoded, mode->name, &srclen, &dstlen);
122 }
```

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 167 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
167                                                                                                 {
168     usbprofile* profile = kb->profile;
169     int newmodified;
170     if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
171         memcpy(profile->id.modified, &newmodified, sizeof(newmodified));
172
173 }
```

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 124 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
124                                                                                                 {
125     usbprofile* profile = kb->profile;
126     char decoded[strlen(name) + 1];
127     urldecode2(decoded, name);
128     size_t srclen = strlen(decoded), dstlen = PR_NAME_LEN;
129     u16enc(decoded, profile->name, &srclen, &dstlen);
130 }
```

Here is the call graph for this function:

13.44.2.12 void freeprofile (usbdevice * *kb*)

Definition at line 228 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
228                                 {
229     _freeprofile(kb);
230     // Also free HW profile
231     free(kb->hw);
232     kb->hw = 0;
233 }
```

Here is the call graph for this function:

13.44.2.13 char* gethwmodename (hwprofile * *profile*, int *index*)

Definition at line 152 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
152                                             {
153     return printname(profile->name[index + 1], MD_NAME_LEN);
154 }
```

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 156 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

Referenced by _cmd_get().

```
156                                         {
157     return printname(profile->name[0], MD_NAME_LEN);
158 }
```

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 144 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

Referenced by _cmd_get().

```
144                                 {
145     return printname(mode->name, MD_NAME_LEN);
146 }
```

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 148 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

Referenced by _cmd_get().

```
148                                         {
149     return printname(profile->name, PR_NAME_LEN);
150 }
```

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 235 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().

```
235                                                                 {
236     // Copy the profile name and ID
237     memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
238     memcpy(&profile->id, hw->id, sizeof(usbid));
239     // Copy the mode settings
240     for(int i = 0; i < modecount; i++){
241         usbmode* mode = profile->mode + i;
242         memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
243         memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
244         memcpy(&mode->light, hw->light + i, sizeof(lighting));
245         memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
246         // Set a force update on the light/DPI since they've been overwritten
247         mode->light.forceupdate = mode->dpi.forceupdate = 1;
248     }
249     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
250 }
```

Here is the caller graph for this function:

13.44.2.19 int loadprofile (usbdevice * *kb*)

Definition at line 192 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 252 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     DELAY_LONG(kb);
18     hwprofile* hw = calloc(1, sizeof(hwprofile));
19     // Ask for profile and mode IDs
20     uchar data_pkt[2][MSG_SIZE] = {
21         { 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 57 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.

```
57                                                                                                  {
58      DELAY_LONG(kb);
59      hwprofile* hw = kb->hw;
60      if(!hw)
61          hw = kb->hw = calloc(1, sizeof(hwprofile));
62      int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
63      nativetohw(kb->profile, hw, modes);
64      // Save the profile and mode names
65      uchar data_pkt[2][MSG_SIZE] = {
66          { 0x07, 0x16, 0x01, 0 },
67          { 0x07, 0x15, 0x01, 0 },
68      };
69      // Save the mode names
70      for(int i = 0; i <= modes; 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))
```

```
            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     DELAY_LONG(kb);
8     hwprofile* hw = calloc(1, sizeof(hwprofile));
9     // Ask for profile and mode IDs
10     uchar data_pkt[2][MSG_SIZE] = {
11         { 0x0e, 0x15, 0x01, 0 },
12         { 0x0e, 0x16, 0x01, 0 }
13     };
14     uchar in_pkt[MSG_SIZE];
15     for(int i = 0; i <= 1; i++){
16         data_pkt[0][3] = i;
17         if(!usbrecv(kb, data_pkt[0], in_pkt)){
18             free(hw);
19             return -1;
20         }
21         memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
22     }
23     // Ask for profile and mode names
24     for(int i = 0; i <= 1; i++){
25         data_pkt[1][3] = i;
26         if(!usbrecv(kb, data_pkt[1],in_pkt)){
27             free(hw);
28             return -1;
29         }
30         memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
31     }
32
33     // Load the RGB and DPI settings
34     if(loadrgb_mouse(kb, hw->light, 0)
35             || loaddpi(kb, hw->dpi, hw->light)){
36         free(hw);
37         return -1;
38     }
39
40     // Make the profile active (if requested)
41     if(apply)
42         hwtonative(kb->profile, hw, 1);
43     // Free the existing profile (if any)
44     free(kb->hw);
45     kb->hw = hw;
46     DELAY_LONG(kb);
47     return 0;
48 }
```

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 50 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.

```
50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
```
{
    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:

## 13.47 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+11]	
uchar	forceupdate	
uchar	g[152+11]	
uchar	r[152+11]	
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 29 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.2 const union devcmd vtable_keyboard_nonrgb

Definition at line 76 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.3 const union devcmd vtable_mouse

Definition at line 123 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 426 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
426                                                         {
427     // Perform a USB reset
428     DELAY_LONG(kb);
429     int res = os_resetusb(kb, file, line);
430     if(res)
431         return res;
432     DELAY_LONG(kb);
433     // Re-initialize the device
434     if(kb->vtable->start(kb, kb->active) != 0)
435         return -1;
436     if(kb->vtable->updatergb(kb, 1) != 0)
437         return -1;
438     return 0;
439 }
```

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 214 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().

```
214                                     {
227     usbdevice* kb = context;
228     // Set standard fields
229     short vendor = kb->vendor, product = kb->product;
230     const devcmd* vt = kb->vtable = get_vtable(vendor, product);
231     kb->features = (IS_RGB(vendor, product) ? FEAT_STD_RGB :
    FEAT_STD_NRGB) & features_mask;
232     if(IS_MOUSE(vendor, product)) kb->features |= FEAT_ADJRATE;
233     if(IS_MONOCHROME(vendor, product)) kb->features |=
    FEAT_MONOCHROME;
234     kb->usbdelay = USB_DELAY_DEFAULT;
235
236     // Perform OS-specific setup
240     DELAY_LONG(kb);
241
247     if(os_setupusb(kb))
248         goto fail;
249
255     // Make up a device name and serial if they weren't assigned
256     if(!kb->serial[0])
257         snprintf(kb->serial, SERIAL_LEN, "%04x:%04x-NoID", kb->
    vendor, kb->product);
258     if(!kb->name[0])
259         snprintf(kb->name, KB_NAME_LEN, "%s %s", vendor_str(kb->
    vendor), product_str(kb->product));
260
261     // Set up an input device for key events
269     if(os_inputopen(kb))
270         goto fail;
274     if(pthread_create(&kb->inputthread, 0, os_inputmain, kb))
275         goto fail;
276     pthread_detach(kb->inputthread);
282     if(os_setupindicators(kb))
283         goto fail;
284
285     // Set up device
298     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.

Definition at line 601 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, os_usbrecv(), os_usbsend(), and reset_stop.

```
601                                                                                                 {
602     // Try a maximum of 5 times
603     for(int try = 0; try < 5; try++){
604         // Send the output message
605         DELAY_SHORT(kb);
606         int res = os_usbsend(kb, out_msg, 1, file, line);
607         if(res == 0)
608             return 0;
609         else if(res == -1){
610             // Retry on temporary failure
611             if(reset_stop)
612                 return 0;
613             DELAY_LONG(kb);
614             continue;
615         }
616         // 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:

13.48.1.4 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 (...).

Definition at line 532 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
532                                                                                                    {
533     int total_sent = 0;
534     for(int i = 0; i < count; i++){
535         // Send each message via the OS function
536         while(1){
537             DELAY_SHORT(kb);
538             pthread_mutex_lock(mmutex(kb)); // Synchonization between macro output and color
        information
539             int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
540             pthread_mutex_unlock(mmutex(kb));
541             if(res == 0)
542                 return 0;
543             else if(res != -1){
544                 total_sent += res;
545                 break;
546             }
547             // Stop immediately if the program is shutting down or hardware load is set to tryonce
548             if(reset_stop || hwload_mode != 2)
549                 return 0;
550             // Retry as long as the result is temporary failure
551             DELAY_LONG(kb);
552         }
553     }
554     return total_sent;
555 }
```

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 675 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().

```
675                                 {
676     pthread_mutex_lock(imutex(kb));
677     if(kb->handle){
678         int index = INDEX_OF(kb, keyboard);
679         ckb_info("Disconnecting %s%d\n", devpath, index);
680         os_inputclose(kb);
681         updateconnected();
682         // Close USB device
683         os_closeusb(kb);
684     } else
685         updateconnected();
686     rmdevpath(kb);
687
688     // Wait for thread to close
689     pthread_mutex_unlock(imutex(kb));
690     pthread_mutex_unlock(dmutex(kb));
691     pthread_join(kb->thread, 0);
692     pthread_mutex_lock(dmutex(kb));
693
694     // Delete the profile and the control path
695     if(!kb->vtable)
696         return 0;
697     kb->vtable->freeprofile(kb);
698     memset(kb, 0, sizeof(usbdevice));
699     return 0;
700 }
```

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 135 of file usb.c.

References closeusb(), dmutex, usbdevice::infifo, IS_CONNECTED, readcmd(), readlines(), readlines_ctx_free(), and readlines_ctx_init().

Referenced by _setupusb().

```
135                                     {
137     int kbfifo = kb->infifo - 1;
140     readlines_ctx linectx;
141     readlines_ctx_init(&linectx);
146     while(1){
153         pthread_mutex_unlock(dmutex(kb));
154         // Read from FIFO
155         const char* line;
156         int lines = readlines(kbfifo, linectx, &line);
157         pthread_mutex_lock(dmutex(kb));
158         // End thread when the handle is removed
159         if(!IS_CONNECTED(kb))
160             break;
164         if(lines){
167             if(readcmd(kb, line)){
173                 // USB transfer failed; destroy device
174                 closeusb(kb);
175                 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 102 of file usb.c.

References IS_MOUSE, IS_RGB, vtable_keyboard, vtable_keyboard_nonrgb, and vtable_mouse.

Referenced by _setupusb().

```
102                                                                 {
103     return IS_MOUSE(vendor, product) ? &vtable_mouse :
      IS_RGB(vendor, product) ? &vtable_keyboard : &
      vtable_keyboard_nonrgb;
104 }
```

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_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_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";
    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 407 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 386 of file usb.c.

References _setupusb(), ckb_err, imutex, and usbdevice::thread.

Referenced by usbadd().

```
386                             {
387     pthread_mutex_lock(imutex(kb));
388     if(pthread_create(&kb->thread, 0, _setupusb, kb))
389         ckb_err("Failed to create USB thread\n");
390 }
```

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 465 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
465                                 {
466     if(reset_stop)
467         return -1;
468     ckb_info("Attempting reset...\n");
469     while(1){
470         int res = resetusb(kb);
471         if(!res){
472             ckb_info("Reset success\n");
473             return 0;
474         }
475         if(res == -2 || reset_stop)
476             break;
477     }
478     ckb_err("Reset failed. Disconnecting.\n");
479     return -1;
480 }
```

Here is the caller graph for this function:

13.48.1.12 const char* vendor_str (short *vendor*)

uncomment the following Define to see USB packets sent to the device

vendor_str returns "corsair" iff 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_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 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)))

  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 DELAY_SHORT(kb) usleep((int)(kb)->usbdelay ∗ 1000)

  USB delays for when the keyboards get picky about timing That was the original comment, but it is used anytime. The short delay is used before any send or receive.
- #define DELAY_MEDIUM(kb) usleep((int)(kb)->usbdelay ∗ 10000)

  the medium delay is used after sending a command before waiting for the answer.
- #define DELAY_LONG(kb) usleep(100000)

  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 the following Define 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 K65-like keyboards, regardless of their properties (RGB, ...).	In summary, they can be queried using the macro IS_K65().
2	the K70-like Keyboards with all their configuration types	summarized by IS_K70().
3	the K95 series keyboards	collected with the macro IS_K95().

4	strafe keyboards	IS_STRAFE()
5	M65 mice with and without RGB	IS_M65()
6	The SABRE and HARPOON mice. Maybe this will be divided int two different blocks later because of different nummber of special keys	IS_SABRE()
7	The Scimitar mouse devices	IS_SCIMITAR()

Definition in file usb.h.

13.49.2 Macro Definition Documentation

13.49.2.1 #define DELAY_LONG(*kb*) usleep(100000)

Definition at line 151 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*) usleep((int)(kb)->usbdelay * 10000)

Definition at line 148 of file usb.h.

Referenced by _usbrecv(), and setactive_kb().

13.49.2.3 #define DELAY_SHORT(*kb*) usleep((int)(kb)->usbdelay * 1000)

Definition at line 145 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 134 of file usb.h.

Referenced by readcmd(), and updatergb_kb().

13.49.2.5 #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 49 of file usb.h.

Referenced by has_key().

13.49.2.6 #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 63 of file usb.h.

13.49.2.7 #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 71 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwsave_kb(), and has_key().

13.49.2.8 #define IS_M65(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_M65 || (kb)->product == P_M65_PRO))

Definition at line 83 of file usb.h.

Referenced by isblack().

13.49.2.9 #define IS_MONOCHROME(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) == (P_STRAFE_NRGB))

Definition at line 125 of file usb.h.

Referenced by _setupusb().

13.49.2.10 #define IS_MONOCHROME_DEV(*kb*) IS_MONOCHROME((kb)->vendor, (kb)->product)

Definition at line 131 of file usb.h.

13.49.2.11 #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)))

Definition at line 137 of file usb.h.

Referenced by _setupusb(), get_vtable(), has_key(), and os_inputmain().

13.49.2.12 #define IS_MOUSE_DEV(*kb*) IS_MOUSE((kb)->vendor, (kb)->product)

Definition at line 140 of file usb.h.

Referenced by readcmd().

13.49.2.13 #define IS_RGB(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) != (P_K65_NRGB) && (product) != (P_K70_NRGB) && (product) != (P_K95_NRGB))

Definition at line 120 of file usb.h.

Referenced by _setupusb(), get_vtable(), and os_inputmain().

13.49.2.14 #define IS_RGB_DEV(*kb*) IS_RGB((kb)->vendor, (kb)->product)

Definition at line 128 of file usb.h.

13.49.2.15 #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 93 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.16 #define IS_SCIMITAR(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SCIMITAR || (kb)->product == P_SCIMITAR_PRO))

Definition at line 99 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.17 #define IS_STRAFE(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_STRAFE || (kb)->product == P_STRAFE_NRGB))

Definition at line 77 of file usb.h.

Referenced by savergb_kb().

13.49.2.18 #define NK95_HWOFF 0x020030

See Also

usb2.0 documentation for details. Set Hardware playback off

Definition at line 297 of file usb.h.

Referenced by start_kb_nrgb().

13.49.2.19 #define NK95_HWON 0x020001

Definition at line 300 of file usb.h.

Referenced by revertusb().

13.49.2.20 #define NK95_M1 0x140001

Definition at line 303 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.21 #define NK95_M2 0x140002

Definition at line 306 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.22 #define NK95_M3 0x140003

Definition at line 309 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.23 #define nk95cmd(*kb, command*) _nk95cmd(kb, (command) >> 16 & 0xFF, (command) & 0xFFFF, __FILE_NOPATH__, __LINE__)

Definition at line 292 of file usb.h.

Referenced by revertusb(), setmodeindex_nrgb(), and start_kb_nrgb().

13.49.2.24 #define P_K65 0x1b17

Definition at line 41 of file usb.h.

Referenced by product_str().

13.49.2.25 #define P_K65_LUX 0x1b37

Definition at line 45 of file usb.h.

Referenced by product_str().

13.49.2.26 #define P_K65_LUX_STR "1b37"

Definition at line 46 of file usb.h.

13.49.2.27 #define P_K65_NRGB 0x1b07

Definition at line 43 of file usb.h.

Referenced by product_str().

13.49.2.28 #define P_K65_NRGB_STR "1b07"

Definition at line 44 of file usb.h.

13.49.2.29 #define P_K65_RFIRE 0x1b39

Definition at line 47 of file usb.h.

Referenced by product_str().

13.49.2.30 #define P_K65_RFIRE_STR "1b39"

Definition at line 48 of file usb.h.

13.49.2.31 #define P_K65_STR "1b17"

Definition at line 42 of file usb.h.

13.49.2.32 #define P_K70 0x1b13

Definition at line 51 of file usb.h.

Referenced by product_str().

13.49.2.33 #define P_K70_LUX 0x1b33

Definition at line 55 of file usb.h.

Referenced by loadrgb_kb(), and product_str().

13.49.2.34 #define P_K70_LUX_NRGB 0x1b36

Definition at line 57 of file usb.h.

13.49.2.35 #define P_K70_LUX_NRGB_STR "1b36"

Definition at line 58 of file usb.h.

13.49.2.36 #define P_K70_LUX_STR "1b33"

Definition at line 56 of file usb.h.

13.49.2.37 #define P_K70_NRGB 0x1b09

Definition at line 53 of file usb.h.

Referenced by product_str().

13.49.2.38 #define P_K70_NRGB_STR "1b09"

Definition at line 54 of file usb.h.

13.49.2.39 #define P_K70_RFIRE 0x1b38

Definition at line 59 of file usb.h.

Referenced by product_str().

13.49.2.40 #define P_K70_RFIRE_NRGB 0x1b3a

Definition at line 61 of file usb.h.

Referenced by product_str().

13.49.2.41 #define P_K70_RFIRE_NRGB_STR "1b3a"

Definition at line 62 of file usb.h.

13.49.2.42 #define P_K70_RFIRE_STR "1b38"

Definition at line 60 of file usb.h.

13.49.2.43 #define P_K70_STR "1b13"

Definition at line 52 of file usb.h.

13.49.2.44 #define P_K95 0x1b11

Definition at line 65 of file usb.h.

Referenced by product_str().

13.49.2.45 #define P_K95_NRGB 0x1b08

Definition at line 67 of file usb.h.

Referenced by _nk95cmd(), and product_str().

13.49.2.46 #define P_K95_NRGB_STR "1b08"

Definition at line 68 of file usb.h.

13.49.2.47 #define P_K95_PLATINUM 0x1b2d

Definition at line 69 of file usb.h.

Referenced by product_str().

13.49.2.48 #define P_K95_PLATINUM_STR "1b2d"

Definition at line 70 of file usb.h.

13.49.2.49 #define P_K95_STR "1b11"

Definition at line 66 of file usb.h.

13.49.2.50 #define P_M65 0x1b12

Definition at line 79 of file usb.h.

Referenced by product_str().

13.49.2.51 #define P_M65_PRO 0x1b2e

Definition at line 81 of file usb.h.

Referenced by product_str().

13.49.2.52 #define P_M65_PRO_STR "1b2e"

Definition at line 82 of file usb.h.

13.49.2.53 #define P_M65_STR "1b12"

Definition at line 80 of file usb.h.

13.49.2.54 #define P_SABRE_L 0x1b19 /∗ laser ∗/

Definition at line 87 of file usb.h.

Referenced by product_str().

13.49.2.55 #define P_SABRE_L_STR "1b19"

Definition at line 88 of file usb.h.

13.49.2.56 #define P_SABRE_N 0x1b2f /∗ new? ∗/

Definition at line 89 of file usb.h.

Referenced by product_str().

13.49.2.57 #define P_SABRE_N_STR "1b2f"

Definition at line 90 of file usb.h.

13.49.2.58 #define P_SABRE_O 0x1b14 /∗ optical ∗/

Definition at line 85 of file usb.h.

Referenced by product_str().

13.49.2.59 #define P_SABRE_O2 0x1b32 /∗ Observed on a CH-9000111-EU model SABRE ∗/

Definition at line 91 of file usb.h.

Referenced by product_str().

13.49.2.60 #define P_SABRE_O2_STR "1b32"

Definition at line 92 of file usb.h.

13.49.2.61 #define P_SABRE_O_STR "1b14"

Definition at line 86 of file usb.h.

13.49.2.62 #define P_SCIMITAR 0x1b1e

Definition at line 95 of file usb.h.

Referenced by product_str().

13.49.2.63 #define P_SCIMITAR_PRO 0x1b3e

Definition at line 97 of file usb.h.

Referenced by product_str().

13.49.2.64 #define P_SCIMITAR_PRO_STR "1b3e"

Definition at line 98 of file usb.h.

13.49.2.65 #define P_SCIMITAR_STR "1b1e"

Definition at line 96 of file usb.h.

13.49.2.66 #define P_STRAFE 0x1b20

Definition at line 73 of file usb.h.

Referenced by product_str().

13.49.2.67 #define P_STRAFE_NRGB 0x1b15

Definition at line 75 of file usb.h.

Referenced by product_str().

13.49.2.68 #define P_STRAFE_NRGB_STR "1b15"

Definition at line 76 of file usb.h.

13.49.2.69 #define P_STRAFE_STR "1b20"

Definition at line 74 of file usb.h.

13.49.2.70 #define resetusb(*kb*) _resetusb(kb, __FILE_NOPATH__, __LINE__)

Definition at line 210 of file usb.h.

Referenced by usb_tryreset().

13.49.2.71 #define USB_DELAY_DEFAULT 5

Definition at line 156 of file usb.h.

Referenced by _setupusb(), and start_dev().

13.49.2.72 #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 252 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwload_mouse(), getfwversion(), hwloadmode(), loaddpi(), loadrgb_kb(), and loadrgb_mouse().

13.49.2.73 #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 235 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().

13.49.2.74 #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 38 of file usb.h.

13.49.2.75 #define V_CORSAIR_STR "1b1c"

Definition at line 39 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 189 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
189                                                                                                 {
190     if(kb->product != P_K95_NRGB)
191         return 0;
192     struct usbdevfs_ctrltransfer transfer = { 0x40, bRequest, wValue, 0, 0, 5000, 0 };
193     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
194     if(res <= 0){
195         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
196         return 1;
197     }
198     return 0;
199 }
```

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 426 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
426                                                                                 {
427     // Perform a USB reset
428     DELAY_LONG(kb);
429     int res = os_resetusb(kb, file, line);
430     if(res)
431         return res;
432     DELAY_LONG(kb);
433     // Re-initialize the device
434     if(kb->vtable->start(kb, kb->active) != 0)
435         return -1;
436     if(kb->vtable->updatergb(kb, 1) != 0)
437         return -1;
438     return 0;
439 }
```

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.

Definition at line 601 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, os_usbrecv(), os_usbsend(), and reset_stop.

```
601                                                                                                    {
602     // Try a maximum of 5 times
603     for(int try = 0; try < 5; try++){
604         // Send the output message
605         DELAY_SHORT(kb);
606         int res = os_usbsend(kb, out_msg, 1, file, line);
607         if(res == 0)
608             return 0;
609         else if(res == -1){
610             // Retry on temporary failure
611             if(reset_stop)
612                 return 0;
613             DELAY_LONG(kb);
614             continue;
615         }
616         // Wait for the response
617         DELAY_MEDIUM(kb);
618         res = os_usbrecv(kb, in_msg, file, line);
619         if(res == 0)
620             return 0;
621         else if(res != -1)
622             return res;
623         if(reset_stop || hwload_mode != 2)
624             return 0;
625         DELAY_LONG(kb);
626     }
627     // Give up
628     ckb_err_fn("Too many send/recv failures. Dropping.\n", file, line);
629     return 0;
630 }
```

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 (...).

Definition at line 532 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
{
    int total_sent = 0;
    for(int i = 0; i < count; i++){
        // Send each message via the OS function
        while(1){
            DELAY_SHORT(kb);
            pthread_mutex_lock(mmutex(kb)); // Synchonization between macro output and color information
            int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
            pthread_mutex_unlock(mmutex(kb));
            if(res == 0)
                return 0;
            else if(res != -1){
                total_sent += res;
                break;
            }
            // Stop immediately if the program is shutting down or hardware load is set to tryonce
            if(reset_stop || hwload_mode != 2)
                return 0;
            // Retry as long as the result is temporary failure
            DELAY_LONG(kb);
        }
    }
    return total_sent;
}
```

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 675 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().

```
675                             {
676     pthread_mutex_lock(imutex(kb));
677     if(kb->handle){
678         int index = INDEX_OF(kb, keyboard);
679         ckb_info("Disconnecting %s%d\n", devpath, index);
680         os_inputclose(kb);
681         updateconnected();
682         // Close USB device
683         os_closeusb(kb);
684     } else
685         updateconnected();
686     rmdevpath(kb);
687
688     // Wait for thread to close
689     pthread_mutex_unlock(imutex(kb));
690     pthread_mutex_unlock(dmutex(kb));
691     pthread_join(kb->thread, 0);
692     pthread_mutex_lock(dmutex(kb));
693
694     // Delete the profile and the control path
695     if(!kb->vtable)
696         return 0;
697     kb->vtable->freeprofile(kb);
698     memset(kb, 0, sizeof(usbdevice));
699     return 0;
700 }
```

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 433 of file usb_linux.c.

References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
433                                 {
434     if(kb->handle){
435         usbunclaim(kb, 0);
436         close(kb->handle - 1);
437     }
438     if(kb->udev)
439         udev_device_unref(kb->udev);
440     kb->handle = 0;
441     kb->udev = 0;
442     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
443 }
```

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 239 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().

```
239                                 {
240     usbdevice* kb = context;
241     int fd = kb->handle - 1;
242     short vendor = kb->vendor, product = kb->product;
243     int index = INDEX_OF(kb, keyboard);
244     ckb_info("Starting input thread for %s%d\n", devpath, index);
245
```

```
  int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->epcount;
  if (urbcount == 0) {
      ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
      return 0;
  }

  struct usbdevfs_urb urbs[urbcount];
  memset(urbs, 0, sizeof(urbs));

  urbs[0].buffer_length = 8;
  if(urbcount > 1 && IS_RGB(vendor, product)) {
      if(IS_MOUSE(vendor, product))
          urbs[1].buffer_length = 10;
      else
          urbs[1].buffer_length = 21;
      urbs[2].buffer_length = MSG_SIZE;
      if(urbcount != 3)
          urbs[urbcount - 1].buffer_length = MSG_SIZE;
  } else {
      urbs[1].buffer_length = 4;
      urbs[2].buffer_length = 15;
  }

  for(int i = 0; i < urbcount; i++){
      urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
      urbs[i].endpoint = 0x80 | (i + 1);
      urbs[i].buffer = malloc(urbs[i].buffer_length);
      ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
  }

  while (1) {
      struct usbdevfs_urb* urb = 0;

      if (ioctl(fd, USBDEVFS_REAPURB, &urb)){
          if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
              // Stop the thread if the handle closes
              break;
          else if(errno == EPIPE && urb){
              ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
              // Re-submit the URB
              if(urb)
                  ioctl(fd, USBDEVFS_SUBMITURB, urb);
              urb = 0;
          }
      }

      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 495 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
495                                                         {
496     TEST_RESET(usbunclaim(kb, 1));
497     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
498     TEST_RESET(usbclaim(kb));
499     // Success!
500     return 0;
501 }
```

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 214 of file usb_linux.c.

References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
214                                     {
215     static int countForReset = 0;
216     struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->
      ileds };
217     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
218     if(res <= 0) {
219         ckb_err("%s\n", res ? strerror(errno) : "No data written");
220         if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
221             os_sendindicators(kb);
222         }
223     }
224 }
```

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 abaout 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 533 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().

```
533                                 {
536     struct udev_device* dev = kb->udev;
537     const char* name = udev_device_get_sysattr_value(dev, "product");
538     if(name)
539         strncpy(kb->name, name, KB_NAME_LEN);
540     strtrim(kb->name);
541     const char* serial = udev_device_get_sysattr_value(dev, "serial");
542     if(serial)
543         strncpy(kb->serial, serial, SERIAL_LEN);
544     strtrim(kb->serial);
547     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
548     if(firmware)
549         sscanf(firmware, "%hx", &kb->fwversion);
550     else
551         kb->fwversion = 0;
552     int index = INDEX_OF(kb, keyboard);
555     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
556
562     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
563 #ifdef DEBUG
564     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
565     ckb_info("claiming interfaces. name=%s, serial=%s, firmware=%s; Got >>%s<< as ep_str\n", name,
      serial, firmware, ep_str);
566 #endif //DEBUG
567     kb->epcount = 0;
568     if(ep_str)
569         sscanf(ep_str, "%d", &kb->epcount);
570     if(kb->epcount < 2){
571         // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
572         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);
573         if (usb_tryreset(kb) == 0) {
574             static int retryCount = 0;
575             if (retryCount++ < 5) {
576                 return os_setupusb(kb);
577             }
```

```
        }
        return -1;
        // ToDo are there special versions we have to detect? If there are, that was the old code to handle it:
        // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is supposed to have
        // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
        // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n", kb->epcount, ep_str);
    }
    if(usbclaim(kb)){
        ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
        return -1;
    }
    return 0;
}
```

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;
134         memset(&transfer, 0, sizeof(transfer));
135         transfer.ep = 0x84;
136         transfer.len = MSG_SIZE;
137         transfer.timeout = 5000;
138         transfer.data = in_msg;
139         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
140     } else {*/
141         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
    epcount - 1, MSG_SIZE, 5000, in_msg };
142         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
143     //}
144     if(res <= 0){
145         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
146         if(res == -1 && errno == ETIMEDOUT)
147             return -1;
148         else
149             return 0;
150     } else if(res != MSG_SIZE)
151         ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
152 #ifdef DEBUG_USB_RECV
153     char converted[MSG_SIZE*3 + 1];
154     for(int i=0;i<MSG_SIZE;i++)
155         sprintf(&converted[i*3], "%02x ", in_msg[i]);
156     ckb_warn_fn("Recv %s\n", file, line, converted);
157 #endif
158     return res;
159 }
```

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:

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 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, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                                                  {
69     int res;
70     if(kb->fwversion >= 0x120 && !is_recv){
71         struct usbdevfs_bulktransfer transfer;
72         memset(&transfer, 0, sizeof(transfer));
73         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
74         transfer.len = MSG_SIZE;
75         transfer.timeout = 5000;
76         transfer.data = (void*)out_msg;
77         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
78     } else {
79         struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
      epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
80         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
81     }
82     if(res <= 0){
83         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
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
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_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)
        return "k70";
    if(product == P_K65 || product == P_K65_NRGB || product == P_K65_LUX || product == P_K65_RFIRE)
        return "k65";
    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";
    return "";
}
```

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 407 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:

13.49.3.15 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 386 of file usb.c.

References _setupusb(), ckb_err, imutex, and usbdevice::thread.

Referenced by usbadd().

```
                                {
    pthread_mutex_lock(imutex(kb));
    if(pthread_create(&kb->thread, 0, _setupusb, kb))
        ckb_err("Failed to create USB thread\n");
}
```

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 465 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
465                                 {
466     if(reset_stop)
467         return -1;
468     ckb_info("Attempting reset...\n");
469     while(1){
470         int res = resetusb(kb);
471         if(!res){
472             ckb_info("Reset success\n");
473             return 0;
474         }
475         if(res == -2 || reset_stop)
476             break;
477     }
478     ckb_err("Reset failed. Disconnecting.\n");
479     return -1;
480 }
```

Here is the caller graph for this function:

13.49.3.17 void usbkill ( )

Definition at line 834 of file usb_linux.c.

Referenced by quitWithLock().

```
834                 {
835     udev_unref(udev);
836     udev = 0;
837 }
```

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 774 of file usb_linux.c.

References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

Referenced by main().

```
774                 {
779     // Load the uinput module (if it's not loaded already)
780     if(system("modprobe uinput") != 0)
781         ckb_warn("Failed to load uinput module\n");
782
786     if(!(udev = udev_new())) {
787         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
788         return -1;
789     }
790
793     udev_enum();
794
797     // Done scanning. Enter a loop to poll for device updates
798     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
799     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
800     udev_monitor_enable_receiving(monitor);
801     // Get an fd for the monitor
802     int fd = udev_monitor_get_fd(monitor);
```

```
    fd_set fds;
    while(udev){
        FD_ZERO(&fds);
        FD_SET(fd, &fds);
        // Block until an event is read
        if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
            struct udev_device* dev = udev_monitor_receive_device(monitor);
            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*)

vendor_str Vendor/product string representations

Parameters

vendor	*short* vendor ID

Returns

a string: either "" or "corsair"

uncomment the following Define to see USB packets sent to the device

vendor_str returns "corsair" iff 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 644 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 681 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 477 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 189 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
189                                                                                    {
190     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 433 of file usb_linux.c.

References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
433                                 {
434     if(kb->handle){
435         usbunclaim(kb, 0);
436         close(kb->handle - 1);
437     }
438     if(kb->udev)
439         udev_device_unref(kb->udev);
440     kb->handle = 0;
441     kb->udev = 0;
442     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
443 }
```

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 239 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().

```
239                                 {
240     usbdevice* kb = context;
241     int fd = kb->handle - 1;
242     short vendor = kb->vendor, product = kb->product;
243     int index = INDEX_OF(kb, keyboard);
244     ckb_info("Starting input thread for %s%d\n", devpath, index);
245
250     int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->
      epcount;
251     if (urbcount == 0) {
252         ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
253         return 0;
254     }
255
257     struct usbdevfs_urb urbs[urbcount];
258     memset(urbs, 0, sizeof(urbs));
259
273     urbs[0].buffer_length = 8;
274     if(urbcount > 1 && IS_RGB(vendor, product)) {
275         if(IS_MOUSE(vendor, product))
276             urbs[1].buffer_length = 10;
277         else
278             urbs[1].buffer_length = 21;
279         urbs[2].buffer_length = MSG_SIZE;
280         if(urbcount != 3)
281             urbs[urbcount - 1].buffer_length = MSG_SIZE;
282     } else {
283         urbs[1].buffer_length = 4;
284         urbs[2].buffer_length = 15;
285     }
286
289     for(int i = 0; i < urbcount; i++){
290         urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
291         urbs[i].endpoint = 0x80 | (i + 1);
292         urbs[i].buffer = malloc(urbs[i].buffer_length);
293         ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
294     }
295
297     while (1) {
298         struct usbdevfs_urb* urb = 0;
299
302         if (ioctl(fd, USBDEVFS_REAPURB, &urb)){
303             if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
304                 // Stop the thread if the handle closes
305                 break;
306             else if(errno == EPIPE && urb){
308                 ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
309                 // Re-submit the URB
310                 if(urb)
```

```
                    ioctl(fd, USBDEVFS_SUBMITURB, urb);
                urb = 0;
            }
        }

        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 495 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
495                                                                 {
496     TEST_RESET(usbunclaim(kb, 1));
497     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
498     TEST_RESET(usbclaim(kb));
499     // Success!
500     return 0;
501 }
```

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 214 of file usb_linux.c.

References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
214                                     {
215     static int countForReset = 0;
216     struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->
      ileds };
217     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
218     if(res <= 0) {
219         ckb_err("%s\n", res ? strerror(errno) : "No data written");
220         if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
221             os_sendindicators(kb);
222         }
223     }
224 }
```

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 abaout 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 533 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().

```
533                                 {
536     struct udev_device* dev = kb->udev;
537     const char* name = udev_device_get_sysattr_value(dev, "product");
538     if(name)
539         strncpy(kb->name, name, KB_NAME_LEN);
540     strtrim(kb->name);
541     const char* serial = udev_device_get_sysattr_value(dev, "serial");
542     if(serial)
543         strncpy(kb->serial, serial, SERIAL_LEN);
544     strtrim(kb->serial);
547     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
548     if(firmware)
549         sscanf(firmware, "%hx", &kb->fwversion);
550     else
551         kb->fwversion = 0;
552     int index = INDEX_OF(kb, keyboard);
555     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
556
562     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
563 #ifdef DEBUG
564     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
565     ckb_info("claiming interfaces. name=%s, serial=%s, firmware=%s; Got >>%s<< as ep_str\n", name,
      serial, firmware, ep_str);
566 #endif //DEBUG
```

```
    kb->epcount = 0;
    if(ep_str)
        sscanf(ep_str, "%d", &kb->epcount);
    if(kb->epcount < 2){
        // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
        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);
        if (usb_tryreset(kb) == 0) {
            static int retryCount = 0;
            if (retryCount++ < 5) {
                return os_setupusb(kb);
            }
        }
        return -1;
        // ToDo are there special versions we have to detect? If there are, that was the old code to handle it:
        // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is supposed to have
        // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
        // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n", kb->epcount, ep_str);
    }
    if(usbclaim(kb)){
        ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
        return -1;
    }
    return 0;
}
```

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;
134         memset(&transfer, 0, sizeof(transfer));
135         transfer.ep = 0x84;
136         transfer.len = MSG_SIZE;
137         transfer.timeout = 5000;
138         transfer.data = in_msg;
139         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
140     } else {*/
141         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
    epcount - 1, MSG_SIZE, 5000, in_msg };
142         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
143     //}
144     if(res <= 0){
145         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
146         if(res == -1 && errno == ETIMEDOUT)
147             return -1;
148         else
149             return 0;
150     } else if(res != MSG_SIZE)
151         ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
152 #ifdef DEBUG_USB_RECV
153     char converted[MSG_SIZE*3 + 1];
154     for(int i=0;i<MSG_SIZE;i++)
155         sprintf(&converted[i*3], "%02x ", in_msg[i]);
156     ckb_warn_fn("Recv %s\n", file, line, converted);
157 #endif
158     return res;
159 }
```

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 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, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                                  {
69     int res;
70     if(kb->fwversion >= 0x120 && !is_recv){
71         struct usbdevfs_bulktransfer transfer;
72         memset(&transfer, 0, sizeof(transfer));
73         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
74         transfer.len = MSG_SIZE;
75         transfer.timeout = 5000;
76         transfer.data = (void*)out_msg;
77         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
78     } else {
79         struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
      epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
80         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
81     }
82     if(res <= 0){
83         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
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
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 508 of file usb_linux.c.

Referenced by os_setupusb().

```
508                                 {
509     // Find last non-space
510     char* last = string;
511     for(char* c = string; *c != 0; c++){
512         if(!isspace(*c))
513             last = c;
514     }
515     last[1] = 0;
516     // Find first non-space
517     char* first = string;
518     for(; *first != 0; first++){
519         if(!isspace(*first))
520             break;
521     }
522     if(first != string)
523         memmove(string, first, last - first);
524 }
```

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 746 of file usb_linux.c.

References usb_add_device(), and V_CORSAIR_STR.

Referenced by usbmain().

```
746                                 {
747     struct udev_enumerate* enumerator = udev_enumerate_new(udev);
748     udev_enumerate_add_match_subsystem(enumerator, "usb");
749     udev_enumerate_add_match_sysattr(enumerator, "idVendor", V_CORSAIR_STR);
750     udev_enumerate_scan_devices(enumerator);
751     struct udev_list_entry* devices, *dev_list_entry;
752     devices = udev_enumerate_get_list_entry(enumerator);
753
754     udev_list_entry_foreach(dev_list_entry, devices){
755         const char* path = udev_list_entry_get_name(dev_list_entry);
756         if(!path)
757             continue;
758         struct udev_device* dev = udev_device_new_from_syspath(udev, path);
759         if(!dev)
760             continue;
761         // If the device matches a recognized device ID, open it
762         if(usb_add_device(dev))
763             // Release device if not
```

```
            udev_device_unref(dev);
    }
    udev_enumerate_unref(enumerator);
}
```

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 694 of file usb_linux.c.

References N_MODELS, usbadd(), V_CORSAIR, and V_CORSAIR_STR.

Referenced by udev_enum(), and usbmain().

```
694                                                 {
695     const char* vendor = udev_device_get_sysattr_value(dev, "idVendor");
696     if(vendor && !strcmp(vendor, V_CORSAIR_STR)){
697         const char* product = udev_device_get_sysattr_value(dev, "idProduct");
698         if(product){
699             for(_model* model = models; model < models +
    N_MODELS; model++){
700                 if(!strcmp(product, model->name)){
701                     return usbadd(dev, V_CORSAIR, model->number);
702                 }
703             }
704         }
705     }
706     return 1;
707 }
```

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 719 of file usb_linux.c.

References closeusb(), DEV_MAX, devmutex, kbsyspath, and keyboard.

Referenced by usbmain().

```
719                                                 {
720     // Device removed. Look for it in our list of keyboards
721     const char* syspath = udev_device_get_syspath(dev);
722     if(!syspath || syspath[0] == 0)
723         return;
724     for(int i = 1; i < DEV_MAX; i++){
725         pthread_mutex_lock(devmutex + i);
726         if(!strcmp(syspath, kbsyspath[i]))
727             closeusb(keyboard + i);
728         pthread_mutex_unlock(devmutex + i);
729     }
730 }
```

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 592 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().

```
                                                                {
    const char* path = udev_device_get_devnode(dev);
    const char* syspath = udev_device_get_syspath(dev);
    if(!path || !syspath || path[0] == 0 || syspath[0] == 0){
        ckb_err("Failed to get device path\n");
        return -1;
    }
#ifdef DEBUG
    ckb_info(">>>vendor = 0x%x, product = 0x%x, path = %s, syspath = %s\n", vendor, product, path, syspath);
#endif // DEDBUG
    // Find a free USB slot
    for(int index = 1; index < DEV_MAX; index++){
        usbdevice* kb = keyboard + index;
        if(pthread_mutex_trylock(dmutex(kb))){
            // If the mutex is locked then the device is obviously in use, so keep going
            if(!strcmp(syspath, kbsyspath[index])){
                // Make sure this existing keyboard doesn't have the same syspath (this shouldn't happen)
                return 0;
            }
            continue;
        }
        if(!IS_CONNECTED(kb)){
            // 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 457 of file usb_linux.c.

References ckb_err, ckb_info, usbdevice::epcount, and usbdevice::handle.

Referenced by os_resetusb(), and os_setupusb().

```
457                                 {
458     int count = kb->epcount;
459 #ifdef DEBUG
460     ckb_info("claiming %d endpoints\n", count);
461 #endif // DEBUG
462
463     for(int i = 0; i < count; i++){
464         struct usbdevfs_ioctl ctl = { i, USBDEVFS_DISCONNECT, 0 };
465         ioctl(kb->handle - 1, USBDEVFS_IOCTL, &ctl);
466         if(ioctl(kb->handle - 1, USBDEVFS_CLAIMINTERFACE, &i)) {
467             ckb_err("Failed to claim interface %d: %s\n", i, strerror(errno));
468             return -1;
469         }
470     }
471     return 0;
472 }
```

Here is the caller graph for this function:

13.50.3.15 void usbkill ( )

Definition at line 834 of file usb_linux.c.

Referenced by quitWithLock().

```
834                 {
835     udev_unref(udev);
836     udev = 0;
837 }
```

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 774 of file usb_linux.c.

References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

Referenced by main().

```
774             {
779     // Load the uinput module (if it's not loaded already)
780     if(system("modprobe uinput") != 0)
781         ckb_warn("Failed to load uinput module\n");
782
786     if(!(udev = udev_new())) {
787         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
788         return -1;
789     }
790
793     udev_enum();
794
797     // Done scanning. Enter a loop to poll for device updates
798     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
799     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
800     udev_monitor_enable_receiving(monitor);
801     // Get an fd for the monitor
802     int fd = udev_monitor_get_fd(monitor);
803     fd_set fds;
804     while(udev){
805         FD_ZERO(&fds);
806         FD_SET(fd, &fds);
807         // Block until an event is read
808         if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
809             struct udev_device* dev = udev_monitor_receive_device(monitor);
810             if(!dev)
811                 continue;
812             const char* action = udev_device_get_action(dev);
813             if(!action){
814                 udev_device_unref(dev);
815                 continue;
816             }
817             // Add/remove device
818             if(!strcmp(action, "add")){
819                 int res = usb_add_device(dev);
820                 if(res == 0)
821                     continue;
822                 // If the device matched but the handle wasn't opened correctly, re-enumerate (this
        sometimes solves the problem)
823                 if(res == -1)
824                     udev_enum();
825             } else if(!strcmp(action, "remove"))
826                 usb_rm_device(dev);
827             udev_device_unref(dev);
828         }
829     }
830     udev_monitor_unref(monitor);
831     return 0;
832 }
```

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 404 of file usb_linux.c.

References usbdevice::epcount, FEAT_RGB, usbdevice::handle, and HAS_FEATURES.

Referenced by os_closeusb(), and os_resetusb().

```
                                                    {
    int handle = kb->handle - 1;
    int count = kb->epcount;
    for (int i = 0; i < count; i++) {
        ioctl(handle, USBDEVFS_RELEASEINTERFACE, &i);
    }
    // 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.
    // Reconnecting any of the others causes trouble.
    if (!resetting) {
        struct usbdevfs_ioctl ctl = { 0, USBDEVFS_CONNECT, 0 };
        ioctl(handle, USBDEVFS_IOCTL, &ctl);
        ctl.ifno = 1;
        ioctl(handle, USBDEVFS_IOCTL, &ctl);
        // Also reconnect iface #2 (HID) for non-RGB keyboards
        if(!HAS_FEATURES(kb, FEAT_RGB)){
            ctl.ifno = 2;
            ioctl(handle, USBDEVFS_IOCTL, &ctl);
        }
    }
    return 0;
}
```

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:

```
= {

    {  "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  },
```

```
    {  "1b14" ,  0x1b14   },
    {  "1b19" ,  0x1b19   },
    {  "1b2f" ,  0x1b2f   },
    {  "1b1e" ,  0x1b1e  },
    {  "1b3e" ,  0x1b3e  },
    {  "1b32" ,  0x1b32   }
}
```

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 654 of file usb_linux.c.

13.50.4.3 struct udev* udev [static]

Definition at line 638 of file usb_linux.c.

13.50.4.4 pthread_t udevthread

Definition at line 641 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 641 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.

```
397 {
398     while(1) {
399         int m=n;
400         while ( (m%2) == 0 ) m/=2;
401         while ( (m%3) == 0 ) m/=3;
402         while ( (m%5) == 0 ) m/=5;
403         if (m<=1)
404             break; /* n is completely factorable by twos, threes, and fives */
405         n++;
406     }
407     return n;
408 }
```

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().

```
372 {
373     if (fin == fout) {
374         //NOTE: this is not really an in-place FFT algorithm.
375         //It just performs an out-of-place FFT into a temp buffer
376         kiss_fft_cpx * tmpbuf = (kiss_fft_cpx*)
      KISS_FFT_TMP_ALLOC( sizeof(kiss_fft_cpx)*st->nfft);
377         kf_work(tmpbuf,fin,1,in_stride, st->factors,st);
378         memcpy(fout,tmpbuf,sizeof(kiss_fft_cpx)*st->nfft);
379         KISS_FFT_TMP_FREE(tmpbuf);
380     }else{
381         kf_work( fout, fin, 1,in_stride, st->factors,st );
382     }
383 }
```

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.

```
{
    /* input buffer timedata is stored row-wise */
    int k, ncfft;

    if (st->substate->inverse == 0) {
        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:

13.56 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.

```
298                                                                 {
299     char pos = -1;
300     unsigned char a = 255, r, g, b;
301     int count = 0;
302     while(1){
303         int scanned = 0;
304         char newpos;
305         if(sscanf(string, "%hhd:%2hhx%2hhx%2hhx%2hhx%n", &newpos, &a, &r, &g, &b, &scanned) != 5)
306             break;
307         string += scanned;
308         // Don't allow stops out-of-order or past 100
309         if(newpos <= pos || newpos > 100)
310             return 0;
311         pos = newpos;
312         if(!alpha)
313             a = 255;
314         gradient->pts[count] = pos;
315         gradient->a[count] = a;
316         gradient->r[count] = r;
317         gradient->g[count] = g;
318         gradient->b[count] = b;
319         count++;
320     }
321     if(count == 0){
322         // If nothing was read, try a single ARGB constant.
323         if(sscanf(string, "%2hhx%2hhx%2hhx%2hhx", &a, &r, &g, &b) != 4)
324             return 0;
325         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 <QFile>
#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 ()

  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 16 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 19 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 17 of file ckbsettings.cpp.

Referenced by globalSettings(), and CkbSettings::set().

13.66.1.4 #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)

Definition at line 18 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]

Returns

QSettings* _globalsettings Opens the global settings organized by QSettings class (machine independent implementation). Settings contain key definitions, colors, macros, settings for the profiles and so on.

first check if QSettings structures can be written in the filesystem. Try to open the standard config file and to write something into it. Close the file.

Try to open the conf file again and to read the standard value. Delete the standard value afterwards. Because on linux QSettings does somehow caching, it reads the correct value even the file (not the directory) is read only. So we need to add the original isWritable() function.

Put the settings object in a separate thread so that it won't lock up the GUI when it syncs

Definition at line 34 of file ckbsettings.cpp.

References _globalSettings, lockMutexStatic, and CkbSettings::setWritable().

Referenced by CkbSettings::get(), and CkbSettings::set().

```
34                                  {
35     if(!_globalSettings){
36         lockMutexStatic;
37         if(!(volatile QSettings*)_globalSettings){   // Check again after locking mutex in
       case another thread created the object
41             CkbSettings::setWritable(false);
42             QSettings* testSettings = new QSettings;
43             testSettings->setValue("testIfWritable", 42);
44             testSettings->sync();
45             QString settingsFileName = testSettings->fileName();
46             delete testSettings;
47
48             bool fileWriteAccess = false;
49             int lastSlashInName = settingsFileName.lastIndexOf("/");
50             if (lastSlashInName != -1) {
51                 QString newFileName = settingsFileName.left(settingsFileName.lastIndexOf("/")).append("
     /testFileToCheckWriteAccess");
52                 QFile testFile(newFileName);
53                 try {
54                     if (testFile.open(QIODevice::WriteOnly | QIODevice::Text)) {
55                         QTextStream out(&testFile);
56                         out << "The magic number is: " << 42 << "\n";
57                         testFile.close();
58                         fileWriteAccess = QFile::remove(newFileName);
59                     }
60                 } catch(int e) {
61                     fileWriteAccess = false;
62                 }
63             }
64
69             testSettings = new QSettings;
70             if ((testSettings->value("testIfWritable").toInt() == 42) && testSettings->isWritable()) {
71                 CkbSettings::setWritable(fileWriteAccess);
72                 testSettings->remove("testIfWritable");
73                 testSettings->sync();
74             }
75             delete testSettings;
76             testSettings = 0;
77
79             globalThread = new QThread;
80             globalThread->start();
81             _globalSettings = new QSettings;
82             qInfo() << "Path  to settings is" << _globalSettings->fileName();
83             _globalSettings->moveToThread(globalThread);
84         }
85     }
86     return _globalSettings;
87 }
```

Here is the call graph for this function:

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 9 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp(), globalSettings(), and CkbSettings::informIfNonWritable().

13.66.3.2 QMap<QString, QVariant> globalCache [static]

Definition at line 13 of file ckbsettings.cpp.

Referenced by CkbSettings::get(), CkbSettings::set(), and CkbSettings::setValue().

13.66.3.3 QThread* globalThread = 0 [static]

Definition at line 10 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp().

13.67 src/ckb/ckbsettings.h File Reference

```
#include <QMessageBox>
```

```
#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 49 of file colormap.cpp.

Referenced by ColorMap::colorForName(), and ColorMap::init().

```
49                                                  {
50     return strcmp(*(const char**)lhs, *(const char**)rhs);
51 }
```

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/firmware_special.h File Reference

```
#include "keymap.h"
```

Include dependency graph for firmware_special.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct firmwareSpecial

Macros

- #define V_CORSAIR 0x1b1c

  To reduce effort, please insert these combinations only, which need really special treatment. All other models will further be identified by their feature-lists.

- #define P_K70_LUX_NRGB 0x1b36

  Enter the Product ID of your device you want to handle with special treatment.

Variables

- struct firmwareSpecial specials []

13.76.1 Data Structure Documentation

13.76.1.1 struct firmwareSpecial

Definition at line 20 of file firmware_special.h.

Collaboration diagram for firmwareSpecial:

Data Fields

const Model	model	
const short	product	

13.76.2 Macro Definition Documentation

13.76.2.1 #define P_K70_LUX_NRGB 0x1b36

Definition at line 18 of file firmware_special.h.

Referenced by loadrgb_kb(), and product_str().

13.76.2.2 #define V_CORSAIR 0x1b1c

And - please - add a comment, why this entry is needed. Don't change this. If Corsair is not corsair any more, we have a different problem...

Definition at line 15 of file firmware_special.h.

Referenced by KeyMap::getModel(), usb_add_device(), and vendor_str().

13.76.3 Variable Documentation

13.76.3.1 struct firmwareSpecial specials[]

Initial value:

```
= {
    {  0x1b36 , KeyMap::K70 },
}
```

Referenced by KeyMap::getModel().

13.77 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 KbId

  IDs for verifying firmware suitability Some newer hardware models have the same features as older ones, but need a different firmware version number but not a different firmware file. More...

Functions

- static const int DIALOG_HEIGHT_MAX (240)
- static float verifyFw (const QByteArray &blob, const QString &features)

Variables

- static KbId ids []
- static const int DIALOG_WIDTH = 420
- static const int DIALOG_HEIGHT_MIN = 200

13.77.1 Data Structure Documentation

13.77.1.1 struct KbId

Definition at line 10 of file fwupgradedialog.cpp.

Collaboration diagram for KbId:

Data Fields

const char *	feature	
short	product	
short	vendor	

13.77.2 Function Documentation

13.77.2.1 static const int DIALOG_HEIGHT_MAX (240) [static]

Referenced by FwUpgradeDialog::exec().

Here is the caller graph for this function:

13.77.2.2 static float verifyFw (const QByteArray & *blob*, const QString & *features*) [static]

Definition at line 87 of file fwupgradedialog.cpp.

References ids.

Referenced by FwUpgradeDialog::exec().

```
87                                                                  {
88     if(blob.length() < 0x0108)
89         return 0.f;
90     const char* bData = blob.data();
91     // Make sure it matches this device based on the vendor and product IDs embedded in the blob
92     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:

13.77.3 Variable Documentation

13.77.3.1 const int DIALOG_HEIGHT_MIN = 200 [static]

Definition at line 31 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.77.3.2 const int DIALOG_WIDTH = 420 [static]

Definition at line 30 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.77.3.3 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 16 of file fwupgradedialog.cpp.

Referenced by verifyFw().

13.78 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

13.79 src/ckb/gradientbutton.cpp File Reference

```
#include <cmath>
#include <cstdio>
#include <QPainter>
#include "gradientbutton.h"
#include "gradientdialog.h"
```

Include dependency graph for gradientbutton.cpp:

13.80 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

13.81 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"

13.81.1 Variable Documentation

13.81.1.1 const QString prefsPath = "Stored Gradients" [static]

Definition at line 9 of file gradientdialog.cpp.

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

13.82 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

13.83 src/ckb/gradientdialogwidget.cpp File Reference

```
#include <cmath>
#include <QPainter>
#include <QPropertyAnimation>
#include "gradientdialogwidget.h"
```

Include dependency graph for gradientdialogwidget.cpp:

13.84 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

13.85 src/ckb/kb.cpp File Reference

```
#include <fcntl.h>
#include <QSet>
#include <QUrl>
#include <QMutex>
#include <QDateTime>
#include <QDebug>
#include "kb.h"
#include "kbmanager.h"
#include <qdebug.h>
```

Include dependency graph for kb.cpp:

Variables

- static QSet< Kb * > activeDevices
- static QSet< QString > notifyPaths
- static QMutex notifyPathMutex

13.85.1 Variable Documentation

13.85.1.1 QSet<Kb*> activeDevices [static]

Definition at line 12 of file kb.cpp.

Referenced by Kb::dither(), Kb::frameRate(), Kb::Kb(), Kb::layout(), Kb::macroDelay(), Kb::mouseAccel(), Kb::scrollSpeed(), and Kb::~Kb().

13.85.1.2 QMutex notifyPathMutex [static]

Definition at line 15 of file kb.cpp.

Referenced by Kb::Kb(), and Kb::run().

13.85.1.3 QSet<QString> notifyPaths [static]

Definition at line 14 of file kb.cpp.

Referenced by Kb::Kb(), Kb::run(), and Kb::~Kb().

13.86 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

13.87 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 }

13.87.1 Typedef Documentation

13.87.1.1 typedef float(∗ blendFunc)(float, float)

Definition at line 362 of file kbanim.cpp.

13.87.2 Function Documentation

13.87.2.1 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 }
```

13.87.2.2 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 }
```

13.87.2.3 static float blendMultiply (float *bg,* float *fg*) [static]

Definition at line 351 of file kbanim.cpp.

```
351                                         {
352     return bg * fg;
353 }
```

13.87.2.4 static float blendNormal (float *bg*, float *fg*) [static]

Definition at line 333 of file kbanim.cpp.

```
333                                                 {
334     return fg;
335 }
```

13.87.2.5 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 }
```

13.87.3 Variable Documentation

13.87.3.1 blendFunc functions[5] = { blendNormal, blendAdd, blendSubtract, blendMultiply, blendDivide } [static]

Definition at line 363 of file kbanim.cpp.

Referenced by KbAnim::blend().

13.88 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

13.89 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:

13.90 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

13.91 src/ckb/kbbind.cpp File Reference

```
#include <fcntl.h>
#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:

13.92 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

13.93 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:

13.94 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

13.95 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:

Macros

- #define CHECKFORGPG 0

Functions

- static QString tableName (const QString &features)

Variables

- static const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000

13.95.1 Macro Definition Documentation

13.95.1.1 #define CHECKFORGPG 0

Definition at line 8 of file kbfirmware.cpp.

Referenced by KbFirmware::processDownload().

13.95.2 Function Documentation

13.95.2.1 static QString tableName (const QString & *features*) [static]

Definition at line 158 of file kbfirmware.cpp.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::_latestForBoard().

```
158                                                 {
159     QStringList components = features.split(" ");
160     if(components.length() < 2)
161         return "";
162     // First two components are vendor and model
163     QString vendorModel = components[0].toUpper() + "-" + components[1].toUpper();
164     // Add "RGB" on RGB boards
165     if(features.contains("rgb") && !features.contains("monochrome"))
```

```
        vendorModel += "RGB";
    return vendorModel;
}
```

Here is the caller graph for this function:

13.95.3 Variable Documentation

13.95.3.1 const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000 [static]

Definition at line 11 of file kbfirmware.cpp.

Referenced by KbFirmware::_checkUpdates().

13.96 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

13.97 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

13.97.1 Function Documentation

13.97.1.1 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:

13.97.1.2 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:

13.97.1.3 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:

13.97.2 Variable Documentation

13.97.2.1 int _shareDimming = -1 [static]

Definition at line 7 of file kblight.cpp.

Referenced by KbLight::dimming(), KbLight::open(), and KbLight::shareDimming().

13.97.2.2 QSet<KbLight*> activeLights [static]

Definition at line 8 of file kblight.cpp.

Referenced by KbLight::close(), KbLight::open(), KbLight::shareDimming(), and KbLight::~KbLight().

13.98 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

13.99 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:

13.100 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

13.101 src/ckb/kbmanager.cpp File Reference

```
#include "kbmanager.h"
```

Include dependency graph for kbmanager.cpp:

Variables

- QString devpath = "/dev/input/ckb%1"

13.101.1 Variable Documentation

13.101.1.1 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().

13.102 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>"

13.102.1 Macro Definition Documentation

13.102.1.1 #define DAEMON_UNAVAILABLE_STR "<unavailable>"

Definition at line 12 of file kbmanager.h.

Referenced by KbManager::ckbDaemonVersionF(), KbManager::scanKeyboards(), and MainWindow::updateVersion().

13.103 src/ckb/kbmode.cpp File Reference

```
#include "kbmode.h"
#include "kb.h"
```

Include dependency graph for kbmode.cpp:

13.104 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

13.105 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())

13.105.1 Macro Definition Documentation

13.105.1.1 #define map_last(*map*) ((map).last())

Definition at line 8 of file kbperf.cpp.

Referenced by KbPerf::popDpi().

13.106 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

13.107 src/ckb/kbprofile.cpp File Reference

```
#include "kbprofile.h"
#include "kb.h"
```

Include dependency graph for kbprofile.cpp:

13.108 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

13.109 src/ckb/kbprofiledialog.cpp File Reference

```
#include <QMenu>
#include "kbprofiledialog.h"
#include "ui_kbprofiledialog.h"
```

Include dependency graph for kbprofiledialog.cpp:

13.110 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

13.111 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:

13.112 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

13.113 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

13.113.1 Variable Documentation

13.113.1.1 const int ANIM_KRSTOP = 0x2 [static]

Definition at line 173 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

13.113.1.2 const int ANIM_ONCE = 0x1 [static]

Definition at line 173 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

13.114 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

13.115 src/ckb/keymap.cpp File Reference

```
#include <clocale>
#include <QMap>
#include <QDebug>
#include "keymap.h"
#include "firmware_special.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 K65_TOP_COUNT (sizeof(K65TopRow) / 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_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 patchISO (QHash< QString, Key > &map)
- static void patchANSI (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 patchDvorak []
- static const Key K65TopRow []
- static const Key KStrafeKeys []
- static const Key M65Keys []
- static const Key SabreKeys []
- static const Key ScimKeys []
- static QHash< QString, Key > K95BaseMap
- static QHash< QString, Key > standardMaps [KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX]

13.115.1 Data Structure Documentation

13.115.1.1 struct KeyPatch

Definition at line 32 of file keymap.cpp.

Collaboration diagram for KeyPatch:

Data Fields

const char *	_friendlyName	
const char *	_storageName	
const char *	name	

13.115.2 Macro Definition Documentation

13.115.2.1 #define ANSI_ENTER_H 12

Definition at line 27 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.2 #define ANSI_ENTER_W 26

Definition at line 26 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.3 #define ANSI_ENTER_X 199

Definition at line 24 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.4 #define ANSI_ENTER_Y 51

Definition at line 25 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.5 #define ANSI_LSHIFT_W 26

Definition at line 29 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.6 #define ANSI_LSHIFT_X 45

Definition at line 28 of file keymap.cpp.

Referenced by patchANSI().

13.115.2.7 #define K65_HEIGHT K70_HEIGHT

Definition at line 145 of file keymap.cpp.

13.115.2.8 #define K65_TOP_COUNT (sizeof(K65TopRow) / sizeof(Key))

Definition at line 150 of file keymap.cpp.

Referenced by getMap().

13.115.2.9 #define K65_WIDTH 209

Definition at line 144 of file keymap.cpp.

Referenced by getMap(), and KeyMap::modelWidth().

13.115.2.10 #define K70_HEIGHT K95_HEIGHT

Definition at line 141 of file keymap.cpp.

13.115.2.11 #define K70_WIDTH (K95_WIDTH - K70_X_START)

Definition at line 140 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.115.2.12 #define K70_X_START 38

Definition at line 139 of file keymap.cpp.

Referenced by getMap().

13.115.2.13 #define K95_HEIGHT 76

Definition at line 136 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.115.2.14 #define K95_WIDTH 298

Definition at line 135 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.115.2.15 #define KEYCOUNT_K95 (sizeof(K95Keys) / sizeof(Key))

Definition at line 21 of file keymap.cpp.

Referenced by getMap().

13.115.2.16 #define KEYCOUNT_M65 (sizeof(M65Keys) / sizeof(Key))

Definition at line 172 of file keymap.cpp.

Referenced by getMap().

13.115.2.17 #define KEYCOUNT_SABRE (sizeof(SabreKeys) / sizeof(Key))

Definition at line 185 of file keymap.cpp.

Referenced by getMap().

13.115.2.18 #define KEYCOUNT_SCIM (sizeof(ScimKeys) / sizeof(Key))

Definition at line 202 of file keymap.cpp.

Referenced by getMap().

13.115.2.19 #define KSTRAFE_HEIGHT K95_HEIGHT

Definition at line 155 of file keymap.cpp.

13.115.2.20 #define KSTRAFE_WIDTH (K70_WIDTH + (KSTRAFE_X_START * 2))

Definition at line 154 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.115.2.21 #define KSTRAFE_X_START 12

Definition at line 153 of file keymap.cpp.

Referenced by getMap().

13.115.2.22 #define M65_HEIGHT 67

Definition at line 175 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.115.2.23 #define M65_WIDTH 52

Definition at line 174 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.115.2.24 #define N_LAYOUTS KeyMap::_LAYOUT_MAX

Definition at line 209 of file keymap.cpp.

Referenced by getMap().

13.115.2.25 #define N_MODELS KeyMap::_MODEL_MAX

Definition at line 208 of file keymap.cpp.

Referenced by getMap().

13.115.2.26 #define NS 12, 12

Definition at line 8 of file keymap.cpp.

13.115.2.27 #define patch(*map, patches*) _patch(map, patches, PATCH_COUNT(patches))

Definition at line 108 of file keymap.cpp.

Referenced by getMap().

13.115.2.28 #define PATCH_COUNT(patch) (sizeof(patch) / sizeof(KeyPatch))

Definition at line 107 of file keymap.cpp.

13.115.2.29 #define SABRE_HEIGHT M65_HEIGHT

Definition at line 188 of file keymap.cpp.

13.115.2.30 #define SABRE_WIDTH M65_WIDTH

Definition at line 187 of file keymap.cpp.

13.115.2.31 #define SCIM_HEIGHT M65_HEIGHT

Definition at line 205 of file keymap.cpp.

13.115.2.32 #define SCIM_WIDTH M65_WIDTH

Definition at line 204 of file keymap.cpp.

13.115.3 Function Documentation

13.115.3.1 static void _patch (QHash< QString, Key > & *map,* const KeyPatch * *patches,* int *patchCount*) [static]

Definition at line 109 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;
    }
}
```

13.115.3.2 static QHash<QString, Key> getMap (KeyMap::Model *model*, KeyMap::Layout *layout*) [static]

Definition at line 212 of file keymap.cpp.

References KeyMap::DE, KeyMap::DK, KeyMap::ES, KeyMap::EU, KeyMap::EU_DVORAK, KeyMap::FR, KeyMap::GB_DVORAK, Key::height, KeyMap::isISO(), KeyMap::IT, KeyMap::K65, K65_TOP_COUNT, K65_WIDTH, KeyMap::K70, K70_X_START, KeyMap::K95, K95BaseMap, 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(), KeyMap::SABRE, KeyMap::SCIMITAR, KeyMap::SE, standardMaps, KeyMap::STRAFE, KeyMap::US_DVORAK, Key::width, Key::x, and Key::y.

```
212                                                                                 {
213     if(model < 0 || layout < 0 || model >= N_MODELS || layout >=
    N_LAYOUTS)
214         return QHash<QString, Key>();
215     // Return the map if it's already filled out
216     QHash<QString, Key>& map = standardMaps[model][layout];
217     if(!map.empty())
218         return map;
219     // Otherwise, create it
220     switch(model){
221     case KeyMap::K95:{
222         // The K95 maps serve as bases for all the other keyboards
223         // Fetch the master map, or create it if not yet done
224         if(K95BaseMap.empty()){
225             for(const Key* key = K95Keys; key < K95Keys +
    KEYCOUNT_K95; key++)
226                 K95BaseMap[key->name] = *key;
227         }
228         map = K95BaseMap;
229         // Patch the map for the layout
230         switch(layout){
231         case KeyMap::DK:
232             patch(map, patchDK);
233             break;
234         case KeyMap::EU_DVORAK:
235             patch(map, patchDvorak);    // fall through
236         case KeyMap::EU:
237             patch(map, patchEU);
238             break;
239         case KeyMap::GB_DVORAK:
240         case KeyMap::US_DVORAK:
241             patch(map, patchDvorak);
242             break;
243         case KeyMap::FR:
244             patch(map, patchFR);
245             break;
246         case KeyMap::DE:
247             patch(map, patchDE);
248             break;
249         case KeyMap::IT:
250             patch(map, patchIT);
251             break;
252         case KeyMap::NO:
253             patch(map, patchNO);
254             break;
255         case KeyMap::MX:
256             patch(map, patchMX);
257             break;
258         case KeyMap::ES:
259             patch(map, patchES);
260             break;
261         case KeyMap::SE:
262             patch(map, patchSE);
263             break;
264         default:;
265             // English QWERTY - no patch needed
266         }
267         if(KeyMap::isISO(layout))
268             patchISO(map);
269         else
270             patchANSI(map);
271         // Done! return the map
272         break;
273     }
```

```
    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;
        // Done!
        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");
        // 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:{
        // Scimitar 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;
    }
    default:;    // <- stop GCC from complaining
    }
    // Map is finished, return result
    return map;
}
```

Here is the call graph for this function:

13.115.3.3 static void patchANSI (QHash< QString, Key > & *map*) [static]

Definition at line 121 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, Key::width, Key::x, and Key::y.

Referenced by getMap().

```
{
    map.remove("bslash_iso");
    map.remove("hash");
    Key& enter = map["enter"];
    enter.x = ANSI_ENTER_X;
    enter.y = ANSI_ENTER_Y;
    enter.width = ANSI_ENTER_W;
    enter.height = ANSI_ENTER_H;
    Key& lshift = map["lshift"];
    lshift.x = ANSI_LSHIFT_X;
    lshift.width = ANSI_LSHIFT_W;
}
```

Here is the caller graph for this function:

13.115.3.4 static void patchISO (QHash< QString, Key > & *map*) [static]

Definition at line 118 of file keymap.cpp.

Referenced by getMap().

```
118                                                 {
119     map.remove("bslash");
120 }
```

Here is the caller graph for this function:

13.115.4 Variable Documentation

13.115.4.1 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 147 of file keymap.cpp.

13.115.4.2 QHash<QString, Key> K95BaseMap [static]

Definition at line 210 of file keymap.cpp.

Referenced by getMap().

13.115.4.3 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, "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, "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, "Space", "
      space", 116, 75, 84, 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 12 of file keymap.cpp.

13.115.4.4 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 157 of file keymap.cpp.

13.115.4.5 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 165 of file keymap.cpp.

13.115.4.6 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 57 of file keymap.cpp.

13.115.4.7 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 38 of file keymap.cpp.

13.115.4.8 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 99 of file keymap.cpp.

13.115.4.9 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 85 of file keymap.cpp.

13.115.4.10 const KeyPatch patchEU[] [static]

Initial value:

```
= {
    {0, "\\ (R)", "hash"},
    {0, "\\ (L)", "bslash_iso"}
}
```

Definition at line 45 of file keymap.cpp.

13.115.4.11 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 50 of file keymap.cpp.

13.115.4.12 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 64 of file keymap.cpp.

13.115.4.13 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 78 of file keymap.cpp.

13.115.4.14 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 71 of file keymap.cpp.

13.115.4.15 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 92 of file keymap.cpp.

13.115.4.16 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 178 of file keymap.cpp.

13.115.4.17 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 191 of file keymap.cpp.

13.115.4.18 QHash<QString, Key> standardMaps[KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX] [static]

Definition at line 211 of file keymap.cpp.

Referenced by getMap().

13.116 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

13.117 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 5
- #define N_MOUSE_ZONES_EXTENDED 11

- #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)+11)]

13.117.1 Data Structure Documentation

13.117.1.1 struct key

Definition at line 49 of file keymap.h.

Collaboration diagram for key:

Data Fields

short	led	
const char *	name	
short	scan	

13.117.2 Macro Definition Documentation

13.117.2.1 #define BTN_WHEELDOWN 0x1f02

Definition at line 13 of file keymap.h.

Referenced by os_keypress().

13.117.2.2 #define BTN_WHEELUP 0x1f01

Definition at line 12 of file keymap.h.

Referenced by os_keypress().

13.117.2.3 #define KEY_BACKSLASH_ISO KEY_BACKSLASH

Definition at line 20 of file keymap.h.

13.117.2.4 #define KEY_CORSAIR -2

Definition at line 8 of file keymap.h.

13.117.2.5 #define KEY_NONE -1

Definition at line 7 of file keymap.h.

13.117.2.6 #define KEY_UNBOUND -3

Definition at line 9 of file keymap.h.

Referenced by cmd_unbind().

13.117.2.7 #define LED_DPI (LED_MOUSE + 2)

Definition at line 43 of file keymap.h.

Referenced by loadrgb_mouse(), and savergb_mouse().

13.117.2.8 #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().

13.117.2.9 #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().

13.117.2.10 #define MOUSE_EXTRA_FIRST (MOUSE_BUTTON_FIRST + N_BUTTONS_HW)

Definition at line 34 of file keymap.h.

Referenced by hid_mouse_translate().

13.117.2.11 #define N_BUTTONS_EXTENDED 25

Definition at line 32 of file keymap.h.

13.117.2.12 #define N_BUTTONS_HW 20

Definition at line 31 of file keymap.h.

Referenced by corsair_mousecopy().

13.117.2.13 #define N_KEY_ZONES 3

Definition at line 27 of file keymap.h.

13.117.2.14 #define N_KEYBYTES_EXTENDED ((N_KEYS_EXTENDED + 7) / 8)

Definition at line 46 of file keymap.h.

13.117.2.15 #define N_KEYBYTES_HW ((N_KEYS_HW + 7) / 8)

Definition at line 25 of file keymap.h.

Referenced by corsair_kbcopy().

13.117.2.16 #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().

13.117.2.17 #define N_KEYS_EXTENDED (N_KEYS_INPUT + N_MOUSE_ZONES_EXTENDED)

Definition at line 45 of file keymap.h.

Referenced by printrgb(), and readcmd().

13.117.2.18 #define N_KEYS_EXTRA 12

Definition at line 29 of file keymap.h.

13.117.2.19 #define N_KEYS_HW 152

Definition at line 24 of file keymap.h.

Referenced by loadrgb_kb(), makergb_512(), rgbcmp(), and setactive_kb().

13.117.2.20 #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().

13.117.2.21 #define N_MOUSE_ZONES 5

Definition at line 40 of file keymap.h.

Referenced by isblack(), loaddpi(), rgbcmp(), savedpi(), and updatergb_mouse().

13.117.2.22 #define N_MOUSE_ZONES_EXTENDED 11

Definition at line 41 of file keymap.h.

13.117.2.23 #define SCAN_KBD 0

Definition at line 57 of file keymap.h.

13.117.2.24 #define SCAN_MOUSE 0x1000

Definition at line 58 of file keymap.h.

Referenced by os_keypress().

13.117.2.25 #define SCAN_SILENT 0x8000

Definition at line 56 of file keymap.h.

Referenced by inputupdate_keys().

13.117.3 Function Documentation

13.117.3.1 void corsair_kbcopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 394 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
394                                                                                                 {
395     if(endpoint == 2 || endpoint == -2){
396         if(urbinput[0] != 3)
397             return;
398         urbinput++;
399     }
400     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
401 }
```

Here is the caller graph for this function:

13.117.3.2 void corsair_mousecopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 403 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
403                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
404     if(endpoint == 2 || endpoint == -2){
405         if(urbinput[0] != 3)
406             return;
407         urbinput++;
408     }
409     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
410         int byte = bit / 8;
411         uchar test = 1 << (bit % 8);
412         if(urbinput[byte] & test)
413             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
414         else
415             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
416     }
417 }
```

Here is the caller graph for this function:

13.117.3.3 void hid_kb_translate (unsigned char * *kbinput*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 223 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
223                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
224     if(length < 1)
225         return;
226     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
227     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with array indices and K95 keys added
228     static const short hid_codes[256] = {
229         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
230         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
231         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
232         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
233          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
234         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
235        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
236         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
237        130, 131,  -1,  -1,  -1,  -2,  -1,  -2,  -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,
238         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
239         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
240         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -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 (fall through)
        else
            break;  // No other known types
    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:

13.117.3.4 void hid_mouse_translate (unsigned char * *kbinput*, short * *xaxis*, short * *yaxis*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 366 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
366
                                {
367     if((endpoint != 2 && endpoint != -2) || length < 10)
368         return;
369     // EP 2: mouse input
370     if(urbinput[0] != 1)
371         return;
372     // Byte 1 = mouse buttons (bitfield)
373     for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
374         if(urbinput[1] & (1 << bit))
375             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
376         else
377             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
378     }
379     // Bytes 5 - 8: movement
380     *xaxis += *(short*)(urbinput + 5);
381     *yaxis += *(short*)(urbinput + 7);
382     // Byte 9: wheel
383     char wheel = urbinput[9];
384     if(wheel > 0)
385         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
386     else
387         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);
388     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:

13.117.4 Variable Documentation

13.117.4.1 const key keymap[(((152+3+12)+25)+11)]

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().

13.118 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

13.118.1 Function Documentation

13.118.1.1 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:

13.118.2 Variable Documentation

13.118.2.1 const int KEY_SIZE = 12 [static]

Definition at line 10 of file keywidget.cpp.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

13.118.2.2 QImage* m65Overlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.118.2.3 QImage * sabOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.118.2.4 QImage * scimOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.119 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

13.120 src/ckb/kperfwidget.cpp File Reference

```
#include "kperfwidget.h"
#include "ui_kperfwidget.h"
#include "modeselectdialog.h"
#include <cmath>
```

Include dependency graph for kperfwidget.cpp:

13.121 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

13.121.1 Data Structure Documentation

13.121.1.1 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	

13.122 src/ckb/layoutdialog.cpp File Reference

```
#include "layoutdialog.h"
```

```
#include "kb.h"
#include "ui_layoutdialog.h"
```

Include dependency graph for layoutdialog.cpp:

13.123 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

13.124 src/ckb/macroreader.cpp File Reference

```
#include <qdebug.h>
#include "macroreader.h"
#include <sys/time.h>
```

Include dependency graph for macroreader.cpp:

13.125 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.

13.126 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[])

13.126.1 Macro Definition Documentation

13.126.1.1 #define SHMEM_SIZE 128 ∗ 1024

Definition at line 20 of file main.cpp.

Referenced by isRunning().

13.126.1.2 #define SHMEM_SIZE_V015 16

Definition at line 21 of file main.cpp.

Referenced by isRunning().

13.126.2 Enumeration Type Documentation

13.126.2.1 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 };
```

13.126.3 Function Documentation

13.126.3.1 QSharedMemory appShare ("ckb")

Referenced by isRunning().

Here is the caller graph for this function:

13.126.3.2 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:

13.126.3.3 int main (int *argc*, char * *argv[]*)

Definition at line 148 of file main.cpp.

References CommandLineBackground, CommandLineClose, CommandLineError, CommandLineHelpRequested, CommandLineOK, CommandLineVersionRequested, disableAppNap(), isRunning(), CkbSettings::isWritable(), 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 #endif
174 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
175     // Enable HiDPI support
176     qApp->setAttribute(Qt::AA_UseHighDpiPixmaps);
177 #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();

    if (CkbSettings::isWritable())
        return a.exec();
}
```

Here is the call graph for this function:

13.126.3.4 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:

13.126.3.5 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:

13.127 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"

13.127.1 Variable Documentation

13.127.1.1 QSharedMemory appShare

Referenced by MainWindow::timerTick().

13.127.1.2 const QString configLabel = "Settings" [static]

Definition at line 15 of file mainwindow.cpp.

Referenced by MainWindow::MainWindow().

13.128 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

13.129 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 ()

13.129.1 Macro Definition Documentation

13.129.1.1 #define ENUM_C(*name*) typedef enum

Definition at line 13 of file media.h.

13.129.1.2 #define ENUM_END_C(*name*) name

Definition at line 14 of file media.h.

13.129.1.3 #define EXTERN_C extern

Definition at line 12 of file media.h.

13.129.2 Enumeration Type Documentation

13.129.2.1 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);
```

13.129.3 Function Documentation

13.129.3.1 muteState getMuteState ( )

Definition at line 9 of file media_linux.cpp.

References MUTED, muteProcess, UNKNOWN, and UNMUTED.

Referenced by KbPerf::applyIndicators().

```
9                       {
10     // Get default sink mute state from pulseaudio
11     static muteState lastKnown = UNKNOWN;
12     static quint64 lastTime = 0;
13     // Instead of running a command to check the state and waiting for it to finish, run the command now
       but wait to check it until the next frame
14     // (locking up the GUI thread is bad)
15     if(lastTime > 0 && muteProcess.state() == QProcess::NotRunning){
16         if(muteProcess.exitCode() != 0)
17             lastKnown = UNKNOWN;
18         QString output = muteProcess.readLine().trimmed();
19         if(output == "yes")
20             lastKnown = MUTED;
21         else if(output == "no")
22             lastKnown = UNMUTED;
23     }
24     quint64 time = QDateTime::currentMSecsSinceEpoch();
25     if(time - lastTime < 33)
26         // Don't run it than 30 times per second
27         return lastKnown;
28     lastTime = time;
29     if(muteProcess.state() == QProcess::NotRunning)
```

```
        // Shamelessly taken from pulseaudio-ctl
        muteProcess.start("sh", QStringList() << "-c" << "pacmd list-sinks|grep -A 15 '*
    index'|awk '/muted:/{ print $2 }'");
    return lastKnown;
}
```

Here is the caller graph for this function:

13.130 src/ckb/media_linux.cpp File Reference

```
#include <QDateTime>
#include <QProcess>
#include "media.h"
```

Include dependency graph for media_linux.cpp:

Functions

- muteState getMuteState ()

Variables

- static QProcess muteProcess

13.130.1 Function Documentation

13.130.1.1 muteState getMuteState ( )

Definition at line 9 of file media_linux.cpp.

References MUTED, muteProcess, UNKNOWN, and UNMUTED.

```
9                       {
10      // Get default sink mute state from pulseaudio
11      static muteState lastKnown = UNKNOWN;
12      static quint64 lastTime = 0;
13      // Instead of running a command to check the state and waiting for it to finish, run the command now
        but wait to check it until the next frame
14      // (locking up the GUI thread is bad)
15      if(lastTime > 0 && muteProcess.state() == QProcess::NotRunning){
16          if(muteProcess.exitCode() != 0)
17              lastKnown = UNKNOWN;
18          QString output = muteProcess.readLine().trimmed();
19          if(output == "yes")
20              lastKnown = MUTED;
21          else if(output == "no")
22              lastKnown = UNMUTED;
23      }
24      quint64 time = QDateTime::currentMSecsSinceEpoch();
25      if(time - lastTime < 33)
26          // Don't run it than 30 times per second
27          return lastKnown;
28      lastTime = time;
29      if(muteProcess.state() == QProcess::NotRunning)
30          // Shamelessly taken from pulseaudio-ctl
31          muteProcess.start("sh", QStringList() << "-c" << "pacmd list-sinks|grep -A 15 '*
        index'|awk '/muted:/{ print $2 }'");
32      return lastKnown;
33  }
```

13.130.2 Variable Documentation

13.130.2.1 QProcess muteProcess [static]

Definition at line 7 of file media_linux.cpp.

Referenced by getMuteState().

13.131 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 ()

13.131.1 Function Documentation

13.131.1.1 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:

13.131.1.2 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
11     };
12     AudioDeviceID deviceID = 0;
13     UInt32 dataSize = sizeof(deviceID);
14     if(AudioHardwareServiceGetPropertyData(kAudioObjectSystemObject, &propertyAddress, 0, NULL, &dataSize,
       &deviceID)
15             != kAudioHardwareNoError){
16         return UNKNOWN;
17     }
18     // Grab the mute property
19     AudioObjectPropertyAddress propertyAddress2 = {
20         kAudioDevicePropertyMute,
21         kAudioDevicePropertyScopeOutput,
22         kAudioObjectPropertyElementMaster
23     };
24     if(!AudioHardwareServiceHasProperty(deviceID, &propertyAddress2))
25         return UNKNOWN;
26     bool state = 0;
27     dataSize = sizeof(state);
28     if(AudioHardwareServiceGetPropertyData(deviceID, &propertyAddress2, 0, NULL, &dataSize, &state)
29             != kAudioHardwareNoError)
30         return UNKNOWN;
31     return state ? MUTED : UNMUTED;
32 }
```

Here is the caller graph for this function:

13.132 src/ckb/modeselectdialog.cpp File Reference

```
#include "modeselectdialog.h"
#include "ui_modeselectdialog.h"
```

Include dependency graph for modeselectdialog.cpp:

13.133 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

13.134 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

13.134.1 Macro Definition Documentation

13.134.1.1 #define SET_END isSetting = false

Definition at line 126 of file mperfwidget.cpp.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

13.134.1.2 #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().

13.134.2 Function Documentation

13.134.2.1 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:

13.134.2.2 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:

13.134.2.3 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:

13.134.3 Variable Documentation

13.134.3.1 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().

13.134.3.2 const QString xyLinkPath = "UI/DPI/UnlinkXY" [static]

Definition at line 6 of file mperfwidget.cpp.

Referenced by MPerfWidget::on_xyBox_clicked().

13.135 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

13.135.1 Data Structure Documentation

13.135.1.1 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	

13.136 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)

13.136.1 Macro Definition Documentation

13.136.1.1 #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().

13.136.1.2 #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().

13.136.1.3 #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().

13.136.2 Function Documentation

13.136.2.1 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);
}
```

13.136.2.2 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:

13.136.2.3 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:

13.137 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)

13.137.1 Data Structure Documentation

13.137.1.1 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	

13.137.1.2 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	

13.137.1.3 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	

13.137.2 Macro Definition Documentation

13.137.2.1 #define __USE_FILE_OFFSET64

Definition at line 32 of file ioapi.h.

13.137.2.2 #define __USE_LARGEFILE64

Definition at line 35 of file ioapi.h.

13.137.2.3 #define _FILE_OFFSET_BIT 64

Definition at line 41 of file ioapi.h.

13.137.2.4 #define _LARGEFILE64_SOURCE

Definition at line 38 of file ioapi.h.

13.137.2.5 #define OF _Z_OF

Definition at line 106 of file ioapi.h.

13.137.2.6 #define ZCALLBACK

Definition at line 125 of file ioapi.h.

13.137.2.7 #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().

13.137.2.8 #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().

13.137.2.9 #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().

13.137.2.10 #define ZLIB_FILEFUNC_MODE_CREATE (8)

Definition at line 118 of file ioapi.h.

Referenced by qiodevice_open_file_func(), and zipOpen3().

13.137.2.11 #define ZLIB_FILEFUNC_MODE_EXISTING (4)

Definition at line 117 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.137.2.12 #define ZLIB_FILEFUNC_MODE_READ (1)

Definition at line 113 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.137.2.13 #define ZLIB_FILEFUNC_MODE_READWRITEFILTER (3)

Definition at line 115 of file ioapi.h.

Referenced by qiodevice_open_file_func().

13.137.2.14 #define ZLIB_FILEFUNC_MODE_WRITE (2)

Definition at line 114 of file ioapi.h.

Referenced by zipOpen3().

13.137.2.15 #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().

13.137.2.16 #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().

13.137.2.17 #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().

13.137.2.18 #define ZOPEN64(*filefunc, filename, mode*) (call_zopen64((&(filefunc)),(filename),(mode)))

Definition at line 199 of file ioapi.h.

Referenced by unzOpenInternal(), and zipOpen3().

13.137.2.19 #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().

13.137.2.20 #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().

13.137.2.21 #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().

13.137.2.22 #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().

13.137.3 Typedef Documentation

13.137.3.1 zipFile ZEXPORT zipOpen64 _Z_OF ((voidpf opaque, voidpf file, int mode))

Addition for GDAL : END.

Definition at line 132 of file ioapi.h.

13.137.3.2 typedef struct zlib_filefunc64_32_def_s zlib_filefunc64_32_def

13.137.3.3 typedef struct zlib_filefunc64_def_s zlib_filefunc64_def

13.137.3.4 typedef struct zlib_filefunc_def_s zlib_filefunc_def

13.137.3.5 typedef unsigned long long int ZPOS64_T

Definition at line 94 of file ioapi.h.

13.137.4 Function Documentation

13.137.4.1 void fill_qiodevice64_filefunc _Z_OF ((zlib_filefunc64_def ∗pzlib_filefunc_def))

13.137.4.2 void fill_qiodevice_filefunc _Z_OF ((zlib_filefunc_def ∗pzlib_filefunc_def))

13.137.4.3 voidpf call_zopen64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf file, int mode))

13.137.4.4 int call_zseek64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream, ZPOS64_T offset, int origin))

13.137.4.5 ZPOS64_T call_ztell64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream))

13.137.4.6 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:

13.138 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)

13.138.1 Function Documentation

13.138.1.1 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:

13.139 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.

13.140 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)

13.140.1 Macro Definition Documentation

13.140.1.1 #define SEEK_CUR 1

Definition at line 29 of file qioapi.cpp.

13.140.1.2 #define SEEK_END 2

Definition at line 33 of file qioapi.cpp.

13.140.1.3 #define SEEK_SET 0

Definition at line 37 of file qioapi.cpp.

Referenced by unzOpenCurrentFile3().

13.140.2 Function Documentation

13.140.2.1 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);
    }
}
```

13.140.2.2 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);
    }
}
```

13.140.2.3 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;
    }
}
```

13.140.2.4 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:

13.140.2.5 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:

13.140.2.6 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:

13.140.2.7 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:

13.140.2.8 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:

13.140.2.9 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:

13.140.2.10 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:

13.140.2.11 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:

13.140.2.12 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:

13.140.2.13 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:

13.140.2.14 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:

13.140.2.15 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:

13.140.2.16 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:

13.141 src/ckb/quazip/quaadler32.cpp File Reference

```
#include "quaadler32.h"
#include "zlib.h"
```

Include dependency graph for quaadler32.cpp:

13.142 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.

13.143 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.

13.144 src/ckb/quazip/quacrc32.cpp File Reference

```
#include "quacrc32.h"
#include "zlib.h"
```

Include dependency graph for quacrc32.cpp:

13.145 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.

13.146 src/ckb/quazip/quagzipfile.cpp File Reference

```
#include <QFile>
#include "quagzipfile.h"
```

Include dependency graph for quagzipfile.cpp:

13.147 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.

13.148 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

13.148.1 Macro Definition Documentation

13.148.1.1 #define QUAZIO_INBUFSIZE 4096

Definition at line 27 of file quaziodevice.cpp.

Referenced by QuaZIODevice::readData().

13.148.1.2 #define QUAZIO_OUTBUFSIZE 4096

Definition at line 28 of file quaziodevice.cpp.

Referenced by QuaZIODevice::flush(), and QuaZIODevice::writeData().

13.149 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.

13.150 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)

13.150.1 Function Documentation

13.150.1.1 template<typename TFileInfo > TFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo(), and QuaZip::getCurrentFileName().

```
{
    QuaZipFileInfo info;
    *ok = zip->getCurrentFileInfo(&info);
    return info;
}
```

Here is the call graph for this function:

13.150.1.2 template<> QuaZipFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo().

```
{
    QuaZipFileInfo info;
    *ok = zip->getCurrentFileInfo(&info);
    return info;
}
```

Here is the call graph for this function:

13.150.1.3 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:

13.150.1.4 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:

13.151 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

13.151.1 Macro Definition Documentation

13.151.1.1 #define UNZ_OPENERROR -1000

Definition at line 41 of file quazip.h.

Referenced by QuaZip::open().

13.152 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

13.152.1 Macro Definition Documentation

13.152.1.1 #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.

13.152.1.2 #define QUAZIP_EXTRA_NTFS_MAGIC 0x000Au

Definition at line 56 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

13.152.1.3 #define QUAZIP_EXTRA_NTFS_TIME_MAGIC 0x0001u

Definition at line 57 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

13.152.1.4 #define UNUSED

Definition at line 53 of file quazip_global.h.

13.153 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)

13.153.1 Function Documentation

13.153.1.1 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QList< QuaZipFileInfo64 > & *to*) [static]

Definition at line 188 of file quazipdir.cpp.

```
{
    to = from;
}
```

13.153.1.2 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);
    }
}
```

13.153.1.3 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);
    }
}
```

13.153.1.4 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:

13.154 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.

13.155 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.

13.156 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.

13.157 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)

13.157.1 Function Documentation

13.157.1.1 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:

13.157.1.2 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:

13.158 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).

13.159 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)

13.159.1 Function Documentation

13.159.1.1 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:

13.159.1.2 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:

13.159.1.3 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:

13.160 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.

13.161 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 []

13.161.1 Data Structure Documentation

13.161.1.1 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	

13.161.1.2 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	

13.161.1.3 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	

13.161.2 Macro Definition Documentation

13.161.2.1 #define ALLOC(*size*) (malloc(size))

Definition at line 114 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzOpenCurrentFile3(), and

unzOpenInternal().

13.161.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 408 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), and unz64local_SearchCentralDir64().

13.161.2.3 #define CASESENSITIVITYDEFAULT_NO

Definition at line 100 of file unzip.c.

13.161.2.4 #define CASESENSITIVITYDEFAULTVALUE 2

Definition at line 375 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.161.2.5 #define local static

Definition at line 93 of file unzip.c.

13.161.2.6 #define SIZECENTRALDIRITEM (0x2e)

Definition at line 120 of file unzip.c.

Referenced by unzGoToNextFile().

13.161.2.7 #define SIZEZIPLOCALHEADER (0x1e)

Definition at line 121 of file unzip.c.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), and unzOpenCurrentFile3().

13.161.2.8 #define STRCMPCASENOSENTIVEFUNCTION strcmpcasenosensitive_internal

Definition at line 381 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.161.2.9 #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().

13.161.2.10 #define UNZ_BUFSIZE (16384)

Definition at line 106 of file unzip.c.

Referenced by unzOpenCurrentFile3(), and unzReadCurrentFile().

13.161.2.11 #define UNZ_MAXFILENAMEINZIP (256)

Definition at line 110 of file unzip.c.

Referenced by unzLocateFile().

13.161.3 Typedef Documentation

13.161.3.1 typedef struct unz_file_info64_internal_s unz_file_info64_internal

13.161.3.2 typedef uLongf z_crc_t

Definition at line 76 of file unzip.c.

13.161.4 Function Documentation

13.161.4.1 static int unz64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.161.4.2 static int unz64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.161.4.3 static int unz64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.161.4.4 static ZPOS64_T unz64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.161.4.5 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]

13.161.4.6 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;
    }
}
```

13.161.4.7 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:

13.161.4.8 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:

13.161.4.9 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:

13.161.4.10 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)
951         err=UNZ_ERRNO;
952     file_info.uncompressed_size = uL;
953
954     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_filename) != UNZ_OK)
955         err=UNZ_ERRNO;
956
957     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_file_extra) != UNZ_OK)
958         err=UNZ_ERRNO;
959
960     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_file_comment) != UNZ_OK)
961         err=UNZ_ERRNO;
962
963     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.disk_num_start) != UNZ_OK)
964         err=UNZ_ERRNO;
965
966     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.internal_fa) != UNZ_OK)
967         err=UNZ_ERRNO;
968
969     if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&file_info.external_fa) != UNZ_OK)
970         err=UNZ_ERRNO;
971
972                 /* relative offset of local header */
973     if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&uL) != UNZ_OK)
974         err=UNZ_ERRNO;
975     file_info_internal.offset_curfile = uL;
976
977     llSeek+=file_info.size_filename;
978     if ((err==UNZ_OK) && (szFileName!=NULL))
979     {
980         uLong uSizeRead ;
981         if (file_info.size_filename<fileNameBufferSize)
982         {
983             *(szFileName+file_info.size_filename)='\0';
984             uSizeRead = file_info.size_filename;
985         }
986         else
987             uSizeRead = fileNameBufferSize;
988
989         if ((file_info.size_filename>0) && (fileNameBufferSize>0))
990             if (ZREAD64(s->z_filefunc, s->filestream,szFileName,uSizeRead)!=
    uSizeRead)
991                 err=UNZ_ERRNO;
992         llSeek -= uSizeRead;
993     }
994
995     /* Read extrafield */
996     if ((err==UNZ_OK) && (extraField!=NULL))
997     {
998         ZPOS64_T uSizeRead ;
999         if (file_info.size_file_extra<extraFieldBufferSize)
1000             uSizeRead = file_info.size_file_extra;
1001         else
1002             uSizeRead = extraFieldBufferSize;
1003
1004         if (llSeek!=0)
1005         {
1006             if (ZSEEK64(s->z_filefunc, s->filestream,llSeek,
    ZLIB_FILEFUNC_SEEK_CUR)==0)
1007                 llSeek=0;
1008             else
1009                 err=UNZ_ERRNO;
1010         }
1011
1012         if ((file_info.size_file_extra>0) && (extraFieldBufferSize>0))
1013             if (ZREAD64(s->z_filefunc, s->filestream,extraField,(uLong)uSizeRead
    )!=uSizeRead)
1014                 err=UNZ_ERRNO;
1015
1016         llSeek += file_info.size_file_extra - (uLong)uSizeRead;
1017     }
1018     else
1019         llSeek += file_info.size_file_extra;
1020
1021
1022     if ((err==UNZ_OK) && (file_info.size_file_extra != 0))
1023     {
1024                                 uLong acc = 0;
1025
1026         /* 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:

13.161.4.11 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:

13.161.4.12 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:

13.161.4.13 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:

13.161.4.14 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:

13.161.4.15 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:

13.161.4.16 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().

```
{
    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:

13.161.4.17 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:

13.161.4.18 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().

```
2013 {
2014     int err=UNZ_OK;
2015
2016     unz64_s* s;
2017     file_in_zip64_read_info_s* pfile_in_zip_read_info;
2018     if (file==NULL)
2019         return UNZ_PARAMERROR;
2020     s=(unz64_s*)file;
2021     pfile_in_zip_read_info=s->pfile_in_zip_read;
2022
2023     if (pfile_in_zip_read_info==NULL)
2024         return UNZ_PARAMERROR;
2025
2026
2027     if ((pfile_in_zip_read_info->rest_read_uncompressed == 0) &&
2028         (!pfile_in_zip_read_info->raw))
2029     {
2030         if (pfile_in_zip_read_info->crc32 != pfile_in_zip_read_info->
      crc32_wait)
2031             err=UNZ_CRCERROR;
2032     }
2033
2034
2035     TRYFREE(pfile_in_zip_read_info->read_buffer);
2036     pfile_in_zip_read_info->read_buffer = NULL;
2037     if (pfile_in_zip_read_info->stream_initialised == Z_DEFLATED)
2038         inflateEnd(&pfile_in_zip_read_info->stream);
2039 #ifdef HAVE_BZIP2
2040     else if (pfile_in_zip_read_info->stream_initialised ==
      Z_BZIP2ED)
2041         BZ2_bzDecompressEnd(&pfile_in_zip_read_info->bstream);
2042 #endif
2043
2044
2045     pfile_in_zip_read_info->stream_initialised = 0;
2046     TRYFREE(pfile_in_zip_read_info);
2047
2048     s->pfile_in_zip_read=NULL;
2049
2050     return err;
2051 }
```

Here is the caller graph for this function:

13.161.4.19 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().

```
{
    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)
        return 1;
    else
        return 0;
}
```

Here is the caller graph for this function:

13.161.4.20 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:

13.161.4.21 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:

13.161.4.22 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;
}
```

13.161.4.23 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:

13.161.4.24 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:

13.161.4.25 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:

13.161.4.26 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;
}
```

13.161.4.27 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:

13.161.4.28 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;
}
```

13.161.4.29 uLong ZEXPORT unzGetOffset (unzFile *file*)

Definition at line 2102 of file unzip.c.

References unzGetOffset64().

```
2103 {
2104     ZPOS64_T offset64;
2105
2106     if (file==NULL)
2107           return 0; /*UNZ_PARAMERROR; */
2108     offset64 = unzGetOffset64(file);
2109     return (uLong)offset64;
2110 }
```

Here is the call graph for this function:

13.161.4.30 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().

```
2088 {
2089     unz64_s* s;
2090
2091     if (file==NULL)
2092           return 0; /*UNZ_PARAMERROR; */
2093     s=(unz64_s*)file;
2094     if (!s->current_file_ok)
2095       return 0;
2096     if (s->gi.number_entry != 0 && s->gi.number_entry != 0xffff)
2097       if (s->num_file==s->gi.number_entry)
2098          return 0;
2099     return s->pos_in_central_dir;
2100 }
```

Here is the caller graph for this function:

13.161.4.31 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:

13.161.4.32 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:

13.161.4.33 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:

13.161.4.34 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:

13.161.4.35 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:

13.161.4.36 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:

13.161.4.37 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:

13.161.4.38 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:

13.161.4.39 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:

13.161.4.40 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:

13.161.4.41 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:

13.161.4.42 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:

13.161.4.43 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:

13.161.4.44 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:

13.161.4.45 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:

13.161.4.46 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:

13.161.4.47 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:

13.161.4.48 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:

13.161.4.49 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().

```
{
    if (iCaseSensitivity==0)
        iCaseSensitivity=CASESENSITIVITYDEFAULTVALUE;

    if (iCaseSensitivity==1)
        return strcmp(fileName1,fileName2);

    return STRCMPCASENOSENTIVEFUNCTION(fileName1,fileName2);
}
```

Here is the caller graph for this function:

13.161.4.50 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:

13.161.4.51 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;
}
```

13.161.5 Variable Documentation

13.161.5.1 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().

13.162 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)

13.162.1 Data Structure Documentation

13.162.1.1 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	

13.162.1.2 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	

13.162.1.3 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	

13.162.1.4 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	

13.162.1.5 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	

13.162.1.6 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	

13.162.1.7 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	

13.162.2 Macro Definition Documentation

13.162.2.1 #define UNZ_AUTO_CLOSE 0x01u

Definition at line 88 of file unzip.h.

Referenced by QuaZip::open(), unzClose(), and unzOpenInternal().

13.162.2.2 #define UNZ_BADZIPFILE (-103)

Definition at line 84 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unzOpenCurrentFile3(), and unzOpenInternal().

13.162.2.3 #define UNZ_CRCERROR (-105)

Definition at line 86 of file unzip.h.

Referenced by unzCloseCurrentFile().

13.162.2.4 #define UNZ_DEFAULT_FLAGS UNZ_AUTO_CLOSE

Definition at line 89 of file unzip.h.

Referenced by unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

13.162.2.5 #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().

13.162.2.6 #define UNZ_EOF (0)

Definition at line 82 of file unzip.h.

Referenced by unz64local_getByte(), and unzReadCurrentFile().

13.162.2.7 #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().

13.162.2.8 #define UNZ_INTERNALERROR (-104)

Definition at line 85 of file unzip.h.

Referenced by unzOpenCurrentFile3().

13.162.2.9 #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().

13.162.2.10 #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().

13.162.2.11 #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().

13.162.3 Typedef Documentation

13.162.3.1 typedef struct tm_unz_s tm_unz

13.162.3.2 typedef struct unz64_file_pos_s unz64_file_pos

13.162.3.3 typedef struct unz_file_info_s unz_file_info

13.162.3.4 typedef struct unz_file_info64_s unz_file_info64

13.162.3.5 typedef struct unz_file_pos_s unz_file_pos

13.162.3.6 typedef struct unz_global_info_s unz_global_info

13.162.3.7 typedef struct unz_global_info64_s unz_global_info64

13.162.3.8 typedef voidp unzFile

Definition at line 75 of file unzip.h.

13.162.4 Function Documentation

13.162.4.1 int ZEXPORT unzStringFileNameCompare _Z_OF ((const char *fileName1, const char *fileName2, int iCaseSensitivity))

13.162.4.2 unzFile ZEXPORT unzOpen _Z_OF ((voidpf file))

13.162.4.3 unzFile ZEXPORT unzOpen2 _Z_OF ((voidpf file, zlib_filefunc_def *pzlib_filefunc_def))

13.162.4.4 unzFile ZEXPORT unzOpen2_64 _Z_OF ((voidpf file, zlib_filefunc64_def *pzlib_filefunc_def))

13.162.4.5 int ZEXPORT unzClose _Z_OF ((unzFile file))

Addition for GDAL : END.

13.162.4.6 int ZEXPORT unzGetGlobalInfo _Z_OF ((unzFile file, unz_global_info *pglobal_info))

13.162.4.7 int ZEXPORT unzGetGlobalInfo64 _Z_OF ((unzFile file, unz_global_info64 *pglobal_info))

13.162.4.8 int ZEXPORT unzGetGlobalComment _Z_OF ((unzFile file, char *szComment, uLong uSizeBuf))

13.162.4.9 int ZEXPORT unzLocateFile _Z_OF ((unzFile file, const char *szFileName, int iCaseSensitivity))

13.162.4.10 int ZEXPORT unzGetCurrentFileInfo64 _Z_OF ((unzFile file, unz_file_info64 *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))

13.162.4.11 int ZEXPORT unzGetCurrentFileInfo _Z_OF ((unzFile file, unz_file_info *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))

13.162.4.12 int ZEXPORT unzOpenCurrentFilePassword _Z_OF ((unzFile file, const char *password))

13.162.4.13 int ZEXPORT unzOpenCurrentFile2 _Z_OF ((unzFile file, int *method, int *level, int raw))

13.162.4.14 int ZEXPORT unzOpenCurrentFile3 _Z_OF ((unzFile file, int *method, int *level, int raw, const char *password))

13.162.4.15 int ZEXPORT unzReadCurrentFile _Z_OF ((unzFile file, voidp buf, unsigned len))

13.162.4.16 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:

13.162.4.17 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:

13.162.4.18 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:

13.162.4.19 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:

13.162.4.20 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:

13.162.4.21 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:

13.162.4.22 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:

13.162.4.23 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:

13.162.4.24 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:

13.162.4.25 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:

13.162.4.26 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:

13.163 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"

13.163.1 Data Structure Documentation

13.163.1.1 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	

13.163.1.2 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	

13.163.1.3 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	

13.163.1.4 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	

13.163.2 Macro Definition Documentation

13.163.2.1 #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().

13.163.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 481 of file zip.c.

Referenced by zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.163.2.3 #define CENTRALHEADERMAGIC (0x02014b50)

Definition at line 111 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.163.2.4 #define CRC_LOCALHEADER_OFFSET (0x0e)

Definition at line 117 of file zip.c.

13.163.2.5 #define DESCRIPTORHEADERMAGIC (0x08074b50)

Definition at line 110 of file zip.c.

Referenced by zipCloseFileInZipRaw64().

13.163.2.6 #define ENDHEADERMAGIC (0x06054b50)

Definition at line 112 of file zip.c.

Referenced by Write_EndOfCentralDirectoryRecord().

13.163.2.7 #define FLAG_LOCALHEADER_OFFSET (0x06)

Definition at line 116 of file zip.c.

13.163.2.8 #define INCLUDECRYPTINGCODE_IFCRYPTALLOWED

Definition at line 194 of file zip.c.

13.163.2.9 #define local static

Definition at line 51 of file zip.c.

13.163.2.10 #define LOCALHEADERMAGIC (0x04034b50)

Definition at line 109 of file zip.c.

Referenced by Write_LocalFileHeader().

13.163.2.11 #define MAKEULONG64(a, b) ((ZPOS64_T)(((unsigned long)(a)) | ((ZPOS64_T)((unsigned long)(b))) << 32))

Definition at line 83 of file zip.c.

13.163.2.12 #define SEEK_CUR 1

Definition at line 86 of file zip.c.

13.163.2.13 #define SEEK_END 2

Definition at line 90 of file zip.c.

Referenced by zipOpen3().

13.163.2.14 #define SEEK_SET 0

Definition at line 94 of file zip.c.

13.163.2.15 #define SIZECENTRALHEADER (0x2e) /* 46 */

Definition at line 119 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.163.2.16 #define SIZEDATA_INDATABLOCK (4096-(4*4))

Definition at line 107 of file zip.c.

Referenced by allocate_new_datablock(), and LoadCentralDirectoryRecord().

13.163.2.17 #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().

13.163.2.18 #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().

13.163.2.19 #define Z_BUFSIZE (64*1024) /* (16384) */

Definition at line 60 of file zip.c.

Referenced by zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipWriteInFileInZip().

13.163.2.20 #define Z_MAXFILENAMEINZIP (256)

Definition at line 64 of file zip.c.

13.163.2.21 #define ZIP64ENDHEADERMAGIC (0x6064b50)

Definition at line 113 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryRecord().

13.163.2.22 #define ZIP64ENDLOCHEADERMAGIC (0x7064b50)

Definition at line 114 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryLocator().

13.163.3 Typedef Documentation

13.163.3.1 typedef struct linkedlist_data_s linkedlist_data

13.163.3.2 typedef struct linkedlist_datablock_internal_s linkedlist_datablock_internal

13.163.3.3 typedef uLongf z_crc_t

Definition at line 34 of file zip.c.

13.163.4 Function Documentation

13.163.4.1 static int zip64local_putValue _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte)) [static]

13.163.4.2 static void zip64local_putValue_inmemory _Z_OF ((void *dest, ZPOS64_T x, int nbByte)) [static]

13.163.4.3 static int zip64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.163.4.4 static int zip64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.163.4.5 static int zip64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.163.4.6 static ZPOS64_T zip64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.163.4.7 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:

13.163.4.8 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:

13.163.4.9 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:

13.163.4.10 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:

13.163.4.11 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:

13.163.4.12 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:

13.163.4.13 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:

13.163.4.14 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:

13.163.4.15 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:

13.163.4.16 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:

13.163.4.17 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:

13.163.4.18 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:

13.163.4.19 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:

13.163.4.20 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:

13.163.4.21 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:

13.163.4.22 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:

13.163.4.23 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:

13.163.4.24 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:

13.163.4.25 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:

13.163.4.26 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:

13.163.4.27 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:

13.163.4.28 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:

13.163.4.29 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);

```

```
2016     return err;
2017 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.163.4.30 int ZEXPORT zipCloseFileInZip (zipFile *file*)

Definition at line 1810 of file zip.c.

References zipCloseFileInZipRaw().

Referenced by QuaZipFile::close(), zipClose(), and zipOpenNewFileInZip4_64().

```
1811 {
1812     return zipCloseFileInZipRaw (file,0,0);
1813 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.163.4.31 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:

13.163.4.32 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:

13.163.4.33 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:

13.163.4.34 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:

13.163.4.35 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:

13.163.4.36 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:

13.163.4.37 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:

13.163.4.38 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:

13.163.4.39 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:

13.163.4.40 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:

13.163.4.41 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:

13.163.4.42 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:

13.163.4.43 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:

13.163.4.44 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:

13.163.4.45 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:

13.163.4.46 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;
}
```

13.163.4.47 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:

13.163.4.48 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:

13.163.5 Variable Documentation

13.163.5.1 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.

13.164 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)

13.164.1 Data Structure Documentation

13.164.1.1 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	

13.164.1.2 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	

13.164.2 Macro Definition Documentation

13.164.2.1 #define APPEND_STATUS_ADDINZIP (2)

Definition at line 125 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.164.2.2 #define APPEND_STATUS_CREATE (0)

Definition at line 123 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.164.2.3 #define APPEND_STATUS_CREATEAFTER (1)

Definition at line 124 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.164.2.4 #define DEF_MEM_LEVEL MAX_MEM_LEVEL

Definition at line 94 of file zip.h.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), and zipOpenNewFileInZip64().

13.164.2.5 #define Z_BZIP2ED 12

Definition at line 67 of file zip.h.

13.164.2.6 #define ZIP_AUTO_CLOSE 0x1u

Definition at line 86 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), QuaZip::open(), zipClose(), and zipOpen3().

13.164.2.7 #define ZIP_BADZIPFILE (-103)

Definition at line 82 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

13.164.2.8 #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().

13.164.2.9 #define ZIP_EOF (0)

Definition at line 79 of file zip.h.

Referenced by zip64local_getByte().

13.164.2.10 #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().

13.164.2.11 #define ZIP_INTERNALERROR (-104)

Definition at line 83 of file zip.h.

Referenced by add_data_in_datablock(), and zipOpenNewFileInZip4_64().

13.164.2.12 #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().

13.164.2.13 #define ZIP_PARAMERROR (-102)

Definition at line 81 of file zip.h.

Referenced by zipClearFlags(), zipClose(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), zipSetFlags(), and zipWriteInFileInZip().

13.164.2.14 #define ZIP_SEQUENTIAL 0x2u

Definition at line 87 of file zip.h.

Referenced by QuaZip::open(), zipClearFlags(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipSetFlags().

13.164.2.15 #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().

13.164.3 Typedef Documentation

13.164.3.1 typedef struct tm_zip_s tm_zip

13.164.3.2 typedef const char* zipcharpc

Definition at line 120 of file zip.h.

13.164.3.3 typedef voidp zipFile

Definition at line 75 of file zip.h.

13.164.4 Function Documentation

13.164.4.1 zipFile ZEXPORT zipOpen _Z_OF ((voidpf file, int append))

13.164.4.2 zipFile ZEXPORT zipOpen2 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc_def))

13.164.4.3 zipFile ZEXPORT zipOpen2_64 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def))

13.164.4.4 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))

13.164.4.5 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))

13.164.4.6 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))

13.164.4.7 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))

13.164.4.8 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))

13.164.4.9 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))

13.164.4.10 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))

13.164.4.11 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))

13.164.4.12 int ZEXPORT **zipWriteInFileInZip _Z_OF** ((**zipFile** file, const void ∗buf, unsigned len))

13.164.4.13 int ZEXPORT **zipCloseFileInZip _Z_OF** ((**zipFile** file))

13.164.4.14 int ZEXPORT **zipCloseFileInZipRaw _Z_OF** ((**zipFile** file, uLong uncompressed_size, uLong crc32))

13.164.4.15 int ZEXPORT **zipCloseFileInZipRaw64 _Z_OF** ((**zipFile** file, **ZPOS64_T** uncompressed_size, uLong crc32))

13.164.4.16 int ZEXPORT **zipClose _Z_OF** ((**zipFile** file, const char ∗global_comment))

13.164.4.17 int ZEXPORT **zipRemoveExtraInfoBlock _Z_OF** ((char ∗pData, int ∗dataLen, short sHeader))

13.164.4.18 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:

13.164.4.19 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:

13.164.4.20 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:

13.165 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_UP + 1
- static const int DPI_CUST_IDX = KeyAction::DPI_CUSTOM + DPI_OFFSET

13.165.1 Variable Documentation

13.165.1.1 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().

13.165.1.2 const int DPI_OFFSET = -KeyAction::DPI_UP + 1 [static]

Definition at line 6 of file rebindwidget.cpp.

Referenced by RebindWidget::applyChanges(), and RebindWidget::setSelection().

13.166 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

13.167 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 []

13.167.1 Data Structure Documentation

13.167.1.1 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]	

13.167.2 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_AnimAddDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animadddialog.cpp.

13.167.3 Variable Documentation

13.167.3.1 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.

13.167.3.2 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.

13.168 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 [ ]

13.168.1 Data Structure Documentation

13.168.1.1 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]	

13.168.2 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_AnimScript_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animscript.cpp.

13.168.3 Variable Documentation

13.168.3.1 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.

13.168.3.2 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.

13.169 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 []

13.169.1 Data Structure Documentation

13.169.1.1 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]	

13.169.2 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_AnimSettingDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animsettingdialog.cpp.

13.169.3 Variable Documentation

13.169.3.1 const uint qt_meta_data_AnimSettingDialog[] [static]

Definition at line 60 of file moc_animsettingdialog.cpp.

13.169.3.2 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.

13.170 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 []

13.170.1 Data Structure Documentation

13.170.1.1 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]	

13.170.2 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_CkbSettingsWriter_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_ckbsettingswriter.cpp.

13.170.3 Variable Documentation

13.170.3.1 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.

13.170.3.2 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.

13.171 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 []

13.171.1 Data Structure Documentation

13.171.1.1 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]	

13.171.2 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_ColorButton_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_colorbutton.cpp.

13.171.3 Variable Documentation

13.171.3.1 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.

13.171.3.2 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.

13.172 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 []

13.172.1 Data Structure Documentation

13.172.1.1 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]	

13.172.2 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_ExtraSettingsWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_extrasettingswidget.cpp.

13.172.3 Variable Documentation

13.172.3.1 const uint qt_meta_data_ExtraSettingsWidget[] [static]

Definition at line 57 of file moc_extrasettingswidget.cpp.

13.172.3.2 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.

13.173 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 [ ]

13.173.1 Data Structure Documentation

13.173.1.1 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]	

13.173.2 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_FwUpgradeDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_fwupgradedialog.cpp.

13.173.3 Variable Documentation

13.173.3.1 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.

13.173.3.2 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.

13.174 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 []

13.174.1 Data Structure Documentation

13.174.1.1 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]	

13.174.2 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_GradientButton_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientbutton.cpp.

13.174.3 Variable Documentation

13.174.3.1 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.

13.174.3.2 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.

13.175 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 []

13.175.1 Data Structure Documentation

13.175.1.1 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]	

13.175.2 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_GradientDialog_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialog.cpp.

13.175.3 Variable Documentation

13.175.3.1 const uint qt_meta_data_GradientDialog[] [static]

Definition at line 62 of file moc_gradientdialog.cpp.

13.175.3.2 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.

13.176 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 []

13.176.1 Data Structure Documentation

13.176.1.1 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]	

13.176.2 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_GradientDialogWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialogwidget.cpp.

13.176.3 Variable Documentation

13.176.3.1 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.

13.176.3.2 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.

13.177 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 [ ]

13.177.1 Data Structure Documentation

13.177.1.1 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]	

13.177.2 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_Kb_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kb.cpp.

13.177.3 Variable Documentation

13.177.3.1 const uint qt_meta_data_Kb[] [static]

Definition at line 63 of file moc_kb.cpp.

13.177.3.2 const qt_meta_stringdata_Kb_t qt_meta_stringdata_Kb [static]

Definition at line 30 of file moc_kb.cpp.

13.178 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 [ ]

13.178.1 Data Structure Documentation

13.178.1.1 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]	

13.178.2 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_KbAnim_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanim.cpp.

13.178.3 Variable Documentation

13.178.3.1 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.

13.178.3.2 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.

13.179 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 []

13.179.1 Data Structure Documentation

13.179.1.1 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]	

13.179.2 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_KbAnimWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanimwidget.cpp.

13.179.3 Variable Documentation

13.179.3.1 const uint qt_meta_data_KbAnimWidget[] [static]

Definition at line 74 of file moc_kbanimwidget.cpp.

13.179.3.2 const qt_meta_stringdata_KbAnimWidget_t qt_meta_stringdata_KbAnimWidget [static]

Definition at line 30 of file moc_kbanimwidget.cpp.

13.180 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 []

13.180.1 Data Structure Documentation

13.180.1.1 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]	

13.180.2 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_KbBind_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbind.cpp.

13.180.3 Variable Documentation

13.180.3.1 const uint qt_meta_data_KbBind[] [static]

Definition at line 47 of file moc_kbbind.cpp.

13.180.3.2 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.

13.181 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 []

13.181.1 Data Structure Documentation

13.181.1.1 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]	

13.181.2 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_KbBindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbindwidget.cpp.

13.181.3 Variable Documentation

13.181.3.1 const uint qt_meta_data_KbBindWidget[] [static]

Definition at line 49 of file moc_kbbindwidget.cpp.

13.181.3.2 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.

13.182 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 [ ]

13.182.1 Data Structure Documentation

13.182.1.1 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]	

13.182.2 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_KbFirmware_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbfirmware.cpp.

13.182.3 Variable Documentation

13.182.3.1 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.

13.182.3.2 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.

13.183 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 [ ]

13.183.1 Data Structure Documentation

13.183.1.1 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]	

13.183.2 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_KbLight_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_kblight.cpp.

13.183.3 Variable Documentation

13.183.3.1 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.

13.183.3.2 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.

13.184 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 [ ]

13.184.1 Data Structure Documentation

13.184.1.1 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]	

13.184.2 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_KbLightWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kblightwidget.cpp.

13.184.3 Variable Documentation

13.184.3.1 const uint qt_meta_data_KbLightWidget[] [static]

Definition at line 63 of file moc_kblightwidget.cpp.

13.184.3.2 const qt_meta_stringdata_KbLightWidget_t qt_meta_stringdata_KbLightWidget [static]

Definition at line 30 of file moc_kblightwidget.cpp.

13.185 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 [ ]

13.185.1 Data Structure Documentation

13.185.1.1 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]	

13.185.2 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_KbManager_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmanager.cpp.

13.185.3 Variable Documentation

13.185.3.1 const uint qt_meta_data_KbManager[] [static]

Definition at line 48 of file moc_kbmanager.cpp.

13.185.3.2 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.

13.186 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 []

13.186.1 Data Structure Documentation

13.186.1.1 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]	

13.186.2 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_KbMode_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmode.cpp.

13.186.3 Variable Documentation

13.186.3.1 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.

13.186.3.2 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.

13.187 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 [ ]

13.187.1 Data Structure Documentation

13.187.1.1 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]	

13.187.2 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_KbPerf_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbperf.cpp.

13.187.3 Variable Documentation

13.187.3.1 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.

13.187.3.2 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.

13.188 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 []

13.188.1 Data Structure Documentation

13.188.1.1 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]	

13.188.2 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_KbProfile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofile.cpp.

13.188.3 Variable Documentation

13.188.3.1 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.

13.188.3.2 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.

13.189 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 []

13.189.1 Data Structure Documentation

13.189.1.1 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]	

13.189.2 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_KbProfileDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofiledialog.cpp.

13.189.3 Variable Documentation

13.189.3.1 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.

13.189.3.2 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.

13.190 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 []

13.190.1 Data Structure Documentation

13.190.1.1 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]	

13.190.2 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_KbWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbwidget.cpp.

13.190.3 Variable Documentation

13.190.3.1 const uint qt_meta_data_KbWidget[] [static]

Definition at line 80 of file moc_kbwidget.cpp.

13.190.3.2 const qt_meta_stringdata_KbWidget_t qt_meta_stringdata_KbWidget [static]

Definition at line 30 of file moc_kbwidget.cpp.

13.191 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 []

13.191.1 Data Structure Documentation

13.191.1.1 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]	

13.191.2 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_KeyAction_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_keyaction.cpp.

13.191.3 Variable Documentation

13.191.3.1 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.

13.191.3.2 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.

13.192 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 []

13.192.1 Data Structure Documentation

13.192.1.1 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]	

13.192.2 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_KeyWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_keywidget.cpp.

13.192.3 Variable Documentation

13.192.3.1 const uint qt_meta_data_KeyWidget[] [static]

Definition at line 52 of file moc_keywidget.cpp.

13.192.3.2 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.

13.193 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 []

13.193.1 Data Structure Documentation

13.193.1.1 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]	

13.193.2 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_KPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kperfwidget.cpp.

13.193.3 Variable Documentation

13.193.3.1 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.

13.193.3.2 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.

13.194 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 [ ]

13.194.1 Data Structure Documentation

13.194.1.1 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]	

13.194.2 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_LayoutDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_layoutdialog.cpp.

13.194.3 Variable Documentation

13.194.3.1 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.

13.194.3.2 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.

13.195 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 []

13.195.1 Data Structure Documentation

13.195.1.1 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]	

13.195.1.2 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]	

13.195.2 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_MacroReaderThread_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 115 of file moc_macroreader.cpp.

13.195.2.2 #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.

13.195.3 Variable Documentation

13.195.3.1 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.

13.195.3.2 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.

13.195.3.3 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.

13.195.3.4 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.

13.196 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 []

13.196.1 Data Structure Documentation

13.196.1.1 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]	

13.196.2 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_MainWindow_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mainwindow.cpp.

13.196.3 Variable Documentation

13.196.3.1 const uint qt_meta_data_MainWindow[] [static]

Definition at line 66 of file moc_mainwindow.cpp.

13.196.3.2 const qt_meta_stringdata_MainWindow_t qt_meta_stringdata_MainWindow [static]

Definition at line 30 of file moc_mainwindow.cpp.

13.197 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 []

13.197.1 Data Structure Documentation

13.197.1.1 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]	

13.197.2 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_ModeSelectDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_modeselectdialog.cpp.

13.197.3 Variable Documentation

13.197.3.1 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.

13.197.3.2 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.

13.198 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 [ ]

13.198.1 Data Structure Documentation

13.198.1.1 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]	

13.198.2 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_MPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mperfwidget.cpp.

13.198.3 Variable Documentation

13.198.3.1 const uint qt_meta_data_MPerfWidget[] [static]

Definition at line 62 of file moc_mperfwidget.cpp.

13.198.3.2 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.

13.199 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 []

13.199.1 Data Structure Documentation

13.199.1.1 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]	

13.199.2 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_QuaGzipFile_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quagzipfile.cpp.

13.199.3 Variable Documentation

13.199.3.1 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.

13.199.3.2 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.

13.200 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 []

13.200.1 Data Structure Documentation

13.200.1.1 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]	

13.200.2 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_QuaZIODevice_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quaziodevice.cpp.

13.200.3 Variable Documentation

13.200.3.1 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.

13.200.3.2 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.

13.201 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 []

13.201.1 Data Structure Documentation

13.201.1.1 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]	

13.201.2 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_QuaZipFile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quazipfile.cpp.

13.201.3 Variable Documentation

13.201.3.1 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.

13.201.3.2 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.

13.202 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 []

13.202.1 Data Structure Documentation

13.202.1.1 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]	

13.202.2 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_RebindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rebindwidget.cpp.

13.202.3 Variable Documentation

13.202.3.1 const uint qt_meta_data_RebindWidget[] [static]

Definition at line 124 of file moc_rebindwidget.cpp.

13.202.3.2 const qt_meta_stringdata_RebindWidget_t qt_meta_stringdata_RebindWidget [static]

Definition at line 30 of file moc_rebindwidget.cpp.

13.203 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 []

13.203.1 Data Structure Documentation

13.203.1.1 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]	

13.203.2 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_RListWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rlistwidget.cpp.

13.203.3 Variable Documentation

13.203.3.1 const uint qt_meta_data_RListWidget[] [static]

Definition at line 47 of file moc_rlistwidget.cpp.

13.203.3.2 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.

13.204 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 []

13.204.1 Data Structure Documentation

13.204.1.1 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]	

13.204.2 Macro Definition Documentation

13.204.2.1 #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.

13.204.3 Variable Documentation

13.204.3.1 const uint qt_meta_data_SettingsWidget[] [static]

Definition at line 59 of file moc_settingswidget.cpp.

13.204.3.2 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.

13.205 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 []

13.205.1 Macro Definition Documentation

13.205.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 147 of file qrc_binary.cpp.

13.205.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 146 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.205.2 Function Documentation

13.205.2.1 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:

13.205.2.2 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.

```
{
    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_binary().

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_binary().

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_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.205.3.2 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().

13.205.3.3 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().

13.206 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 []

13.206.1 Macro Definition Documentation

13.206.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 9796 of file qrc_image.cpp.

13.206.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 9795 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.206.2 Function Documentation

13.206.2.1 int qCleanupResources_image ( )

Definition at line 9820 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:

13.206.2.2 int qInitResources_image ( )

Definition at line 9812 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:

13.206.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_image().

Here is the caller graph for this function:

13.206.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_image().

Here is the caller graph for this function:

13.206.3 Variable Documentation

13.206.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.206.3.2 const unsigned char qt_resource_name[] [static]

Definition at line 9659 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.206.3.3 const unsigned char qt_resource_struct[] [static]

Definition at line 9749 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.207 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 []

13.207.1 Macro Definition Documentation

13.207.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 350 of file qrc_text.cpp.

13.207.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 349 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.207.2 Function Documentation

13.207.2.1 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:

13.207.2.2 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.

```
367 {
368     QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
369         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
370     return 1;
371 }
```

Here is the call graph for this function:

13.207.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_text().

Here is the caller graph for this function:

13.207.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_text().

Here is the caller graph for this function:

13.207.3 Variable Documentation

13.207.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.207.3.2 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().

13.207.3.3 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().

13.208 src/ckb/rlistwidget.cpp File Reference

```
#include <QUuid>
#include "rlistwidget.h"
```

Include dependency graph for rlistwidget.cpp:

13.209 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

13.210 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

13.210.1 Function Documentation

13.210.1.1 static QString right (const QString & *left*) [inline],[static]

Definition at line 134 of file settingswidget.cpp.

References left.

Referenced by _cmd_macro(), GradientDialogWidget::mouseMoveEvent(), readcmd(), and SettingsWidget::updateModifiers().

```
134                                                 {
135     if(left[0] != 'l')
136         return left;
137     return "r" + left.mid(1);
138 }
```

Here is the caller graph for this function:

13.210.2 Variable Documentation

13.210.2.1 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().

13.210.2.2 QStringList modKeys [static]

Definition at line 13 of file settingswidget.cpp.

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

13.210.2.3 QStringList modNames [static]

Definition at line 13 of file settingswidget.cpp.

Referenced by SettingsWidget::SettingsWidget().

13.211 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

13.212 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

13.213 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

13.214 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

13.215 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

13.216 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

13.217 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

13.218 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

13.219 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

13.220 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

13.221 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

13.222 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

13.223 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

13.224 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

13.225 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

13.226 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

13.227 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

13.228 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, 45
~AnimScript
AnimScript, 59
~AnimSettingDialog
AnimSettingDialog, 107
~CkbSettings
CkbSettings, 126
~CkbSettingsWriter
CkbSettingsWriter, 142
~ColorMap
ColorMap, 154
~ExtraSettingsWidget
ExtraSettingsWidget, 180
~FwUpgradeDialog
FwUpgradeDialog, 196
~GradientDialog
GradientDialog, 220
~KPerfWidget
KPerfWidget, 711
~Kb
Kb, 268
~KbAnimWidget
KbAnimWidget, 354
~KbBindWidget
KbBindWidget, 407
~KbFirmware
KbFirmware, 419
~KbLight
KbLight, 433
~KbLightWidget
KbLightWidget, 469
~KbMode
KbMode, 497
~KbProfileDialog
KbProfileDialog, 560
~KbWidget
KbWidget, 576
~KeyAction
KeyAction, 612
~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, 944
~SGroup
SGroup, 1038
~SettingsWidget
SettingsWidget, 1016
_LAYOUT_MAX
KeyMap, 640
_MODEL_MAX
KeyMap, 641
_model, 1570
_readlines_ctx, 1256
_DEFAULT_SOURCE
os.h, 1454
_FILE_OFFSET_BIT
ioapi.h, 1763
_GNU_SOURCE
os.h, 1454
_LARGEFILE64_SOURCE
ioapi.h, 1764
_Z_OF
ioapi.h, 1766
unzip.c, 1814
unzip.h, 1868, 1869
zip.c, 1887
zip.h, 1940, 1941
__FILE_NOPATH__
includes.h, 1296
__USE_FILE_OFFSET64
ioapi.h, 1763
__USE_LARGEFILE64
ioapi.h, 1763
_alpha
ColorButton, 152
GradientButton, 208
_angleSnap

KbPerf, 537
_anim
AnimSettingDialog, 118
_animList
KbLight, 455
_animMap
KbLight, 455
_backing
CkbSettingsWriter, 143
_bigIcons
ColorButton, 152
_bind
KbBind, 397
KbMode, 505
_bindMap
KeyWidget, 682
_checkUpdates
KbFirmware, 419
_cmd_get
notify.c, 1442
_cmd_macro
input.c, 1299
_color
ColorButton, 152
_colorBuffer
AnimScript, 83
_colorMap
KbLight, 456
KeyWidget, 682
_colors
AnimScript, 83
ColorMap, 161
GradientDialogWidget, 244
_count
ColorMap, 161
_curDpi
KbPerf, 512
_current
GradientDialogWidget, 244
_currentMode
Kb, 310
KbProfile, 557
_currentProfile
Kb, 310
_daemonVersion
KbManager, 491
_delay
Kb, 310
_devParent
KbBind, 397
_devices
KbManager, 491
_dimming
KbLight, 456
_displayColorMap
KeyWidget, 683
_dither
Kb, 310
_dpiIndicator
KbPerf, 537
_eventTimer
KbManager, 491
_fileForBoard
KbFirmware, 420
_frameRate
Kb, 310
_freeprofile
profile.c, 1456
_friendlyName
Key, 606
_globalRemap
KbBind, 397
_globalSettings
ckbsettings.cpp, 1663
_guiVersion
KbManager, 491
_guid
KbAnim, 339
_hwProfile
Kb, 310
_iOpacity
KbPerf, 537
_id
KbMode, 505
KbProfile, 557
_indicatorList
KbLight, 456
_indicatorMap
KbLight, 456
_indicators
KeyWidget, 683
_info
AnimScript, 83
_isActive
KbAnim, 339
_isActiveKp
KbAnim, 339
_kbManager
KbManager, 492
_keyMap
KbProfile, 557
_keyNames
ColorMap, 161
_keys
AnimAddDialog, 48
AnimScript, 83
KbAnim, 339
KeyMap, 660
_kiss_fft_guts.h
C_ADD, 1598
C_ADDTO, 1598
C_FIXDIV, 1598
C_MUL, 1598
C_MULBYSCALAR, 1598
C_SUB, 1599
C_SUBFROM, 1599

HALF_OF, 1599
KISS_FFT_COS, 1599
KISS_FFT_SIN, 1599
kf_cexp, 1599
MAXFACTORS, 1600
pcpx, 1600
S_MUL, 1600
_latestForBoard
KbFirmware, 421
_layout
Kb, 311
_ledthread
input_linux.c, 1318
_liftHeight
KbPerf, 537
_light
AnimAddDialog, 48
KbMode, 505
_map
AnimScript, 83
KbAnim, 339
KbBind, 397
KbLight, 456
_mapCount
ColorMap, 161
_mkdevpath
devnode.c, 1257
_mknotifynode
devnode.c, 1259
_mode
KbAnim, 339
_modeList
ModeSelectDialog, 760
_model
Kb, 311
_modes
KbProfile, 557
_monochrome
KeyWidget, 683
_mouseAccel
Kb, 311
_name
KbAnim, 339
KbMode, 505
KbProfile, 557
_needsMapRefresh
KbLight, 456
_needsSave
Kb, 311
KbAnim, 339
KbBind, 397
KbLight, 456
KbMode, 505
KbPerf, 537
KbProfile, 557
_needsUpdate
KbBind, 397
KbPerf, 538
_nk95cmd
usb.h, 1541
usb_linux.c, 1571
_opacity
KbAnim, 340
_paramValues
AnimScript, 83
_parameters
KbAnim, 340
_patch
keymap.cpp, 1712
_path
AnimScript, 83
_perf
KbMode, 505
_presetValues
AnimScript, 84
_presets
AnimScript, 83
_previewAnim
KbLight, 456
_profiles
Kb, 311
_qColorMap
KbLight, 456
_removals
CkbSettingsWriter, 143
_resetusb
usb.c, 1511
usb.h, 1542
_rgbMode
KeyWidget, 683
_rmnotifynode
devnode.c, 1260
_scanTimer
KbManager, 492
_script
KbAnim, 340
_scriptGuid
KbAnim, 340
_scriptName
KbAnim, 340
_scrollSpeed
Kb, 311
_setLabel
ColorButton, 152
_settings
SGroup, 1038
_setupusb
usb.c, 1511
_shareDimming
kblight.cpp, 1694
_start
KbLight, 457
_start_dev
device.c, 1234
_stops
GradientButton, 208

GradientDialogWidget, 244
_storageName
Key, 606
_tempParameters
KbAnim, 340
_updateconnected
devnode.c, 1260
_updates
CkbSettingsWriter, 143
_usbrecv
usb.c, 1516
usb.h, 1543
_usbsend
usb.c, 1517
usb.h, 1544
_value
KeyAction, 634
_winLock
KbBind, 397
_writable
CkbSettings, 139
_xyLink
MPerfWidget, 796

ACCEL
command.h, 1227
ACTIVE
command.h, 1227
ADD
KeyWidget, 665
ALWAYS_OFF
KPerfWidget, 709
ALWAYS_ON
KPerfWidget, 709
ACT_LIGHT
device.h, 1238
ACT_LOCK
device.h, 1238
ACT_M1
device.h, 1238
ACT_M2
device.h, 1238
ACT_M3
device.h, 1238
ACT_MR_RING
device.h, 1238
ACT_NEXT
device.h, 1238
ACT_NEXT_NOWRAP
device.h, 1239
aCopyLabel
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1087
ALLOC
unzip.c, 1812
zip.c, 1884
aMissingLabel
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1087
aMissingPage
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1087
ANGLE
ckb-pinwheel/main.c, 1411
ANIM_KRSTOP
keyaction.cpp, 1705
ANIM_MAX
ckb-ripple/main.c, 1428
ckb-wave/main.c, 1434
ANIM_ONCE
keyaction.cpp, 1705
ANSI_ENTER_H
keymap.cpp, 1709
ANSI_ENTER_W
keymap.cpp, 1709
ANSI_ENTER_X
keymap.cpp, 1709
ANSI_ENTER_Y
keymap.cpp, 1709
ANSI_LSHIFT_W
keymap.cpp, 1709
ANSI_LSHIFT_X
keymap.cpp, 1710
aNameLabel
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1087
APPEND_STATUS_CREATE
zip.h, 1938
aSnapBox
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162
AUTO_CHECK_TIME
kbfirmware.cpp, 1691
aVerLabel
Ui::KbAnimWidget, 348
Ui_KbAnimWidget, 1088
aa
ckb-rain/main.c, 1420
ab
ckb-rain/main.c, 1420
action
KbBind, 373
actionAbout
Ui::MainWindow, 736
Ui_MainWindow, 1146
actionButton
Ui::FwUpgradeDialog, 191
Ui_FwUpgradeDialog, 1072
actionExit
Ui::MainWindow, 736
Ui_MainWindow, 1146
actionTab
Ui::RebindWidget, 992
Ui_RebindWidget, 1186
active
devcmd.__unnamed__, 163
activeDevices

kb.cpp, 1682
activeLights
kblight.cpp, 1694
Add
KbAnim, 317
add_data_in_datablock
zip.c, 1887
addAnim
KbAnimWidget, 354
KbLight, 433
addCurrentFileToDirectoryMap
QuaZipPrivate, 932
addDevice
MainWindow, 742
addNewModeItem
KbWidget, 576
addNewProfileItem
KbProfileDialog, 560
addPreset
GradientDialog, 220
adjustDisplay
KeyAction, 612
advance
AnimScript, 60
ag
ckb-rain/main.c, 1420
alloc
ColorMap, 155
allocate_new_datablock
zip.c, 1888
allocprofile
devcmd.__unnamed__, 163
profile.c, 1456
profile.h, 1472
allowAlpha
ColorButton, 146, 147
altBox
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
altLabel
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
angle
ckb-wave/main.c, 1440
angleDialChanged
AnimSettingDialog, 107
angleDialMapper
AnimSettingDialog, 118
angleFlip
animsettingdialog.cpp, 1633
angleSnap
KbPerf, 512, 513
angleSpinnerChanged
AnimSettingDialog, 108
angleSpinnerMapper
AnimSettingDialog, 118
angleSpinners
AnimSettingDialog, 118
anim
ckb-gradient/main.c, 1398
ckb-ripple/main.c, 1431
ckb-wave/main.c, 1440
AnimScript::Param, 58, 1631
anim_add
ckb-heat/main.c, 1400
ckb-mviz/main.c, 1405
ckb-ripple/main.c, 1428
ckb-wave/main.c, 1434
anim_remove
ckb-heat/main.c, 1401
ckb-mviz/main.c, 1405
ckb-ripple/main.c, 1428
ckb-wave/main.c, 1434
animAction
KeyAction, 613
AnimAddDialog, 43
~AnimAddDialog, 45
_keys, 48
_light, 48
AnimAddDialog, 44
AnimAddDialog, 44
chosenPreset, 45
chosenScript, 46
on_animBox_activated, 46
on_presetBox_activated, 47
on_previewBox_clicked, 48
scripts, 48
showPreview, 48
ui, 49
animBox
Ui::AnimAddDialog, 52
Ui::RebindWidget, 992
Ui_AnimAddDialog, 1042
Ui_RebindWidget, 1186
animButton
Ui::KbLightWidget, 463
Ui::RebindWidget, 992
Ui_KbLightWidget, 1103
Ui_RebindWidget, 1186
animChanged
KbAnimWidget, 355
animCountLabel
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1063
animInfo
KeyAction, 614
animKeypress
KbLight, 433
animKrBox
Ui::RebindWidget, 992
Ui_RebindWidget, 1186
AnimList
KbLight, 432
animList
KbLight, 434, 435
Ui::KbAnimWidget, 347

Ui_KbAnimWidget, 1087
animName
Ui::AnimSettingDialog, 93
Ui_AnimSettingDialog, 1050
animOnceBox
Ui::RebindWidget, 992
Ui_RebindWidget, 1187
animPage
Ui::KbAnimWidget, 347
Ui_KbAnimWidget, 1088
animPathLabel
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1063
animScanButton
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1064
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, 992
Ui_RebindWidget, 1187
animWidget
Ui::KbLightWidget, 463
Ui_KbLightWidget, 1103
animation
KeyWidget, 683
animations

KbAnimWidget, 368
animcolor
ckb-gradient/main.c, 1398
ckb-heat/main.c, 1404
ckb-mviz/main.c, 1410
ckb-pinwheel/main.c, 1414
ckb-ripple/main.c, 1432
ckb-wave/main.c, 1440
animlength
ckb-pinwheel/main.c, 1414
ckb-ripple/main.c, 1432
ckb-wave/main.c, 1440
anims
ckb-heat/main.c, 1404
animscript.cpp
ONE_DAY, 1630
urlParam, 1630
animsettingdialog.cpp
angleFlip, 1633
appShare
main.cpp, 1740
mainwindow.cpp, 1745
append
KbProfile, 545
appendProfile
Kb, 271
applyButton
Ui::RebindWidget, 992
Ui_RebindWidget, 1187
applyChanges
RebindWidget, 944
applyIndicators
KbPerf, 513
ar
ckb-rain/main.c, 1420
atEnd
QuaZipFile, 887
author
AnimScript, 60
autoClose
QuaZipPrivate, 936
autoFWBox
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1207
AutoRun, 120
available, 120
disable, 121
enable, 121
isEnabled, 122
once, 123
autoSave
Kb, 272
autorun.cpp
settingPath, 1635
available
AutoRun, 120

BIND
command.h, 1228
BOTH
KPerfWidget, 709
BR1
led_keyboard.c, 1370
BR2
led_keyboard.c, 1370
BR4
led_keyboard.c, 1370
BTN_WHEELDOWN
daemon/keymap.h, 1724
BTN_WHEELUP
daemon/keymap.h, 1724
BUFREADCOMMENT
unzip.c, 1813
zip.c, 1885
BUILD.md, 1219
BUTTON_HID_COUNT
keymap.c, 1326
backing
CkbSettings, 140
base
KbLight, 435
begin
AnimScript, 61
beginGroup
CkbSettings, 126
bgButton
Ui::KbLightWidget, 463
Ui_KbLightWidget, 1103
bigIcons
ColorButton, 147, 148
bind
devcmd.__unnamed__, 163
KbBindWidget, 415
KbMode, 497
KbPerf, 514
RebindWidget, 972
bindAction
KbBind, 373
BindMap
KeyWidget, 664
bindMap
KeyWidget, 665
bindTab
Ui::KbWidget, 600
Ui_KbWidget, 1115
bindWidget
Ui::KbWidget, 600
Ui_KbWidget, 1115
binding, 1496
bit_reverse_table
led_keyboard.c, 1378
blend
KbAnim, 320
blendAdd
kbanim.cpp, 1684
blendBox
Ui::KbAnimWidget, 348

Ui_KbAnimWidget, 1088
blendDivide
kbanim.cpp, 1684
blendFunc
kbanim.cpp, 1684
blendMultiply
kbanim.cpp, 1684
blendNormal
kbanim.cpp, 1684
blendSubtract
kbanim.cpp, 1685
blob
FwUpgradeDialog, 201
boxXChanged
MPerfWidget, 786
boxXMapper
MPerfWidget, 796
boxYChanged
MPerfWidget, 787
boxYMapper
MPerfWidget, 796
brightnessBox
Ui::ExtraSettingsWidget, 172
Ui::KbLightWidget, 463
Ui_ExtraSettingsWidget, 1064
Ui_KbLightWidget, 1103
btnClearMacro
Ui::RebindWidget, 993
Ui_RebindWidget, 1187
btnStartMacro
Ui::RebindWidget, 993
Ui_RebindWidget, 1187
btnStopMacro
Ui::RebindWidget, 993
Ui_RebindWidget, 1187
builtIn
GradientDialog::Preset, 799
buttonBox
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 93
Ui::ExtraSettingsWidget, 172
Ui::GradientDialog, 213
Ui::KbProfileDialog, 571
Ui::LayoutDialog, 721
Ui::ModeSelectDialog, 755
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1050
Ui_ExtraSettingsWidget, 1064
Ui_GradientDialog, 1079
Ui_KbProfileDialog, 1109
Ui_LayoutDialog, 1142
Ui_ModeSelectDialog, 1150
buttonMapper1
MPerfWidget, 796
buttonMapper2
MPerfWidget, 796
byPosition
KeyMap, 642
bytesAvailable
QuaZipFile, 888

CAPS
KbPerf, 510
CMD_FIRST
command.h, 1227
CMD_LAST
command.h, 1228
CMD_VT_FIRST
command.h, 1227
C_ADD
_kiss_fft_guts.h, 1598
C_ADDTO
_kiss_fft_guts.h, 1598
C_FIXDIV
_kiss_fft_guts.h, 1598
C_MUL
_kiss_fft_guts.h, 1598
C_MULBYSCALAR
_kiss_fft_guts.h, 1598
C_SUB
_kiss_fft_guts.h, 1599
C_SUBFROM
_kiss_fft_guts.h, 1599
CENTRALHEADERMAGIC
zip.c, 1885
CHECKFORGPG
kbfirmware.cpp, 1690
CKB_CONTAINER
ckb-anim.h, 1641
CKB_COPYRIGHT
ckb-anim.h, 1641
CKB_DESCRIPTION
ckb-anim.h, 1641
CKB_DOWN
ckb-anim.h, 1642
CKB_GRAD_MAX
ckb-anim.h, 1642
CKB_GUID
ckb-anim.h, 1642
CKB_KEYCLEAR
ckb-anim.h, 1642
CKB_KEYNAME_MAX
ckb-anim.h, 1642
CKB_KP_NAME
ckb-anim.h, 1642
CKB_KP_NONE
ckb-anim.h, 1642
CKB_KP_POSITION
ckb-anim.h, 1642
CKB_KPMODE
ckb-anim.h, 1642
CKB_LICENSE
ckb-anim.h, 1643
CKB_LIVEPARAMS
ckb-anim.h, 1643
CKB_MAX_WORD
ckb-anim.h, 1643

CKB_NAME
ckb-anim.h, 1643
CKB_PARAM
ckb-anim.h, 1643
CKB_PARAM_AGRADIENT
ckb-anim.h, 1643
CKB_PARAM_ANGLE
ckb-anim.h, 1643
CKB_PARAM_ARGB
ckb-anim.h, 1643
CKB_PARAM_BOOL
ckb-anim.h, 1643
CKB_PARAM_DOUBLE
ckb-anim.h, 1644
CKB_PARAM_GRADIENT
ckb-anim.h, 1644
CKB_PARAM_LABEL
ckb-anim.h, 1644
CKB_PARAM_LONG
ckb-anim.h, 1644
CKB_PARAM_RGB
ckb-anim.h, 1644
CKB_PARAM_STRING
ckb-anim.h, 1644
CKB_PARSE_AGRADIENT
ckb-anim.h, 1644
CKB_PARSE_ANGLE
ckb-anim.h, 1644
CKB_PARSE_ARGB
ckb-anim.h, 1644
CKB_PARSE_BOOL
ckb-anim.h, 1645
CKB_PARSE_DOUBLE
ckb-anim.h, 1645
CKB_PARSE_GRADIENT
ckb-anim.h, 1645
CKB_PARSE_LONG
ckb-anim.h, 1645
CKB_PARSE_RGB
ckb-anim.h, 1645
CKB_PARSE_STRING
ckb-anim.h, 1645
CKB_PREEMPT
ckb-anim.h, 1645
CKB_PRESET_END
ckb-anim.h, 1645
CKB_PRESET_PARAM
ckb-anim.h, 1645
CKB_PRESET_START
ckb-anim.h, 1646
CKB_REAL_ANGLE
ckb-anim.h, 1646
CKB_REPEAT
ckb-anim.h, 1646
CKB_TIME_ABSOLUTE
ckb-anim.h, 1646
CKB_TIME_DURATION
ckb-anim.h, 1646
CKB_TIMEMODE
ckb-anim.h, 1646
CKB_UP
ckb-anim.h, 1646
CKB_VERSION
ckb-anim.h, 1646
CLEAR_KEYBIT
structures.h, 1505
CMD_COUNT
command.h, 1226
CMD_DEV_COUNT
command.h, 1226
CRC32
crypt.h, 1758
cacheWritesInProgress
ckbsettings.cpp, 1661
ckbsettingswriter.cpp, 1666
calculate
QuaAdler32, 810
QuaChecksum32, 813
QuaCrc32, 816
call_zopen64
qioapi.cpp, 1771
call_zseek64
qioapi.cpp, 1771
call_ztell64
qioapi.cpp, 1771
cancelButton
Ui::FwUpgradeDialog, 191
Ui::RebindWidget, 993
Ui_FwUpgradeDialog, 1073
Ui_RebindWidget, 1187
capsBox
Ui::KPerfWidget, 696
Ui::SettingsWidget, 1031
Ui_KPerfWidget, 1129
Ui_SettingsWidget, 1208
capsColorOff
Ui::KPerfWidget, 696
Ui_KPerfWidget, 1129
capsColorOn
Ui::KPerfWidget, 696
Ui_KPerfWidget, 1130
capsLabel
Ui::SettingsWidget, 1031
Ui_SettingsWidget, 1208
CaseSensitivity
QuaZip, 835
caseSensitivity
QuaZipDir, 868
QuaZipFilePrivate, 919
catchUp
KbAnim, 321
cd
QuaZipDir, 868
cdUp
QuaZipDir, 870
centralWidget

Ui::MainWindow, 737
Ui_MainWindow, 1146
change
RListWidget, 1009
changeAnim
KbLightWidget, 470
changeAnimKeys
KbLightWidget, 470
changeColor
KbLightWidget, 471
checkFwUpdates
MainWindow, 743
checkUpdates
KbFirmware, 422
checksum
QuaAdler32, 811
QuaCrc32, 817
childGroups
CkbSettings, 127
childKeys
CkbSettings, 127
chosenPreset
AnimAddDialog, 45
chosenScript
AnimAddDialog, 46
ckb-anim.h
CKB_CONTAINER, 1641
CKB_COPYRIGHT, 1641
CKB_DESCRIPTION, 1641
CKB_DOWN, 1642
CKB_GRAD_MAX, 1642
CKB_GUID, 1642
CKB_KEYCLEAR, 1642
CKB_KEYNAME_MAX, 1642
CKB_KP_NAME, 1642
CKB_KP_NONE, 1642
CKB_KP_POSITION, 1642
CKB_KPMODE, 1642
CKB_LICENSE, 1643
CKB_LIVEPARAMS, 1643
CKB_MAX_WORD, 1643
CKB_NAME, 1643
CKB_PARAM, 1643
CKB_PARAM_AGRADIENT, 1643
CKB_PARAM_ANGLE, 1643
CKB_PARAM_ARGB, 1643
CKB_PARAM_BOOL, 1643
CKB_PARAM_DOUBLE, 1644
CKB_PARAM_GRADIENT, 1644
CKB_PARAM_LABEL, 1644
CKB_PARAM_LONG, 1644
CKB_PARAM_RGB, 1644
CKB_PARAM_STRING, 1644
CKB_PARSE_AGRADIENT, 1644
CKB_PARSE_ANGLE, 1644
CKB_PARSE_ARGB, 1644
CKB_PARSE_BOOL, 1645
CKB_PARSE_DOUBLE, 1645
CKB_PARSE_GRADIENT, 1645
CKB_PARSE_LONG, 1645
CKB_PARSE_RGB, 1645
CKB_PARSE_STRING, 1645
CKB_PREEMPT, 1645
CKB_PRESET_END, 1645
CKB_PRESET_PARAM, 1645
CKB_PRESET_START, 1646
CKB_REAL_ANGLE, 1646
CKB_REPEAT, 1646
CKB_TIME_ABSOLUTE, 1646
CKB_TIME_DURATION, 1646
CKB_TIMEMODE, 1646
CKB_UP, 1646
CKB_VERSION, 1646
ckb_alpha_blend, 1647
ckb_frame, 1647
ckb_getline, 1648
ckb_grad_color, 1649
ckb_info, 1650
ckb_init, 1651
ckb_keypress, 1651
ckb_parameter, 1653
ckb_read_params, 1653
ckb_scan_grad, 1654
ckb_start, 1655
ckb_time, 1656
FALSE, 1646
M_PI, 1647
main, 1656
printurl, 1658
TRUE, 1647
urldecode, 1659
ckb-daemon/main.c
features_mask, 1392
hwload_mode, 1392
localecase, 1384
main, 1385
main_ac, 1392
main_av, 1392
quit, 1387
quitWithLock, 1388
reset_stop, 1392
restart, 1389
sighandler, 1390
sighandler2, 1391
timespec_add, 1391
ckb-gradient/main.c
anim, 1398
animcolor, 1398
ckb_frame, 1394
ckb_info, 1395
ckb_init, 1396
ckb_keypress, 1396
ckb_parameter, 1397
ckb_start, 1397
ckb_time, 1398
HOLD, 1394

kphold, 1398
kprelease, 1398
NONE, 1394
randomize, 1398
ckb-heat/main.c
anim_add, 1400
anim_remove, 1401
animcolor, 1404
anims, 1404
ckb_frame, 1401
ckb_info, 1402
ckb_init, 1402
ckb_keypress, 1403
ckb_parameter, 1403
ckb_start, 1403
ckb_time, 1403
ffade, 1404
pressestofull, 1404
randomBright, 1404
ckb-mviz/main.c
anim_add, 1405
anim_remove, 1405
animcolor, 1410
ckb_frame, 1406
ckb_info, 1406
ckb_init, 1407
ckb_keypress, 1407
ckb_parameter, 1407
ckb_start, 1407
ckb_time, 1408
gcounter, 1410
getFreqDec, 1408
inbuf, 1410
max, 1409
min, 1409
outbuf, 1410
pas, 1410
power, 1410
powers, 1410
ckb-pinwheel/main.c
ANGLE, 1411
animcolor, 1414
animlength, 1414
ckb_frame, 1412
ckb_info, 1412
ckb_init, 1413
ckb_keypress, 1413
ckb_parameter, 1413
ckb_start, 1413
ckb_time, 1414
counter_clock, 1414
frame, 1414
symmetric, 1414
x, 1414
x_offset, 1415
y, 1415
y_offset, 1415
ckb-rain/main.c
aa, 1420
ab, 1420
ag, 1420
ar, 1420
ckb_frame, 1416
ckb_info, 1417
ckb_init, 1418
ckb_keypress, 1418
ckb_parameter, 1418
ckb_start, 1419
ckb_time, 1419
DROP_MAX, 1416
drop, 1420
drop_add, 1419
maxsize, 1420
period, 1421
spawn, 1421
speed, 1421
tick, 1421
ckb-random/main.c
ckb_frame, 1423
ckb_info, 1423
ckb_init, 1423
ckb_keypress, 1424
ckb_parameter, 1424
ckb_start, 1424
ckb_time, 1425
current, 1426
fadein, 1426
newtarget, 1425
phase, 1426
target, 1426
useopacity, 1426
ckb-ripple/main.c
ANIM_MAX, 1428
anim, 1431
anim_add, 1428
anim_remove, 1428
animcolor, 1432
animlength, 1432
ckb_frame, 1428
ckb_info, 1429
ckb_init, 1430
ckb_keypress, 1430
ckb_parameter, 1430
ckb_start, 1431
ckb_time, 1431
kbsize, 1432
kprelease, 1432
randomize, 1432
symmetric, 1432
x_offset, 1432
y_offset, 1432
ckb-wave/main.c
ANIM_MAX, 1434
angle, 1440
anim, 1440
anim_add, 1434

anim_remove, 1434
animcolor, 1440
animlength, 1440
ckb_frame, 1434
ckb_info, 1435
ckb_init, 1436
ckb_keypress, 1436
ckb_parameter, 1437
ckb_start, 1438
ckb_time, 1439
kprelease, 1440
left, 1440
symmetric, 1440
top, 1440
width, 1440
ckb_gradient, 1641
ckb_key, 1639
ckb_runctx, 1640
ckb_alpha_blend
ckb-anim.h, 1647
ckb_err
includes.h, 1296
ckb_err_fn
includes.h, 1296
ckb_err_nofile
includes.h, 1296
ckb_fatal
includes.h, 1296
ckb_fatal_fn
includes.h, 1296
ckb_fatal_nofile
includes.h, 1296
ckb_frame
ckb-anim.h, 1647
ckb-gradient/main.c, 1394
ckb-heat/main.c, 1401
ckb-mviz/main.c, 1406
ckb-pinwheel/main.c, 1412
ckb-rain/main.c, 1416
ckb-random/main.c, 1423
ckb-ripple/main.c, 1428
ckb-wave/main.c, 1434
ckb_getline
ckb-anim.h, 1648
ckb_grad_color
ckb-anim.h, 1649
ckb_info
ckb-anim.h, 1650
ckb-gradient/main.c, 1395
ckb-heat/main.c, 1402
ckb-mviz/main.c, 1406
ckb-pinwheel/main.c, 1412
ckb-rain/main.c, 1417
ckb-random/main.c, 1423
ckb-ripple/main.c, 1429
ckb-wave/main.c, 1435
includes.h, 1296
ckb_info_fn
includes.h, 1296
ckb_info_nofile
includes.h, 1297
ckb_init
ckb-anim.h, 1651
ckb-gradient/main.c, 1396
ckb-heat/main.c, 1402
ckb-mviz/main.c, 1407
ckb-pinwheel/main.c, 1413
ckb-rain/main.c, 1418
ckb-random/main.c, 1423
ckb-ripple/main.c, 1430
ckb-wave/main.c, 1436
ckb_keypress
ckb-anim.h, 1651
ckb-gradient/main.c, 1396
ckb-heat/main.c, 1403
ckb-mviz/main.c, 1407
ckb-pinwheel/main.c, 1413
ckb-rain/main.c, 1418
ckb-random/main.c, 1424
ckb-ripple/main.c, 1430
ckb-wave/main.c, 1436
ckb_parameter
ckb-anim.h, 1653
ckb-gradient/main.c, 1397
ckb-heat/main.c, 1403
ckb-mviz/main.c, 1407
ckb-pinwheel/main.c, 1413
ckb-rain/main.c, 1418
ckb-random/main.c, 1424
ckb-ripple/main.c, 1430
ckb-wave/main.c, 1437
ckb_read_params
ckb-anim.h, 1653
ckb_s_err
includes.h, 1297
ckb_s_out
includes.h, 1297
ckb_scan_grad
ckb-anim.h, 1654
ckb_start
ckb-anim.h, 1655
ckb-gradient/main.c, 1397
ckb-heat/main.c, 1403
ckb-mviz/main.c, 1407
ckb-pinwheel/main.c, 1413
ckb-rain/main.c, 1419
ckb-random/main.c, 1424
ckb-ripple/main.c, 1431
ckb-wave/main.c, 1438
ckb_time
ckb-anim.h, 1656
ckb-gradient/main.c, 1398
ckb-heat/main.c, 1403
ckb-mviz/main.c, 1408
ckb-pinwheel/main.c, 1414
ckb-rain/main.c, 1419

ckb-random/main.c, 1425
ckb-ripple/main.c, 1431
ckb-wave/main.c, 1439
ckb_warn
includes.h, 1297
ckb_warn_fn
includes.h, 1297
ckb_warn_nofile
includes.h, 1297
ckbDaemonVersion
KbManager, 483
ckbDaemonVersionF
KbManager, 483
ckbGuiVersion
KbManager, 484
ckbGuiVersionF
KbManager, 484
CkbSettings, 124
~CkbSettings, 126
_writable, 139
backing, 140
beginGroup, 126
childGroups, 127
childKeys, 127
CkbSettings, 125, 126
CkbSettings, 125, 126
cleanUp, 128
contains, 129
containsGroup, 130
endGroup, 130
get, 131
groups, 140
informIfNonWritable, 131
isBusy, 132
isWritable, 133
pwd, 133, 134
remove, 135
removeCache, 140
set, 136
setValue, 137
setWritable, 138
value, 138
writeCache, 140
CkbSettingsWriter, 140
~CkbSettingsWriter, 142
_backing, 143
_removals, 143
_updates, 143
CkbSettingsWriter, 142
CkbSettingsWriter, 142
run, 142
ckbVersion
KbFirmware::FW, 186
ckbsettings.cpp
_globalSettings, 1663
cacheWritesInProgress, 1661
globalCache, 1663
globalSettings, 1661
globalThread, 1663
lockMutex, 1661
lockMutexCache, 1661
lockMutexStatic, 1661
lockMutexStatic2, 1661
settingsCacheMutex, 1663
settingsMutex, 1663
ckbsettingswriter.cpp
cacheWritesInProgress, 1666
lockMutex, 1665
lockMutexCache, 1665
lockMutexStatic, 1665
lockMutexStatic2, 1665
settingsCacheMutex, 1666
settingsMutex, 1666
cleanBlob
FwUpgradeDialog, 196
cleanUp
CkbSettings, 128
cleanup
MainWindow, 743
clear
ColorMap, 155
clearAnimation
KeyWidget, 666
clearDirectoryMap
QuaZipPrivate, 933
clearSelection
KbAnimWidget, 356
KeyWidget, 666
close
KbLight, 436
QuaGzipFile, 821
QuaZIODevice, 827
QuaZip, 837
QuaZipFile, 888
closeAction
MainWindow, 751
closeEvent
FwUpgradeDialog, 196
MainWindow, 744
closeusb
usb.c, 1518
usb.h, 1546
cmd
command.h, 1227
Kb, 311
cmd_active_kb
device.h, 1240
device_keyboard.c, 1246
cmd_active_mouse
device.h, 1240
device_mouse.c, 1250
cmd_bind
input.c, 1301
input.h, 1310
cmd_dpi
dpi.c, 1277

dpi.h, 1282
cmd_dpisel
dpi.c, 1278
dpi.h, 1283
cmd_erase
profile.c, 1457
profile.h, 1473
cmd_eraseprofile
profile.c, 1458
profile.h, 1474
cmd_fwupdate
firmware.c, 1288
firmware.h, 1292
cmd_get
notify.c, 1444
notify.h, 1450
cmd_hwload_kb
profile.h, 1474
profile_keyboard.c, 1486
cmd_hwload_mouse
profile.h, 1475
profile_mouse.c, 1489
cmd_hwsave_kb
profile.h, 1476
profile_keyboard.c, 1487
cmd_hwsave_mouse
profile.h, 1477
profile_mouse.c, 1490
cmd_iauto
led.c, 1331
led.h, 1336
cmd_id
profile.c, 1458
profile.h, 1478
cmd_idle_kb
device.h, 1240
device_keyboard.c, 1247
cmd_idle_mouse
device.h, 1241
device_mouse.c, 1251
cmd_inotify
led.c, 1331
led.h, 1337
cmd_io_none
device_vtable.c, 1253
cmd_ioff
led.c, 1331
led.h, 1337
cmd_ion
led.c, 1332
led.h, 1338
cmd_lift
dpi.c, 1278
dpi.h, 1283
cmd_macro
input.c, 1302
input.h, 1310
cmd_macro_none
device_vtable.c, 1253
cmd_name
profile.c, 1459
profile.h, 1478
cmd_none
device_vtable.c, 1254
cmd_notify
notify.c, 1445
notify.h, 1450
cmd_pollrate
device.h, 1241
device_mouse.c, 1251
cmd_profileid
profile.c, 1459
profile.h, 1479
cmd_profilename
profile.c, 1460
profile.h, 1479
cmd_rebind
input.c, 1302
input.h, 1310
cmd_restart
notify.c, 1445
notify.h, 1451
cmd_rgb
led.c, 1332
led.h, 1338
cmd_snap
dpi.c, 1278
dpi.h, 1283
cmd_strings
command.c, 1224
cmd_unbind
input.c, 1302
input.h, 1311
cmdhandler
command.h, 1227
cmdhandler_io
command.h, 1227
cmdhandler_mac
command.h, 1227
cmdpath
Kb, 311
color
ColorButton, 148, 149
KbLight, 437
colorAt
GradientDialogWidget, 232
ColorButton, 143
_alpha, 152
_bigIcons, 152
_color, 152
_setLabel, 152
allowAlpha, 146, 147
bigIcons, 147, 148
color, 148, 149
ColorButton, 146
colorChanged, 150

ColorButton, 146
pickColor, 150
setLabel, 150, 151
updateImage, 151
colorChanged
ColorButton, 150
GradientDialog, 221
MPerfWidget, 788
colorClicked
MPerfWidget, 789
colorForName
ColorMap, 156, 157
colorLink
MPerfWidget, 797
ColorMap, 153
~ColorMap, 154
_colors, 161
_count, 161
_keyNames, 161
_mapCount, 161
alloc, 155
clear, 155
colorForName, 156, 157
ColorMap, 154
ColorMap, 154
colors, 157, 158
count, 158
deAlloc, 158
init, 159
keyNames, 160
operator=, 160
colorMap
KbLight, 438
KeyWidget, 666, 667
colormap.cpp
qs_strcmp, 1668
colormap.h
QColorMap, 1670
QColorMapIterator, 1670
QMutableColorMapIterator, 1670
colors
AnimScript, 62
ColorMap, 157, 158
comboBox
Ui::LayoutDialog, 721
Ui_LayoutDialog, 1142
command.h
ACCEL, 1227
ACTIVE, 1227
BIND, 1228
CMD_FIRST, 1227
CMD_LAST, 1228
CMD_VT_FIRST, 1227
DELAY, 1227
DITHER, 1227
DPI, 1228
DPISEL, 1228
ERASE, 1227
ERASEPROFILE, 1227
FPS, 1227
FWUPDATE, 1227
GET, 1228
HWLOAD, 1227
HWSAVE, 1227
IAUTO, 1228
ID, 1228
IDLE, 1227
INOTIFY, 1228
IOFF, 1228
ION, 1228
LAYOUT, 1227
LIFT, 1228
MACRO, 1228
MODE, 1227
NAME, 1227
NONE, 1227
NOTIFY, 1228
NOTIFYOFF, 1227
NOTIFYON, 1227
POLLRATE, 1227
PROFILEID, 1228
PROFILENAME, 1228
REBIND, 1228
RESTART, 1228
RGB, 1228
SCROLLSPEED, 1227
SNAP, 1228
SWITCH, 1227
UNBIND, 1228
command.c
cmd_strings, 1224
readcmd, 1220
TRY_WITH_RESET, 1220
command.h
CMD_COUNT, 1226
CMD_DEV_COUNT, 1226
cmd, 1227
cmdhandler, 1227
cmdhandler_io, 1227
cmdhandler_mac, 1227
devcmd, 1227
readcmd, 1229
CommandLineBackground
main.cpp, 1739
CommandLineClose
main.cpp, 1739
CommandLineError
main.cpp, 1739
CommandLineHelpRequested
main.cpp, 1739
CommandLineOK
main.cpp, 1739
CommandLineVersionRequested
main.cpp, 1739
CommandLineParseResults
main.cpp, 1739

comment
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
QuaZipPrivate, 936
commentCodec
QuaZipPrivate, 936
commitParams
KbAnim, 323
compressDir
JlCompress, 246
compressFile
JlCompress, 247, 248
compressFiles
JlCompress, 249
compressSubDir
JlCompress, 251
compressedSize
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
configLabel
mainwindow.cpp, 1745
Constants
QuaZip, 835
contains
CkbSettings, 129
KeyMap, 642
containsGroup
CkbSettings, 130
convertCaseSensitivity
QuaZip, 838
convertMacroBox
RebindWidget, 946
copy
AnimScript, 62
copyButton
Ui::KbBindWidget, 403
Ui::KPerfWidget, 696
Ui::MPerfWidget, 772
Ui_KbBindWidget, 1095
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1162
copyData
JlCompress.cpp, 1768
copyright
AnimScript, 63
corsair_kbcopy
daemon/keymap.h, 1726
keymap.c, 1326
corsair_mousecopy
daemon/keymap.h, 1727
keymap.c, 1326
count
AnimScript, 63
ColorMap, 158
KeyMap, 643
QuaZipDir, 870
counter_clock
ckb-pinwheel/main.c, 1414
crc
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipFilePrivate, 919
crypt.h
CRC32, 1758
decrypt_byte, 1758
init_keys, 1758
update_keys, 1759
zdecode, 1758
zencode, 1758
csDefault
QuaZip, 835
csInsensitive
QuaZip, 835
csSensitive
QuaZip, 835
csize
QuaZipFile, 889
ctrlBox
Ui::SettingsWidget, 1032
Ui_SettingsWidget, 1208
ctrlLabel
Ui::SettingsWidget, 1032
Ui_SettingsWidget, 1208
curDpi
KbPerf, 515, 516
curDpiIdx
KbPerf, 516, 517
curLabel
Ui::FwUpgradeDialog, 191
Ui_FwUpgradeDialog, 1073
curfile64_info, 1883
current
ckb-random/main.c, 1426
GradientDialogWidget, 233
KbAnimWidget, 368
currentBind
Kb, 272
currentChanged
GradientDialog, 221
GradientDialogWidget, 233
currentData
RListWidget, 1012
currentLight
Kb, 273
currentMode
Kb, 274
KbProfile, 545, 546
KbWidget, 593
currentPerf
Kb, 274
currentPreset
GradientDialog, 228
currentProfile
Kb, 274
currentSelection

KbBindWidget, 415
KbLightWidget, 479

d
QuaGzipFile, 824
QuaZIODevice, 831
QuaZipDir, 881
DE
KeyMap, 640
DELAY
command.h, 1227
DITHER
command.h, 1227
DK
KeyMap, 640
DPI
command.h, 1228
DPISEL
command.h, 1228
DAEMON.md, 1219
DATA_ROLE
RListWidget, 1012
DEBUG
usb_linux.c, 1570
DEF_MEM_LEVEL
zip.h, 1939
DELAY_LONG
usb.h, 1533
DELAY_MEDIUM
usb.h, 1533
DELAY_SHORT
usb.h, 1533
DESCRIPTORHEADERMAGIC
zip.c, 1885
DEV_MAX
device.h, 1239
DIALOG_HEIGHT_MAX
fwupgradedialog.cpp, 1675
DIALOG_HEIGHT_MIN
fwupgradedialog.cpp, 1676
DIALOG_WIDTH
fwupgradedialog.cpp, 1676
DPI_BASE
mperfwidget.cpp, 1754
DPI_COUNT
KbPerf, 538
MPerfWidget, 797
structures.h, 1505
DPI_CUST_IDX
rebindwidget.cpp, 1945
DPI_CUSTOM
KeyAction, 634
DPI_DOWN
KeyAction, 635
DPI_MAX
KbPerf, 538
MPerfWidget, 797
DPI_MIN
KbPerf, 538
MPerfWidget, 797
DPI_OFFSET
rebindwidget.cpp, 1945
DPI_SNIPER
KeyAction, 635
DPI_UP
KeyAction, 635
DROP_MAX
ckb-rain/main.c, 1416
daemon/keymap.h
BTN_WHEELDOWN, 1724
BTN_WHEELUP, 1724
corsair_kbcopy, 1726
corsair_mousecopy, 1727
hid_kb_translate, 1727
hid_mouse_translate, 1729
KEY_BACKSLASH_ISO, 1724
KEY_CORSAIR, 1724
KEY_NONE, 1724
KEY_UNBOUND, 1724
keymap, 1730
LED_DPI, 1724
LED_MOUSE, 1724
MOUSE_BUTTON_FIRST, 1724
MOUSE_EXTRA_FIRST, 1725
N_BUTTONS_EXTENDED, 1725
N_BUTTONS_HW, 1725
N_KEY_ZONES, 1725
N_KEYBYTES_EXTENDED, 1725
N_KEYBYTES_HW, 1725
N_KEYBYTES_INPUT, 1725
N_KEYS_EXTENDED, 1725
N_KEYS_EXTRA, 1725
N_KEYS_HW, 1725
N_KEYS_INPUT, 1726
N_MOUSE_ZONES, 1726
SCAN_KBD, 1726
SCAN_MOUSE, 1726
SCAN_SILENT, 1726
dataDescriptorWritingEnabled
QuaZipPrivate, 936
dataForBoard
KbFirmware, 422
dateTime
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
deAlloc
ColorMap, 158
decrypt_byte
crypt.h, 1758
defaultAction
KbBind, 374
KeyAction, 614
defaultFileNameCodec
QuaZipPrivate, 937
delayBox
Ui::AnimSettingDialog, 93

Ui::ExtraSettingsWidget, 172
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1064
delayButtons
Ui::RebindWidget, 993
Ui_RebindWidget, 1187
deleteButton
Ui::KbAnimWidget, 348
Ui_KbAnimWidget, 1088
deleteHw
Kb, 275
deletePrevious
Kb, 276
description
AnimScript, 64
devLabel
Ui::FwUpgradeDialog, 191
Ui_FwUpgradeDialog, 1073
devParent
KbBind, 375
devTab
Ui::KbWidget, 600
Ui_KbWidget, 1115
devUpdate
KbWidget, 577
devcmd, 1226
command.h, 1227
devcmd.__unnamed__, 162
active, 163
allocprofile, 163
bind, 163
dpi, 163
dpisel, 163
erase, 163
eraseprofile, 163
freeprofile, 163
fwupdate, 163
get, 163
hwload, 163
hwsave, 163
iauto, 163
id, 163
idle, 163
inotify, 163
ioff, 163
ion, 163
lift, 163
loadprofile, 163
macro, 164
name, 164
notify, 164
pollrate, 164
profileid, 164
profilename, 164
rebind, 164
restart, 164
rgb, 164
setmodeindex, 164
snap, 164
start, 164
unbind, 164
updatedpi, 164
updateindicators, 164
updatergb, 164
device
KbProfileDialog, 566
KbWidget, 593
device.c
_start_dev, 1234
devlistmutex, 1236
devmutex, 1236
hwload_mode, 1236
inputmutex, 1236
keyboard, 1236
macromutex, 1236
start_dev, 1235
device.h
ACT_LIGHT, 1238
ACT_LOCK, 1238
ACT_M1, 1238
ACT_M2, 1238
ACT_M3, 1238
ACT_MR_RING, 1238
ACT_NEXT, 1238
ACT_NEXT_NOWRAP, 1239
cmd_active_kb, 1240
cmd_active_mouse, 1240
cmd_idle_kb, 1240
cmd_idle_mouse, 1241
cmd_pollrate, 1241
DEV_MAX, 1239
devmutex, 1245
dmutex, 1239
IN_CORSAIR, 1239
IN_HID, 1239
IS_CONNECTED, 1239
imutex, 1239
inputmutex, 1245
keyboard, 1246
macromutex, 1246
mmutex, 1239
setactive, 1239
setactive_kb, 1241
setactive_mouse, 1243
setmodeindex_nrgb, 1244
start_dev, 1245
start_kb_nrgb, 1245
device_keyboard.c
cmd_active_kb, 1246
cmd_idle_kb, 1247
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, 1253
cmd_macro_none, 1253
cmd_none, 1254
int1_int_none, 1254
int1_void_none, 1254
loadprofile_none, 1254
vtable_keyboard, 1254
vtable_keyboard_nonrgb, 1254
vtable_mouse, 1254
devices
KbManager, 485
devicesLabel
Ui::SettingsWidget, 1032
Ui_SettingsWidget, 1208
devlistmutex
device.c, 1236
devmain
usb.c, 1520
devmutex
device.c, 1236
device.h, 1245
devnode.c
_mkdevpath, 1257
_mknotifynode, 1259
_rmnotifynode, 1260
_updateconnected, 1260
devpath, 1268
gid, 1268
MAX_BUFFER, 1257
mkdevpath, 1261
mkfwnode, 1262
mknotifynode, 1263
readlines, 1263
readlines_ctx_free, 1264
readlines_ctx_init, 1265
rm_recursive, 1265
rmdevpath, 1266
rmnotifynode, 1267
S_GID_READ, 1257
updateconnected, 1267
devnode.h
devpath, 1276
gid, 1276
mkdevpath, 1270
mkfwnode, 1271
mknotifynode, 1272
readlines, 1272
readlines_ctx, 1270
readlines_ctx_free, 1273
readlines_ctx_init, 1274
rmdevpath, 1274
rmnotifynode, 1275
S_CUSTOM, 1270
S_CUSTOM_R, 1270
S_READ, 1270
S_READDIR, 1270
S_READWRITE, 1270
updateconnected, 1276
devpath
devnode.c, 1268
devnode.h, 1276
Kb, 311
kbmanager.cpp, 1697
settingswidget.cpp, 2053
didLoad
KbBind, 375
KbLight, 438
KbPerf, 517
didUpdateSelection
KbAnimWidget, 356
dimming
KbLight, 439
dirName
QuaZipDir, 871
directoryCaseInsensitive
QuaZipPrivate, 937
directoryCaseSensitive
QuaZipPrivate, 937
disable
AutoRun, 121
disableAppNap
media_mac.m, 1749
diskNumberStart
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
displayColorMap
KeyWidget, 667
dither
Kb, 276, 277
ditherBox
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1064
Divide
KbAnim, 318
dmutex
device.h, 1239
doUpdate
KbMode, 497
downloadFinished
KbFirmware, 423
downloaded
KbFirmware, 423
dpi
devcmd.__unnamed__, 163
KbPerf, 518
dpi.c
cmd_dpi, 1277
cmd_dpisel, 1278
cmd_lift, 1278
cmd_snap, 1278
loaddpi, 1278
printdpi, 1279
savedpi, 1280

updatedpi, 1281
dpi.h
cmd_dpi, 1282
cmd_dpisel, 1283
cmd_lift, 1283
cmd_snap, 1283
loaddpi, 1283
printdpi, 1284
savedpi, 1285
updatedpi, 1286
dpiAction
KeyAction, 615
dpiBox
Ui::RebindWidget, 993
Ui_RebindWidget, 1187
dpiButton
Ui::RebindWidget, 993
Ui_RebindWidget, 1188
dpiClr
KbPerf, 538
dpiColor
KbPerf, 519, 520
dpiCurIdx
KbPerf, 538
dpiCurX
KbPerf, 538
dpiCurY
KbPerf, 538
dpiCustLabel
Ui::RebindWidget, 993
Ui_RebindWidget, 1188
dpiCustXBox
Ui::RebindWidget, 994
Ui_RebindWidget, 1188
dpiCustYBox
Ui::RebindWidget, 994
Ui_RebindWidget, 1188
dpiDown
KbPerf, 520
dpiEnabled
KbPerf, 521
dpiExp
mperfwidget.cpp, 1753
dpiIndicator
KbPerf, 521, 522
dpiInfo
KeyAction, 616
dpiLastIdx
KbPerf, 538
dpiLog
mperfwidget.cpp, 1753
dpiOn
KbPerf, 538
dpiRound
mperfwidget.cpp, 1754
dpiUp
KbPerf, 522
dpiWarning
Ui::RebindWidget, 994
Ui_RebindWidget, 1188
dpiX
KbPerf, 539
dpiY
KbPerf, 539
dpisel
devcmd.__unnamed__, 163
dpiset, 1497
dragged
RListWidget, 1012
drawInfo
KeyWidget, 667
driverName
KeyAction, 616
drop
ckb-rain/main.c, 1420
drop_add
ckb-rain/main.c, 1419
duplicateAnim
KbAnimWidget, 357
KbLight, 440
durationMsec
AnimScript, 84

ERASE
command.h, 1227
ERASEPROFILE
command.h, 1227
ES
KeyMap, 640
EU
KeyMap, 640
EU_DVORAK
KeyMap, 640
eBox1
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162
eBox2
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162
eBox3
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162
eBox4
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1162
eBox5
Ui::MPerfWidget, 772
Ui_MPerfWidget, 1163
ENDHEADERMAGIC
zip.c, 1885
ENUM_C
media.h, 1747
ENUM_END_C
media.h, 1747
EXTERN_C
media.h, 1747
effectiveParams

KbAnim, 323
enable
AutoRun, 121
enableChanged
MPerfWidget, 789
enableMapper
MPerfWidget, 797
end
AnimScript, 64
endGroup
CkbSettings, 130
enter
RListWidget, 1009
entryInfoList
QuaZipDir, 871, 872
entryInfoList64
QuaZipDir, 872, 873
entryList
QuaZipDir, 873, 874
erase
devcmd.__unnamed__, 163
eraseprofile
devcmd.__unnamed__, 163
euid_guard_start
os.h, 1454
euid_guard_stop
os.h, 1454
evLoop
FwUpgradeDialog, 202
eventTimer
KbManager, 485
exec
FwUpgradeDialog, 197
exists
QuaZipDir, 874, 875
exitSuccess
FwUpgradeDialog, 202
externalAttr
QuaZipFileInfo, 907
QuaZipFileInfo64, 914
QuaZipNewInfo, 928
extra
QuaZipFileInfo, 907
QuaZipFileInfo64, 915
SettingsWidget, 1024
extraButton
Ui::SettingsWidget, 1032
Ui_SettingsWidget, 1208
extraGlobal
QuaZipNewInfo, 929
extraLocal
QuaZipNewInfo, 929
ExtraSettingsWidget, 177
~ExtraSettingsWidget, 180
ExtraSettingsWidget, 179
ExtraSettingsWidget, 179
on_animScanButton_clicked, 180
on_brightnessBox_clicked, 181
on_delayBox_clicked, 181
on_ditherBox_clicked, 181
on_fpsBox_valueChanged, 182
on_mAccelBox_clicked, 182
on_sAccelBox_clicked, 183
on_sSpeedBox_valueChanged, 183
on_trayBox_clicked, 183
pollUpdates, 184
ui, 185
extractDir
JlCompress, 254
extractFile
JlCompress, 256, 258
extractFiles
JlCompress, 259
extrasettingswidget.cpp
lastSharedDimming, 1670

FPS
command.h, 1227
FR
KeyMap, 640
FWUPDATE
command.h, 1227
FALSE
ckb-anim.h, 1646
FEAT_ADJRATE
structures.h, 1505
FEAT_ANSI
structures.h, 1505
FEAT_BIND
structures.h, 1505
FEAT_COMMON
structures.h, 1505
FEAT_FWUPDATE
structures.h, 1505
FEAT_FWVERSION
structures.h, 1505
FEAT_HWLOAD
structures.h, 1506
FEAT_ISO
structures.h, 1506
FEAT_LMASK
structures.h, 1506
FEAT_MONOCHROME
structures.h, 1506
FEAT_MOUSEACCEL
structures.h, 1506
FEAT_NOTIFY
structures.h, 1506
FEAT_POLLRATE
structures.h, 1506
FEAT_RGB
structures.h, 1506
FEAT_STD_NRGB
structures.h, 1506
FEAT_STD_RGB
structures.h, 1507
FW

KbFirmware::FW, 186
FW_MAXSIZE
firmware.c, 1287
FW_NOFILE
firmware.c, 1288
FW_OK
firmware.c, 1288
FW_USBFAIL
firmware.c, 1288
FW_WRONGDEV
firmware.c, 1288
fadein
ckb-random/main.c, 1426
features
Kb, 312
features_mask
ckb-daemon/main.c, 1392
usb.c, 1528
ffade
ckb-heat/main.c, 1404
file_in_zip64_read_info_s, 1810
fileName
KbFirmware::FW, 186
QuaZipFilePrivate, 919
fileNameCodec
QuaZipPrivate, 937
filePath
QuaZipDir, 876
fill_qiodevice64_filefunc
qioapi.cpp, 1772
fill_qiodevice_filefunc
qioapi.cpp, 1773
fill_zlib_filefunc64_32_def_from_filefunc32
ioapi.h, 1766
qioapi.cpp, 1774
fillRect
GradientDialogWidget, 233
filter
QuaZipDir, 876
find
Kb, 277
KbProfile, 546
findAnim
KbLight, 440
findAnimIdx
KbLight, 441
firmware
Kb, 312
firmware.c
cmd_fwupdate, 1288
FW_MAXSIZE, 1287
FW_NOFILE, 1288
FW_OK, 1288
FW_USBFAIL, 1288
FW_WRONGDEV, 1288
fwupdate, 1289
getfwversion, 1291
firmware.h
cmd_fwupdate, 1292
getfwversion, 1293
firmwareSpecial, 1673
firmware_special.h
P_K70_LUX_NRGB, 1673
specials, 1673
V_CORSAIR, 1673
firstCall
RebindWidget, 973
firstFrame
AnimScript, 84
flags
QuaZipFileInfo, 907
QuaZipFileInfo64, 915
flush
QuaGzipFile, 822
QuaZIODevice, 828
fnBox
Ui::RebindWidget, 994
Ui_RebindWidget, 1188
fnButton
Ui::RebindWidget, 994
Ui_RebindWidget, 1188
fnKeys
RebindWidget, 973
forProductID
KbFirmware::FW, 186
fps
KbManager, 485
fpsBox
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1064
fpsWarnLabel
Ui::ExtraSettingsWidget, 172
Ui_ExtraSettingsWidget, 1064
frame
AnimScript, 65
ckb-pinwheel/main.c, 1414
frameDisplayed
KbLight, 442
frameRate
Kb, 278
frameUpdate
Kb, 279
KbLight, 442
free_datablock
zip.c, 1889
free_linkedlist
zip.c, 1889
freebind
input.c, 1303
input.h, 1311
freemode
profile.c, 1460
freeprofile
devcmd.__unnamed__, 163
profile.c, 1461
profile.h, 1480

friendlyActionName
KbBind, 376
friendlyName
KbBind, 376
Key, 605
KeyAction, 617
KeyMap, 643
fromName
KeyMap, 644
fromStorage
KeyMap, 645
fromString
GradientButton, 205
functions
kbanim.cpp, 1685
fwLabel
Ui::KbWidget, 600
Ui_KbWidget, 1115
fwTable
KbFirmware, 427
fwTableHash
KbFirmware, 427
fwUpdButton
Ui::KbWidget, 601
Ui_KbWidget, 1115
fwUpdLabel
Ui::KbWidget, 601
Ui_KbWidget, 1116
fwUpdLayout
Ui::KbWidget, 601
Ui_KbWidget, 1116
fwUpdPath
Kb, 312
fwUpdate
Kb, 280
fwUpdateFinished
FwUpgradeDialog, 198
Kb, 281
fwUpdateProgress
FwUpgradeDialog, 199
Kb, 281
FwUpgradeDialog, 193
~FwUpgradeDialog, 196
blob, 201
cleanBlob, 196
closeEvent, 196
evLoop, 202
exec, 197
exitSuccess, 202
fwUpdateFinished, 198
fwUpdateProgress, 199
FwUpgradeDialog, 195
FwUpgradeDialog, 195
kb, 202
on_actionButton_clicked, 199
on_cancelButton_clicked, 200
removeDev, 200
saveBlob, 201
savePath, 202
ui, 202
fwVersion
KbFirmware::FW, 186
fwupdate
devcmd.__unnamed__, 163
firmware.c, 1289
fwupgradedialog.cpp
DIALOG_HEIGHT_MAX, 1675
DIALOG_HEIGHT_MIN, 1676
DIALOG_WIDTH, 1676
ids, 1676
verifyFw, 1675

GB
KeyMap, 640
GB_DVORAK
KeyMap, 640
GET
command.h, 1228
GUID
KbProfileDialog, 567
KbWidget, 594
gcounter
ckb-mviz/main.c, 1410
get
CkbSettings, 131
devcmd.__unnamed__, 163
get_vtable
usb.c, 1522
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, 260
getFileName
QuaGzipFile, 822
QuaZipFile, 893
getFileNameCodec

QuaZip, 845
getFileNameList
QuaZip, 845
getFreqDec
ckb-mviz/main.c, 1408
getGradient
GradientDialog, 222
getIndicator
KbPerf, 522
getIoDevice
QuaZIODevice, 829
QuaZip, 846
getKeyMap
Kb, 282
getLayout
KeyMap, 646
getMacroNumber
Kb, 282
KbBind, 377
getMacroPath
Kb, 282
KbBind, 377
getMap
keymap.cpp, 1713
getMode
QuaZip, 846
getModel
KeyMap, 647, 648
getMuteState
media.h, 1747
media_linux.cpp, 1748
media_mac.m, 1750
getNTFSTime
quazipfileinfo.cpp, 1799
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, 1291
firmware.h, 1293
gethwmodename
profile.c, 1461
profile.h, 1480
gethwprofilename
profile.c, 1462
profile.h, 1481
getid
profile.c, 1463
profile.h, 1482
getmodename
profile.c, 1463
profile.h, 1482
getprofilename
profile.c, 1464
profile.h, 1483
gid
devnode.c, 1268
devnode.h, 1276
globalCache
ckbsettings.cpp, 1663
globalRemap
KbBind, 378
globalRemapTime
KbBind, 398
globalSettings
ckbsettings.cpp, 1661
globalThread
ckbsettings.cpp, 1663
goToFirstFile
QuaZip, 850
goToFirstUnmappedFile
QuaZipPrivate, 935
goToNextFile
QuaZip, 851
gradient
GradientDialog::Preset, 799
GradientButton, 202
_alpha, 208
_stops, 208
fromString, 205
GradientButton, 204
gradientChanged, 206
GradientButton, 204
pickGradient, 206
toString, 207
updateImage, 207
gradientChanged
GradientButton, 206
GradientDialog, 216
~GradientDialog, 220
addPreset, 220
colorChanged, 221
currentChanged, 221
currentPreset, 228
getGradient, 222
GradientDialog, 219
GradientDialog, 219
makeIcon, 223

on_presetDelete_clicked, 224
on_presetList_currentItemChanged, 224
on_presetName_textEdited, 225
on_presetSave_clicked, 225
on_stopOpacity_valueChanged, 226
on_stopPos_valueChanged, 226
presets, 228
setPreset, 226
ui, 229
updatePresets, 227
GradientDialog::Preset, 798
builtIn, 799
gradient, 799
name, 799
Preset, 799
GradientDialogWidget, 229
_colors, 244
_current, 244
_stops, 244
colorAt, 232
current, 233
currentChanged, 233
fillRect, 233
GradientDialogWidget, 232
GradientDialogWidget, 232
makeStops, 234
mouseMoveEvent, 235
mousePressEvent, 236
mouseReleaseEvent, 236
moveCurrent, 237
paintEvent, 238
selected, 244
selectedOffset, 244
selectedPos, 244
selectedStop, 239
selectionColors, 240
setCurrentColor, 240
setStops, 241
stopCount, 242
stopRect, 242
stops, 243
gradientdialog.cpp
prefsPath, 1679
gridLayout
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 93
Ui::ExtraSettingsWidget, 173
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 213
Ui::KbAnimWidget, 348
Ui::KbBindWidget, 403
Ui::KbLightWidget, 463
Ui::KbProfileDialog, 571
Ui::KbWidget, 601
Ui::KPerfWidget, 696
Ui::LayoutDialog, 721
Ui::MainWindow, 737
Ui::ModeSelectDialog, 756
Ui::MPerfWidget, 772
Ui::RebindWidget, 994
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1064
Ui_FwUpgradeDialog, 1073
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KbProfileDialog, 1109
Ui_KbWidget, 1116
Ui_KPerfWidget, 1130
Ui_LayoutDialog, 1142
Ui_MainWindow, 1147
Ui_ModeSelectDialog, 1150
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1188
Ui_SettingsWidget, 1208
gridLayout_10
Ui::RebindWidget, 994
Ui_RebindWidget, 1189
gridLayout_2
Ui::AnimSettingDialog, 94
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 213
Ui::KbAnimWidget, 348
Ui::KbBindWidget, 403
Ui::KbLightWidget, 463
Ui::KbWidget, 601
Ui::RebindWidget, 994
Ui_AnimSettingDialog, 1051
Ui_FwUpgradeDialog, 1073
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1103
Ui_KbWidget, 1116
Ui_RebindWidget, 1189
gridLayout_3
Ui::GradientDialog, 213
Ui::KbAnimWidget, 348
Ui::KbWidget, 601
Ui::RebindWidget, 995
Ui::SettingsWidget, 1032
Ui_GradientDialog, 1079
Ui_KbAnimWidget, 1088
Ui_KbWidget, 1116
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
gridLayout_4
Ui::KbAnimWidget, 348
Ui::KbLightWidget, 464
Ui::KbWidget, 601
Ui::RebindWidget, 995
Ui_KbAnimWidget, 1088
Ui_KbLightWidget, 1103

Ui_KbWidget, 1116
Ui_RebindWidget, 1189
gridLayout_5
Ui::KbWidget, 601
Ui::RebindWidget, 995
Ui::SettingsWidget, 1032
Ui_KbWidget, 1116
Ui_RebindWidget, 1189
Ui_SettingsWidget, 1208
gridLayout_7
Ui::KbWidget, 601
Ui_KbWidget, 1116
gridLayout_8
Ui::RebindWidget, 995
Ui_RebindWidget, 1189
groupBox
Ui::RebindWidget, 995
Ui_RebindWidget, 1189
groupBox_2
Ui::GradientDialog, 214
Ui::RebindWidget, 995
Ui_GradientDialog, 1080
Ui_RebindWidget, 1189
groupBox_3
Ui::RebindWidget, 995
Ui_RebindWidget, 1189
groupBox_4
Ui::RebindWidget, 995
Ui_RebindWidget, 1190
groups
CkbSettings, 140
guid
AnimScript, 66
KbAnim, 324
UsbId, 1217
guidString
UsbId, 1214

HIGH
KbPerf, 509
HW_IMAX
KbPerf, 510
HWLOAD
command.h, 1227
HWSAVE
command.h, 1227
HALF_OF
_kiss_fft_guts.h, 1599
HAS_ANY_FEATURE
structures.h, 1507
HAS_FEATURES
structures.h, 1507
hLine
AnimSettingDialog, 109
HOLD
ckb-gradient/main.c, 1394
HW_I_COUNT
KbPerf, 539
KPerfWidget, 716
HW_STANDARD
notify.c, 1441
HWMODE_K70
structures.h, 1507
HWMODE_K95
structures.h, 1507
HWMODE_MAX
Kb, 312
structures.h, 1507
HWMODE_OR_RETURN
notify.c, 1441
handleNotificationChannel
KbBind, 379
has_key
led.c, 1333
hasCurrentFile
QuaZip, 852
hasCurrentFile_f
QuaZipPrivate, 937
hasDownloaded
KbFirmware, 424
hasFrame
AnimScript, 66
hasGPG
KbFirmware, 427
hasKeypress
AnimScript, 67
hasLed
Key, 606
hasParam
AnimScript, 67
hasParameter
KbAnim, 324
hasRepeat
AnimSettingDialog, 119
hasScan
Key, 606
hasShownNewFW
KbWidget, 594
hash
KbFirmware::FW, 186
height
KbPerf, 509
Key, 607
KeyMap, 649
helpStatus
RebindWidget, 947
hid_kb_translate
daemon/keymap.h, 1727
keymap.c, 1326
hid_mouse_translate
daemon/keymap.h, 1729
keymap.c, 1328
horizontalLayout
Ui::AnimAddDialog, 53
Ui::ExtraSettingsWidget, 173
Ui::GradientDialog, 214
Ui::KbAnimWidget, 348

Ui::KbLightWidget, 464
Ui::KPerfWidget, 696
Ui::MPerfWidget, 773
Ui::RebindWidget, 995
Ui::SettingsWidget, 1032
Ui_AnimAddDialog, 1042
Ui_ExtraSettingsWidget, 1064
Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1088
Ui_KbLightWidget, 1103
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1190
Ui_SettingsWidget, 1209
horizontalLayout_2
Ui::ExtraSettingsWidget, 173
Ui::GradientDialog, 214
Ui::KbBindWidget, 403
Ui::KbLightWidget, 464
Ui::KPerfWidget, 696
Ui::MPerfWidget, 773
Ui::RebindWidget, 996
Ui::SettingsWidget, 1032
Ui_ExtraSettingsWidget, 1065
Ui_GradientDialog, 1080
Ui_KbBindWidget, 1095
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1190
Ui_SettingsWidget, 1209
horizontalLayout_3
Ui::KbLightWidget, 464
Ui::RebindWidget, 996
Ui_KbLightWidget, 1104
Ui_RebindWidget, 1190
horizontalLayout_4
Ui::MPerfWidget, 773
Ui_MPerfWidget, 1163
horizontalSpacer
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 173
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 214
Ui::KbAnimWidget, 348
Ui::KbBindWidget, 403
Ui::KbProfileDialog, 571
Ui::KPerfWidget, 696
Ui::LayoutDialog, 721
Ui::MPerfWidget, 773
Ui::RebindWidget, 996
Ui::SettingsWidget, 1033
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1065
Ui_FwUpgradeDialog, 1073
Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1089
Ui_KbBindWidget, 1095
Ui_KbProfileDialog, 1109
Ui_KPerfWidget, 1130
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1190
Ui_SettingsWidget, 1209
horizontalSpacer_10
Ui::RebindWidget, 996
Ui::SettingsWidget, 1033
Ui_RebindWidget, 1190
Ui_SettingsWidget, 1209
horizontalSpacer_11
Ui::RebindWidget, 996
Ui_RebindWidget, 1190
horizontalSpacer_12
Ui::RebindWidget, 996
Ui_RebindWidget, 1190
horizontalSpacer_13
Ui::RebindWidget, 996
Ui_RebindWidget, 1190
horizontalSpacer_14
Ui::RebindWidget, 996
Ui_RebindWidget, 1191
horizontalSpacer_15
Ui::RebindWidget, 996
Ui_RebindWidget, 1191
horizontalSpacer_16
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_17
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_18
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_19
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_2
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 173
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 214
Ui::KbAnimWidget, 349
Ui::KbBindWidget, 403
Ui::KbProfileDialog, 571
Ui::KbWidget, 602
Ui::KPerfWidget, 697
Ui::LayoutDialog, 721
Ui::MPerfWidget, 773
Ui::SettingsWidget, 1033
Ui_AnimAddDialog, 1042
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1065
Ui_FwUpgradeDialog, 1073

Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1089
Ui_KbBindWidget, 1096
Ui_KbProfileDialog, 1109
Ui_KbWidget, 1116
Ui_KPerfWidget, 1130
Ui_LayoutDialog, 1142
Ui_MPerfWidget, 1163
Ui_SettingsWidget, 1209
horizontalSpacer_20
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_21
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_22
Ui::RebindWidget, 997
Ui_RebindWidget, 1191
horizontalSpacer_23
Ui::RebindWidget, 997
Ui_RebindWidget, 1192
horizontalSpacer_24
Ui::RebindWidget, 997
Ui_RebindWidget, 1192
horizontalSpacer_25
Ui::RebindWidget, 998
Ui_RebindWidget, 1192
horizontalSpacer_26
Ui::RebindWidget, 998
Ui_RebindWidget, 1192
horizontalSpacer_3
Ui::AnimSettingDialog, 94
Ui::ExtraSettingsWidget, 173
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 214
Ui::KbAnimWidget, 349
Ui::KbLightWidget, 464
Ui::KbWidget, 602
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 998
Ui_AnimSettingDialog, 1051
Ui_ExtraSettingsWidget, 1065
Ui_FwUpgradeDialog, 1073
Ui_GradientDialog, 1080
Ui_KbAnimWidget, 1089
Ui_KbLightWidget, 1104
Ui_KbWidget, 1117
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1192
horizontalSpacer_4
Ui::AnimSettingDialog, 94
Ui::FwUpgradeDialog, 192
Ui::KbAnimWidget, 349
Ui::KbLightWidget, 464
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 998
Ui_AnimSettingDialog, 1051
Ui_FwUpgradeDialog, 1073
Ui_KbAnimWidget, 1089
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1130
Ui_MPerfWidget, 1163
Ui_RebindWidget, 1192
horizontalSpacer_5
Ui::AnimSettingDialog, 94
Ui::KbAnimWidget, 349
Ui::KbLightWidget, 464
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui::RebindWidget, 998
Ui_AnimSettingDialog, 1051
Ui_KbAnimWidget, 1089
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
Ui_RebindWidget, 1192
horizontalSpacer_6
Ui::AnimSettingDialog, 94
Ui::KbLightWidget, 464
Ui::KPerfWidget, 697
Ui::MPerfWidget, 773
Ui_AnimSettingDialog, 1051
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
horizontalSpacer_7
Ui::KPerfWidget, 697
Ui::MPerfWidget, 774
Ui::SettingsWidget, 1033
Ui_KPerfWidget, 1131
Ui_MPerfWidget, 1164
Ui_SettingsWidget, 1209
horizontalSpacer_8
Ui::KPerfWidget, 697
Ui::RebindWidget, 998
Ui_KPerfWidget, 1131
Ui_RebindWidget, 1192
horizontalSpacer_9
Ui::SettingsWidget, 1033
Ui_SettingsWidget, 1209
hwIType
KbPerf, 539
hwLoading
Kb, 312
HwMode
KPerfWidget, 709
hwModeCount
Kb, 312
hwModified
UsbId, 1217
hwModifiedString
UsbId, 1215
hwProfile

Kb, 283
hwSave
Kb, 284
hwSaveButton
Ui::KbWidget, 602
Ui_KbWidget, 1117
hwload
devcmd.__unnamed__, 163
hwload_mode
ckb-daemon/main.c, 1392
device.c, 1236
usb.c, 1528
hwloadmode
profile_keyboard.c, 1488
hwloadprofile
profile.h, 1472
hwprofile, 1501
hwsave
devcmd.__unnamed__, 163
hwtonative
profile.c, 1465
profile.h, 1484

IAUTO
command.h, 1228
ID
command.h, 1228
IDLE
command.h, 1227
INOTIFY
command.h, 1228
IOFF
command.h, 1228
ION
command.h, 1228
IT
KeyMap, 640
I_CAPS
structures.h, 1507
I_COUNT
KbPerf, 539
KPerfWidget, 717
I_NUM
structures.h, 1507
I_SCROLL
structures.h, 1507
i_hw
KbPerf, 509
KPerfWidget, 708
iButton0
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButton1
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButton2
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButton3
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButton4
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButton5
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1164
iButtonO
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1165
iColor
KbPerf, 539
iEnable
KbPerf, 539
IFACE_MAX
structures.h, 1507
IN_CORSAIR
device.h, 1239
IN_HID
device.h, 1239
INDEX_OF
includes.h, 1297
iOpacity
KbPerf, 523
IS_CONNECTED
device.h, 1239
IS_FULLRANGE
usb.h, 1533
IS_K65
usb.h, 1533
IS_K70
usb.h, 1533
IS_K95
usb.h, 1533
IS_M65
usb.h, 1533
IS_MOD
input.h, 1309
IS_MONOCHROME
usb.h, 1534
IS_MONOCHROME_DEV
usb.h, 1534
IS_MOUSE
usb.h, 1534
IS_MOUSE_DEV
usb.h, 1534
IS_RGB
usb.h, 1534
IS_RGB_DEV
usb.h, 1534
IS_SABRE
usb.h, 1534
IS_SCIMITAR
usb.h, 1534
IS_STRAFE
usb.h, 1534
IS_WHEEL

input.c, 1299
iState
Kb, 312
iauto
devcmd.__unnamed__, 163
iconClicked
MainWindow, 744
id
devcmd.__unnamed__, 163
KbMode, 498
KbProfile, 547
idle
devcmd.__unnamed__, 163
ids
fwupgradedialog.cpp, 1676
imutex
device.h, 1239
inFrame
AnimScript, 84
inbuf
ckb-mviz/main.c, 1410
includes.h
__FILE_NOPATH__, 1296
ckb_err, 1296
ckb_err_fn, 1296
ckb_err_nofile, 1296
ckb_fatal, 1296
ckb_fatal_fn, 1296
ckb_fatal_nofile, 1296
ckb_info, 1296
ckb_info_fn, 1296
ckb_info_nofile, 1297
ckb_s_err, 1297
ckb_s_out, 1297
ckb_warn, 1297
ckb_warn_fn, 1297
ckb_warn_nofile, 1297
INDEX_OF, 1297
timespec_add, 1298
timespec_eq, 1297
timespec_ge, 1297
timespec_gt, 1298
timespec_le, 1298
timespec_lt, 1298
uchar, 1298
ushort, 1298
indexOf
Kb, 285
KbProfile, 548
indicBox
Ui::MPerfWidget, 774
Ui_MPerfWidget, 1165
indicator
KbPerf, 510
KPerfWidget, 709
indicators
KPerfWidget, 717
infoTab
Ui::AnimSettingDialog, 94
Ui_AnimSettingDialog, 1051
infoUpdated
Kb, 286
informIfNonWritable
CkbSettings, 131
init
AnimScript, 68
ColorMap, 159
KbManager, 486
init_keys
crypt.h, 1758
init_linkedlist
zip.c, 1890
initManager
KbFirmware, 424
initbind
input.c, 1303
input.h, 1311
initialized
AnimScript, 84
initmode
profile.c, 1465
inotify
devcmd.__unnamed__, 163
input.c
_cmd_macro, 1299
cmd_bind, 1301
cmd_macro, 1302
cmd_rebind, 1302
cmd_unbind, 1302
freebind, 1303
IS_WHEEL, 1299
initbind, 1303
inputupdate, 1304
inputupdate_keys, 1305
macromask, 1307
updateindicators_kb, 1307
input.h
cmd_bind, 1310
cmd_macro, 1310
cmd_rebind, 1310
cmd_unbind, 1311
freebind, 1311
IS_MOD, 1309
initbind, 1311
inputupdate, 1312
os_inputclose, 1313
os_inputopen, 1313
os_keypress, 1314
os_mousemove, 1315
os_setupindicators, 1316
updateindicators_kb, 1317
input_linux.c
_ledthread, 1318
isync, 1319
os_inputclose, 1319
os_inputopen, 1320

os_keypress, 1321
os_mousemove, 1322
os_setupindicators, 1323
uinputopen, 1323
inputmutex
device.c, 1236
device.h, 1245
inputupdate
input.c, 1304
input.h, 1312
inputupdate_keys
input.c, 1305
insert
KbProfile, 548
instance
KbFirmware, 427
int1_int_none
device_vtable.c, 1254
int1_void_none
device_vtable.c, 1254
intensityBox
Ui::KPerfWidget, 697
Ui_KPerfWidget, 1131
internal
QuaZipFilePrivate, 919
internalAttr
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipNewInfo, 929
ioDevice
QuaZipPrivate, 937
ioapi.h
_FILE_OFFSET_BIT, 1763
_LARGEFILE64_SOURCE, 1764
_Z_OF, 1766
__USE_LARGEFILE64, 1763
fill_zlib_filefunc64_32_def_from_filefunc32, 1766
OF, 1764
ZCALLBACK, 1764
ZCLOSE64, 1764
ZERROR64, 1764
ZFAKECLOSE64, 1764
ZOPEN64, 1765
ZPOS64_T, 1766
ZREAD64, 1765
ZSEEK64, 1765
ZTELL64, 1766
ZWRITE64, 1766
zlib_filefunc64_32_def, 1766
zlib_filefunc64_def, 1766
zlib_filefunc_def, 1766
ioff
devcmd.__unnamed__, 163
ion
devcmd.__unnamed__, 163
isActive
KbAnim, 325
isAnim
KeyAction, 618
isAutoClose
QuaZip, 852
isBusy
CkbSettings, 132
isDPI
KeyAction, 619
isDataDescriptorWritingEnabled
QuaZip, 852
isEnabled
AutoRun, 122
isEncrypted
QuaZipFileInfo64, 913
isISO
KbBind, 380
KeyMap, 649
isKeyboard
Kb, 286
KbBind, 380
KeyMap, 650, 651
isMacro
KeyAction, 619
isMedia
KeyAction, 619
isMouse
Kb, 287
KbBind, 380
KeyAction, 620
KeyMap, 651, 652
isNormal
KeyAction, 620
isOpen
Kb, 288
QuaZip, 853
isProgram
KeyAction, 621
isRaw
QuaZipFile, 894
isRoot
QuaZipDir, 877
isRunning
KbAnim, 325
main.cpp, 1740
isSequential
QuaGzipFile, 822
QuaZIODevice, 829
QuaZipFile, 895
isSetting
MPerfWidget, 797
isSpecial
KeyAction, 621
isStarted
KbLight, 444
isUnbound
KeyAction, 622
isValidMacro
KeyAction, 622
isWritable

CkbSettings, 133
isZip64Enabled
QuaZip, 853
isblack
led_mouse.c, 1380
iselect
led.c, 1333
isync
input_linux.c, 1319

JlCompress, 245
compressDir, 246
compressFile, 247, 248
compressFiles, 249
compressSubDir, 251
extractDir, 254
extractFile, 256, 258
extractFiles, 259
getFileList, 260
removeFile, 261
JlCompress.cpp
copyData, 1768

K65
KeyMap, 641
K65_HEIGHT
keymap.cpp, 1710
K65_TOP_COUNT
keymap.cpp, 1710
K65_WIDTH
keymap.cpp, 1710
K65TopRow
keymap.cpp, 1716
K70
KeyMap, 641
K70_HEIGHT
keymap.cpp, 1710
K70_WIDTH
keymap.cpp, 1710
K70_X_START
keymap.cpp, 1710
K95
KeyMap, 641
K95_HEIGHT
keymap.cpp, 1710
K95_WIDTH
keymap.cpp, 1710
K95BaseMap
keymap.cpp, 1716
K95Keys
keymap.cpp, 1716
k95Label1
Ui::KPerfWidget, 697
Ui_KPerfWidget, 1131
k95Label2
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Label3
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Label4
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1131
k95Label5
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1132
k95Label6
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1132
k95Line
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1132
k95Spacer
Ui::KPerfWidget, 698
Ui_KPerfWidget, 1132
k95Widgets
KPerfWidget, 717
KPerfWidget
ALWAYS_OFF, 709
ALWAYS_ON, 709
BOTH, 709
NORMAL, 709
RGB, 709
KPerfWidget::IndicatorUi, 707, 1734
KB_NAME_LEN
structures.h, 1508
KEY_BACKSLASH_ISO
daemon/keymap.h, 1724
KEY_CORSAIR
daemon/keymap.h, 1724
KEY_NONE
daemon/keymap.h, 1724
KEY_SIZE
keywidget.cpp, 1731
KEY_UNBOUND
daemon/keymap.h, 1724
KEYCOUNT_K95
keymap.cpp, 1710
KEYCOUNT_M65
keymap.cpp, 1711
KEYCOUNT_SABRE
keymap.cpp, 1711
KEYCOUNT_SCIM
keymap.cpp, 1711
KISS_FFT_COS
_kiss_fft_guts.h, 1599
KISS_FFT_FREE
kiss_fft.h, 1614
KISS_FFT_MALLOC
kiss_fft.h, 1614
KISS_FFT_SIN
_kiss_fft_guts.h, 1599
KP_NAME
AnimScript, 84
KP_NONE
AnimScript, 84
KP_POSITION

AnimScript, 84
kPerfTab
Ui::KbWidget, 602
Ui_KbWidget, 1117
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, 602
Ui_KbWidget, 1117
KSTRAFE_HEIGHT
keymap.cpp, 1711
KSTRAFE_WIDTH
keymap.cpp, 1711
KSTRAFE_X_START
keymap.cpp, 1711
KStrafeKeys
keymap.cpp, 1717
Kb, 263
~Kb, 268
_currentMode, 310
_currentProfile, 310
_delay, 310
_dither, 310
_frameRate, 310
_hwProfile, 310
_layout, 311
_model, 311
_mouseAccel, 311
_needsSave, 311
_profiles, 311
_scrollSpeed, 311
appendProfile, 271
autoSave, 272
cmd, 311
cmdpath, 311
currentBind, 272
currentLight, 273
currentMode, 274
currentPerf, 274
currentProfile, 274
deleteHw, 275
deletePrevious, 276
devpath, 311
dither, 276, 277
features, 312
find, 277
firmware, 312
frameRate, 278
frameUpdate, 279
fwUpdPath, 312
fwUpdate, 280
fwUpdateFinished, 281
fwUpdateProgress, 281
getKeyMap, 282
getMacroNumber, 282
getMacroPath, 282
HWMODE_MAX, 312
hwLoading, 312
hwModeCount, 312
hwProfile, 283
hwSave, 284
iState, 312
indexOf, 285
infoUpdated, 286
isKeyboard, 286
isMouse, 287
isOpen, 288
Kb, 269
KbManager, 310
lastAutoSave, 312
layout, 288
load, 289
macroDelay, 290
macroNumber, 312
macroPath, 313
matches, 291
modeChanged, 291
modeRenamed, 292
model, 291
monochrome, 313
mouseAccel, 292
needsSave, 293
newMode, 293, 294
newProfile, 294, 295
notifyNumber, 313
notifyPath, 313
pollrate, 313
prefsPath, 313
prevMode, 313
prevProfile, 313
profileAdded, 296
profileChanged, 296
profileRenamed, 296
profiles, 297
readNotify, 298
run, 302
save, 303

scrollSpeed, 304
setCurrentMode, 305, 306
setCurrentProfile, 307
updateLayout, 308
usbModel, 313
usbSerial, 314
writeProfileHeader, 309
kb
FwUpgradeDialog, 202
kb.cpp
activeDevices, 1682
notifyPathMutex, 1682
notifyPaths, 1682
KbAnim
Add, 317
Divide, 318
Multiply, 317
Normal, 317
Subtract, 317
KbFirmware
NO, 419
UNKNOWN, 419
YES, 419
KbId, 1674
KbPerf
CAPS, 510
HIGH, 509
HW_IMAX, 510
LIGHT, 510
LOCK, 510
LOW, 509
LOWMED, 509
MACRO, 510
MEDHIGH, 509
MEDIUM, 509
MODE, 510
MUTE, 510
NONE, 510
NORMAL, 510
NUM, 510
OFF, 510
ON, 510
SCROLL, 510
KbAnim, 314
_guid, 339
_isActive, 339
_isActiveKp, 339
_keys, 339
_map, 339
_mode, 339
_name, 339
_needsSave, 339
_opacity, 340
_parameters, 340
_script, 340
_scriptGuid, 340
_scriptName, 340
_tempParameters, 340
blend, 320
catchUp, 321
commitParams, 323
effectiveParams, 323
guid, 324
hasParameter, 324
isActive, 325
isRunning, 325
KbAnim, 318–320
KbAnim, 318–320
keypress, 326
keys, 327, 328
kpRepeatMsec, 340
kpRepeatTime, 340
kpStopTime, 340
map, 328, 329
Mode, 317
mode, 329
name, 329, 330
needsSave, 330
newId, 331
opacity, 331
parameter, 331, 332
reInit, 333
repeatKey, 341
repeatMsec, 341
repeatTime, 341
resetParams, 333
save, 334
script, 335
scriptName, 335
stop, 336
stopTime, 341
trigger, 337
updateParams, 338
KbAnimWidget, 351
~KbAnimWidget, 354
addAnim, 354
animChanged, 355
animations, 368
clearSelection, 356
current, 368
didUpdateSelection, 356
duplicateAnim, 357
KbAnimWidget, 353
KbAnimWidget, 353
light, 368
noReorder, 368
on_animList_currentItemChanged, 357
on_animList_customContextMenuRequested, 358
on_animList_itemChanged, 359
on_blendBox_activated, 359
on_deleteButton_clicked, 360
on_keyButton_clicked, 360
on_nameBox_textEdited, 361
on_opacityBox_valueChanged, 362
on_propertyButton_clicked, 362
refreshList, 363

reorderAnims, 364
selectedKeys, 368
setCurrent, 365
setLight, 366
setSelectedKeys, 367
ui, 368
KbBind, 369
_bind, 397
_devParent, 397
_globalRemap, 397
_map, 397
_needsSave, 397
_needsUpdate, 397
_winLock, 397
action, 373
bindAction, 373
defaultAction, 374
devParent, 375
didLoad, 375
friendlyActionName, 376
friendlyName, 376
getMacroNumber, 377
getMacroPath, 377
globalRemap, 378
globalRemapTime, 398
handleNotificationChannel, 379
isISO, 380
isKeyboard, 380
isMouse, 380
KbBind, 372
KbBind, 372
KeyAction, 397
keyEvent, 381
lastCmd, 398
lastGlobalRemapTime, 398
layoutChanged, 382
light, 383
load, 383
loadGlobalRemap, 384
map, 385, 386
modeParent, 386
needsSave, 386
noAction, 387
perf, 388
resetAction, 389
save, 390
saveGlobalRemap, 391
setAction, 392
setGlobalRemap, 393
setNeedsUpdate, 394
update, 394
updated, 396
winLock, 396
KbBindWidget, 405
~KbBindWidget, 407
bind, 415
currentSelection, 415
KbBindWidget, 407
KbBindWidget, 407
newLayout, 408
newSelection, 409
on_copyButton_clicked, 410
on_resetButton_clicked, 411
profile, 416
setBind, 412
ui, 416
updateBind, 413
updateSelDisplay, 414
kbConnected
KbManager, 487
kbDisconnected
KbManager, 487
KbFirmware, 416
~KbFirmware, 419
_checkUpdates, 419
_fileForBoard, 420
_latestForBoard, 421
checkUpdates, 422
dataForBoard, 422
downloadFinished, 423
downloaded, 423
fwTable, 427
fwTableHash, 427
hasDownloaded, 424
hasGPG, 427
initManager, 424
instance, 427
KbFirmware, 419
KbFirmware, 419
lastCheck, 428
lastFinished, 428
networkManager, 428
processDownload, 425
tableDownload, 428
versionForBoard, 426
KbFirmware::FW, 185
ckbVersion, 186
FW, 186
fileName, 186
forProductID, 186
fwVersion, 186
hash, 186
url, 186
KbLight, 428
~KbLight, 433
_animList, 455
_animMap, 455
_colorMap, 456
_dimming, 456
_indicatorList, 456
_indicatorMap, 456
_map, 456
_needsMapRefresh, 456
_needsSave, 456
_previewAnim, 456
_qColorMap, 456

_start, 457
addAnim, 433
animKeypress, 433
AnimList, 432
animList, 434, 435
base, 435
close, 436
color, 437
colorMap, 438
didLoad, 438
dimming, 439
duplicateAnim, 440
findAnim, 440
findAnimIdx, 441
frameDisplayed, 442
frameUpdate, 442
isStarted, 444
KbLight, 432
KbLight, 432
lastFrameSignal, 457
load, 444
MAX_DIM, 457
map, 446
needsSave, 447
open, 447
previewAnim, 448
printRGB, 449
rebuildBaseMap, 450
resetIndicators, 451
restartAnimation, 451
save, 452
setIndicator, 453
shareDimming, 453, 454
stopPreview, 454
updated, 455
KbLightWidget, 466
~KbLightWidget, 469
changeAnim, 470
changeAnimKeys, 470
changeColor, 471
currentSelection, 479
KbLightWidget, 469
KbLightWidget, 469
light, 479
newSelection, 472
on_animButton_clicked, 473
on_bgButton_clicked, 474
on_brightnessBox_activated, 474
on_showAnimBox_clicked, 475
setLight, 475
setMonochrome, 476
toggleSidelight, 477
ui, 479
updateLight, 478
KbManager, 480
_daemonVersion, 491
_devices, 491
_eventTimer, 491
_guiVersion, 491
_kbManager, 492
_scanTimer, 492
ckbDaemonVersion, 483
ckbDaemonVersionF, 483
ckbGuiVersion, 484
ckbGuiVersionF, 484
devices, 485
eventTimer, 485
fps, 485
init, 486
Kb, 310
kbConnected, 487
kbDisconnected, 487
KbManager, 482
kbManager, 487
KbManager, 482
parseVersionString, 488
scanKeyboards, 488
scanTimer, 490
stop, 490
versionUpdated, 491
kbManager
KbManager, 487
KbMode, 492
~KbMode, 497
_bind, 505
_id, 505
_light, 505
_name, 505
_needsSave, 505
_perf, 505
bind, 497
doUpdate, 497
id, 498
KbMode, 495, 496
KbMode, 495, 496
keyMap, 499
light, 499
name, 500
needsSave, 501
newId, 501
perf, 502
save, 502
setNeedsSave, 503
setNeedsUpdate, 504
updated, 504
KbPerf, 506
_angleSnap, 537
_curDpi, 512
_dpiIndicator, 537
_iOpacity, 537
_liftHeight, 537
_needsSave, 537
_needsUpdate, 538
angleSnap, 512, 513
applyIndicators, 513
bind, 514

curDpi, 515, 516
curDpiIdx, 516, 517
DPI_COUNT, 538
DPI_MAX, 538
DPI_MIN, 538
didLoad, 517
dpi, 518
dpiClr, 538
dpiColor, 519, 520
dpiCurIdx, 538
dpiCurX, 538
dpiCurY, 538
dpiDown, 520
dpiEnabled, 521
dpiIndicator, 521, 522
dpiLastIdx, 538
dpiOn, 538
dpiUp, 522
dpiX, 539
dpiY, 539
getIndicator, 522
HW_I_COUNT, 539
height, 509
hwIType, 539
I_COUNT, 539
i_hw, 509
iColor, 539
iEnable, 539
iOpacity, 523
indicator, 510
KbPerf, 510, 511
KbPerf, 510, 511
liftHeight, 524
light, 524
light100Color, 539
lightIndicator, 525
load, 526
modeParent, 527
muteNAColor, 539
needsSave, 528
OTHER, 540
operator=, 528
popDpi, 529
pushDpi, 529, 530
pushSniper, 531
pushedDpis, 540
runningPushIdx, 540
SNIPER, 540
save, 532
setIndicator, 533
setNeedsUpdate, 533
settingsUpdated, 534
sniperDpi, 534, 535
update, 536
KbProfile, 540
_currentMode, 557
_id, 557
_keyMap, 557
_modes, 557
_name, 557
_needsSave, 557
append, 545
currentMode, 545, 546
find, 546
id, 547
indexOf, 548
insert, 548
KbProfile, 543, 544
KbProfile, 543, 544
keyMap, 549
modeCount, 550
ModeList, 543
modes, 550, 551
move, 551
name, 552
needsSave, 552
newId, 553
removeAll, 554
save, 555
setNeedsSave, 556
setNeedsUpdate, 556
KbProfileDialog, 558
~KbProfileDialog, 560
addNewProfileItem, 560
device, 566
GUID, 567
KbProfileDialog, 560
KbProfileDialog, 560
NEW_FLAG, 567
on_profileList_currentItemChanged, 561
on_profileList_customContextMenuRequested, 561
on_profileList_itemChanged, 563
on_profileList_itemClicked, 564
profileList_reordered, 564
repopulate, 565
ui, 567
KbWidget, 572
~KbWidget, 576
addNewModeItem, 576
currentMode, 593
devUpdate, 577
device, 593
GUID, 594
hasShownNewFW, 594
KbWidget, 574
KbWidget, 574
lastAutoSave, 594
modeChanged, 577
modeIcon, 579
modeUpdate, 581
modesList_reordered, 580
NEW_FLAG, 594
name, 581
on_fwUpdButton_clicked, 581
on_hwSaveButton_clicked, 583

on_modesList_currentItemChanged, 584
on_modesList_customContextMenuRequested, 585
on_modesList_itemChanged, 586
on_modesList_itemClicked, 587
on_profileBox_activated, 588
on_tabWidget_currentChanged, 588
profileChanged, 589
showFirstTab, 590
showFwUpdate, 590
showLastTab, 591
ui, 594
updateFwButton, 591
updateProfileList, 592
kbWidgets
MainWindow, 751
kbanim.cpp
blendAdd, 1684
blendDivide, 1684
blendFunc, 1684
blendMultiply, 1684
blendNormal, 1684
blendSubtract, 1685
functions, 1685
kbfirmware.cpp
AUTO_CHECK_TIME, 1691
CHECKFORGPG, 1690
tableName, 1690
kblight.cpp
_shareDimming, 1694
activeLights, 1694
lToS, 1692
monoRgb, 1693
sToL, 1694
kbmanager.cpp
devpath, 1697
kbperf.cpp
map_last, 1700
kbsize
ckb-ripple/main.c, 1432
kbsyspath
usb_linux.c, 1594
Key, 604
_friendlyName, 606
_storageName, 606
friendlyName, 605
hasLed, 606
hasScan, 606
height, 607
name, 607
operator bool, 605
storageName, 606
width, 607
x, 607
y, 607
key, 1723
KeyMap, 652
KeyAction
NORMAL, 611
SPECIAL, 611
UNBOUND, 611
keyAnim, 1393
KeyMap
_LAYOUT_MAX, 640
_MODEL_MAX, 641
DE, 640
DK, 640
ES, 640
EU, 640
EU_DVORAK, 640
FR, 640
GB, 640
GB_DVORAK, 640
IT, 640
K65, 641
K70, 641
K95, 641
M65, 641
MX, 640
NO, 640
NO_LAYOUT, 640
NO_MODEL, 641
PL, 640
SABRE, 641
SCIMITAR, 641
SE, 640
STRAFE, 641
US, 640
US_DVORAK, 640
KeyPatch, 1708
KeyWidget
ADD, 665
NONE, 665
SET, 665
SUBTRACT, 665
TOGGLE, 665
KeyAction, 607
~KeyAction, 612
_value, 634
adjustDisplay, 612
animAction, 613
animInfo, 614
DPI_CUSTOM, 634
DPI_DOWN, 635
DPI_SNIPER, 635
DPI_UP, 635
defaultAction, 614
dpiAction, 615
dpiInfo, 616
driverName, 616
friendlyName, 617
isAnim, 618
isDPI, 619
isMacro, 619
isMedia, 619
isMouse, 620

isNormal, 620
isProgram, 621
isSpecial, 621
isUnbound, 622
isValidMacro, 622
KbBind, 397
KeyAction, 612
keyEvent, 623
keyRelease, 626
KeyAction, 612
LIGHT_DOWN, 635
LIGHT_DOWN_WRAP, 635
LIGHT_UP, 635
LIGHT_UP_WRAP, 635
LOCK_OFF, 635
LOCK_ON, 635
LOCK_TOGGLE, 636
lightAction, 626
lockAction, 627
MODE_NEXT, 636
MODE_NEXT_WRAP, 636
MODE_PREV, 636
MODE_PREV_WRAP, 636
macroAction, 627
macroContent, 628
macroDisplay, 628
macroFullLine, 629
macroLine, 630
macroTiming, 630
modeAction, 631
noAction, 631
operator QString, 632
operator=, 632
PROGRAM_PR_INDEF, 636
PROGRAM_PR_KPSTOP, 636
PROGRAM_PR_KRSTOP, 636
PROGRAM_PR_MULTI, 637
PROGRAM_RE_INDEF, 637
PROGRAM_RE_KPSTOP, 637
PROGRAM_RE_MULTI, 637
preProgram, 636
programAction, 632
programInfo, 632
relProgram, 637
sniperValue, 637
specialInfo, 633
Type, 611
type, 633
value, 634
keyButton
Ui::KbAnimWidget, 349
Ui_KbAnimWidget, 1089
keyEvent
KbBind, 381
KeyAction, 623
keyHeight
KeyMap, 660
keyLayout
KeyMap, 660
KeyMap, 637
_keys, 660
byPosition, 642
contains, 642
count, 643
friendlyName, 643
fromName, 644
fromStorage, 645
getLayout, 646
getModel, 647, 648
height, 649
isISO, 649
isKeyboard, 650, 651
isMouse, 651, 652
key, 652
keyHeight, 660
keyLayout, 660
KeyMap, 641
keyModel, 660
keyWidth, 661
KeyMap, 641
keys, 653
Layout, 640
layout, 653
layoutNames, 654
locale, 654
map, 655
Model, 640
model, 655
modelHeight, 656
modelWidth, 656
name, 656
operator const QHash< QString, Key > &, 657
positions, 658
strLayout, 658
strModel, 659
toStorage, 659
width, 660
keyMap
KbMode, 499
KbProfile, 549
KeyWidget, 683
keyModel
KeyMap, 660
keyNames
ColorMap, 160
keyRelease
KeyAction, 626
keyTab
Ui::RebindWidget, 998
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, 403
Ui::KbLightWidget, 464
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1104
keyWidth
KeyMap, 661
keyaction.cpp
ANIM_KRSTOP, 1705
ANIM_ONCE, 1705
keyanim, 1399
keyboard
device.c, 1236
device.h, 1246
keymacro, 1495
keymap
daemon/keymap.h, 1730
keymap.c, 1329
keymap.c
BUTTON_HID_COUNT, 1326
corsair_kbcopy, 1326
corsair_mousecopy, 1326
hid_kb_translate, 1326
hid_mouse_translate, 1328
keymap, 1329
keymap.cpp
_patch, 1712
ANSI_ENTER_H, 1709
ANSI_ENTER_W, 1709
ANSI_ENTER_X, 1709
ANSI_ENTER_Y, 1709
ANSI_LSHIFT_W, 1709
ANSI_LSHIFT_X, 1710
getMap, 1713
K65_HEIGHT, 1710
K65_TOP_COUNT, 1710
K65_WIDTH, 1710
K65TopRow, 1716
K70_HEIGHT, 1710
K70_WIDTH, 1710
K70_X_START, 1710
K95_HEIGHT, 1710
K95_WIDTH, 1710
K95BaseMap, 1716
K95Keys, 1716
KEYCOUNT_K95, 1710
KEYCOUNT_M65, 1711
KEYCOUNT_SABRE, 1711
KEYCOUNT_SCIM, 1711
KSTRAFE_HEIGHT, 1711
KSTRAFE_WIDTH, 1711
KSTRAFE_X_START, 1711
KStrafeKeys, 1717
M65_HEIGHT, 1711
M65_WIDTH, 1711
M65Keys, 1718
N_LAYOUTS, 1711
N_MODELS, 1712
NS, 1712
PATCH_COUNT, 1712
patch, 1712
patchANSI, 1715
patchDE, 1718
patchDK, 1718
patchDvorak, 1718
patchES, 1718
patchEU, 1719
patchFR, 1719
patchISO, 1716
patchIT, 1719
patchMX, 1719
patchNO, 1719
patchSE, 1720
SABRE_HEIGHT, 1712
SABRE_WIDTH, 1712
SCIM_HEIGHT, 1712
SCIM_WIDTH, 1712
SabreKeys, 1720
ScimKeys, 1720
standardMaps, 1720
keypress
AnimScript, 69
KbAnim, 326
keys

KbAnim, 327, 328
KeyMap, 653
keywidget.cpp
KEY_SIZE, 1731
m65Overlay, 1731
monoRgb, 1731
sabOverlay, 1732
scimOverlay, 1732
kf_bfly2
kiss_fft.c, 1601
kf_bfly3
kiss_fft.c, 1602
kf_bfly4
kiss_fft.c, 1603
kf_bfly5
kiss_fft.c, 1604
kf_bfly_generic
kiss_fft.c, 1605
kf_cexp
_kiss_fft_guts.h, 1599
kf_factor
kiss_fft.c, 1606
kf_work
kiss_fft.c, 1606
kiss_fft_cpx, 1614
kiss_fft_state, 1597
kiss_fftr_state, 1620
kiss_fft
kiss_fft.c, 1608
kiss_fft.h, 1615
kiss_fft.c
kf_bfly2, 1601
kf_bfly3, 1602
kf_bfly4, 1603
kf_bfly5, 1604
kf_bfly_generic, 1605
kf_factor, 1606
kf_work, 1606
kiss_fft, 1608
kiss_fft_alloc, 1609
kiss_fft_cleanup, 1610
kiss_fft_next_fast_size, 1611
kiss_fft_stride, 1611
kiss_fft.h
KISS_FFT_FREE, 1614
KISS_FFT_MALLOC, 1614
kiss_fft, 1615
kiss_fft_alloc, 1616
kiss_fft_cfg, 1615
kiss_fft_cleanup, 1617
kiss_fft_free, 1614
kiss_fft_next_fast_size, 1617
kiss_fft_scalar, 1615
kiss_fft_stride, 1618
kiss_fftr_next_fast_size_real, 1615
kiss_fft_alloc
kiss_fft.c, 1609
kiss_fft.h, 1616
kiss_fft_cfg
kiss_fft.h, 1615
kiss_fft_cleanup
kiss_fft.c, 1610
kiss_fft.h, 1617
kiss_fft_free
kiss_fft.h, 1614
kiss_fft_next_fast_size
kiss_fft.c, 1611
kiss_fft.h, 1617
kiss_fft_scalar
kiss_fft.h, 1615
kiss_fft_stride
kiss_fft.c, 1611
kiss_fft.h, 1618
kiss_fftr
kiss_fftr.c, 1621
kiss_fftr.h, 1625
kiss_fftr.c
kiss_fftr, 1621
kiss_fftr_alloc, 1622
kiss_fftri, 1623
kiss_fftr.h
kiss_fftr, 1625
kiss_fftr_alloc, 1626
kiss_fftr_cfg, 1625
kiss_fftr_free, 1625
kiss_fftri, 1627
kiss_fftr_alloc
kiss_fftr.c, 1622
kiss_fftr.h, 1626
kiss_fftr_cfg
kiss_fftr.h, 1625
kiss_fftr_free
kiss_fftr.h, 1625
kiss_fftr_next_fast_size_real
kiss_fft.h, 1615
kiss_fftri
kiss_fftr.c, 1623
kiss_fftr.h, 1627
kpDelayBox
Ui::AnimSettingDialog, 94
Ui_AnimSettingDialog, 1052
kpModeStopBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1052
kpReleaseBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1052
kpRepeatBox
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1052
kpRepeatLabel
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1052
kpRepeatLabel_2
Ui::AnimSettingDialog, 95
Ui_AnimSettingDialog, 1052

kpRepeatMsec
KbAnim, 340
kpRepeatTime
KbAnim, 340
kpStopCheck
AnimSettingDialog, 119
kpStopTime
KbAnim, 340
kphold
ckb-gradient/main.c, 1398
kprelease
ckb-gradient/main.c, 1398
ckb-ripple/main.c, 1432
ckb-wave/main.c, 1440

LAYOUT
command.h, 1227
LIFT
command.h, 1228
LIGHT
KbPerf, 510
LOCK
KbPerf, 510
LOW
KbPerf, 509
LOWMED
KbPerf, 509
LED_DPI
daemon/keymap.h, 1724
LED_MOUSE
daemon/keymap.h, 1724
lHeightBox
Ui::MPerfWidget, 776
Ui_MPerfWidget, 1166
LIFT_MAX
structures.h, 1508
LIFT_MIN
structures.h, 1508
LIGHT_DOWN
KeyAction, 635
LIGHT_DOWN_WRAP
KeyAction, 635
LIGHT_UP
KeyAction, 635
LIGHT_UP_WRAP
KeyAction, 635
LOCALHEADERMAGIC
zip.c, 1885
LOCK_OFF
KeyAction, 635
LOCK_ON
KeyAction, 635
LOCK_TOGGLE
KeyAction, 636
lToS
kblight.cpp, 1692
label
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 173
Ui::GradientDialog, 214
Ui::KbBindWidget, 403
Ui::KbLightWidget, 465
Ui::KPerfWidget, 698
Ui::LayoutDialog, 721
Ui::ModeSelectDialog, 756
Ui::MPerfWidget, 775
Ui::SettingsWidget, 1033
Ui_AnimAddDialog, 1043
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1065
Ui_GradientDialog, 1080
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1132
Ui_LayoutDialog, 1142
Ui_ModeSelectDialog, 1150
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_10
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 173
Ui::KPerfWidget, 698
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1065
Ui_KPerfWidget, 1132
label_11
Ui::AnimSettingDialog, 95
Ui::ExtraSettingsWidget, 173
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1052
Ui_ExtraSettingsWidget, 1065
Ui_KPerfWidget, 1132
Ui_MPerfWidget, 1165
label_12
Ui::AnimSettingDialog, 95
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1053
Ui_KPerfWidget, 1132
Ui_MPerfWidget, 1165
label_13
Ui::AnimSettingDialog, 96
Ui::MPerfWidget, 775
Ui_AnimSettingDialog, 1053
Ui_MPerfWidget, 1165
label_14
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_KPerfWidget, 1132
Ui_MPerfWidget, 1165
label_15
Ui::KPerfWidget, 699
Ui::MPerfWidget, 775
Ui_KPerfWidget, 1133
Ui_MPerfWidget, 1165

label_16
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1133
label_17
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1133
label_18
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1133
label_19
Ui::KPerfWidget, 699
Ui_KPerfWidget, 1133
label_2
Ui::AnimAddDialog, 53
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 174
Ui::FwUpgradeDialog, 192
Ui::GradientDialog, 214
Ui::KbBindWidget, 404
Ui::KbLightWidget, 465
Ui::KPerfWidget, 699
Ui::LayoutDialog, 722
Ui::MPerfWidget, 775
Ui::SettingsWidget, 1033
Ui_AnimAddDialog, 1043
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1065
Ui_FwUpgradeDialog, 1074
Ui_GradientDialog, 1080
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1104
Ui_KPerfWidget, 1133
Ui_LayoutDialog, 1143
Ui_MPerfWidget, 1165
Ui_SettingsWidget, 1209
label_20
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1133
label_21
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1133
label_22
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1133
label_23
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1134
label_24
Ui::KPerfWidget, 700
Ui_KPerfWidget, 1134
label_25
Ui::MPerfWidget, 775
Ui_MPerfWidget, 1166
label_3
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 174
Ui::KbLightWidget, 465
Ui::KbWidget, 602
Ui::KPerfWidget, 700
Ui::MPerfWidget, 775
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1065
Ui_KbLightWidget, 1105
Ui_KbWidget, 1117
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
label_4
Ui::AnimSettingDialog, 96
Ui::FwUpgradeDialog, 192
Ui::KbWidget, 602
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui_AnimSettingDialog, 1053
Ui_FwUpgradeDialog, 1074
Ui_KbWidget, 1117
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
label_5
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 174
Ui::KbAnimWidget, 349
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1033
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1066
Ui_KbAnimWidget, 1089
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
label_6
Ui::AnimSettingDialog, 96
Ui::ExtraSettingsWidget, 174
Ui::KbAnimWidget, 349
Ui::KPerfWidget, 700
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1034
Ui_AnimSettingDialog, 1053
Ui_ExtraSettingsWidget, 1066
Ui_KbAnimWidget, 1089
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
label_7
Ui::AnimSettingDialog, 96
Ui::KbAnimWidget, 349
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui_AnimSettingDialog, 1053
Ui_KbAnimWidget, 1089
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
label_8
Ui::AnimSettingDialog, 96

Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1034
Ui_AnimSettingDialog, 1053
Ui_KPerfWidget, 1134
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
label_9
Ui::AnimSettingDialog, 96
Ui::KbWidget, 602
Ui_AnimSettingDialog, 1054
Ui_KbWidget, 1117
lastAutoSave
Kb, 312
KbWidget, 594
lastCheck
KbFirmware, 428
lastCmd
KbBind, 398
lastDuration
AnimSettingDialog, 119
lastFinished
KbFirmware, 428
lastFrame
AnimScript, 84
lastFrameSignal
KbLight, 457
lastGlobalRemapTime
KbBind, 398
lastMappedDirectoryEntry
QuaZipPrivate, 937
lastSharedDimming
extrasettingswidget.cpp, 1670
Layout
KeyMap, 640
layout
Kb, 288
KeyMap, 653
layoutBox
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1210
layoutChanged
KbBind, 382
LayoutDialog, 722
~LayoutDialog, 724
LayoutDialog, 724
LayoutDialog, 724
selected, 725
ui, 725
layoutNames
KeyMap, 654
layoutWidget
Ui::RebindWidget, 998
Ui_RebindWidget, 1193
layoutWidget1
Ui::RebindWidget, 998
Ui_RebindWidget, 1193
layoutWidget_2
Ui::RebindWidget, 999
Ui_RebindWidget, 1193
lbl_macro
Ui::RebindWidget, 999
Ui_RebindWidget, 1193
led.c
cmd_iauto, 1331
cmd_inotify, 1331
cmd_ioff, 1331
cmd_ion, 1332
cmd_rgb, 1332
has_key, 1333
iselect, 1333
printrgb, 1334
led.h
cmd_iauto, 1336
cmd_inotify, 1337
cmd_ioff, 1337
cmd_ion, 1338
cmd_rgb, 1338
loadrgb_kb, 1338
loadrgb_mouse, 1340
printrgb, 1341
savergb_kb, 1343
savergb_mouse, 1344
updatergb_kb, 1344
updatergb_mouse, 1346
led_keyboard.c
BR1, 1370
BR2, 1370
BR4, 1370
bit_reverse_table, 1378
loadrgb_kb, 1371
makergb_512, 1372
makergb_full, 1373
O0, 1370
O1, 1370
O2, 1370
O3, 1370
O4, 1370
O5, 1370
O6, 1370
O7, 1370
O8, 1370
ordered8to3, 1374
quantize8to3, 1374
rgbcmp, 1375
savergb_kb, 1375
updatergb_kb, 1376
led_mouse.c
isblack, 1380
loadrgb_mouse, 1381
rgbcmp, 1381
savergb_mouse, 1382
updatergb_mouse, 1382
left
ckb-wave/main.c, 1440
license

AnimScript, 70
lift
devcmd.__unnamed__, 163
liftHeight
KbPerf, 524
light
KbAnimWidget, 368
KbBind, 383
KbLightWidget, 479
KbMode, 499
KbPerf, 524
light100Color
KbPerf, 539
lightAction
KeyAction, 626
lightBox
Ui::KPerfWidget, 701
Ui::RebindWidget, 999
Ui_KPerfWidget, 1134
Ui_RebindWidget, 1193
lightButton
Ui::RebindWidget, 999
Ui_RebindWidget, 1193
lightColor1
Ui::KPerfWidget, 701
Ui_KPerfWidget, 1135
lightColor2
Ui::KPerfWidget, 701
Ui_KPerfWidget, 1135
lightColor3
Ui::KPerfWidget, 701
Ui_KPerfWidget, 1135
lightIndicator
KbPerf, 525
lightTab
Ui::KbWidget, 602
Ui_KbWidget, 1117
lightWidget
Ui::KbWidget, 603
Ui_KbWidget, 1117
lightWrapBox
Ui::RebindWidget, 999
Ui_RebindWidget, 1193
lighting, 1498
line
Ui::AnimSettingDialog, 97
Ui::ExtraSettingsWidget, 174
Ui::KbBindWidget, 404
Ui::KbLightWidget, 465
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1034
Ui_AnimSettingDialog, 1054
Ui_ExtraSettingsWidget, 1066
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1105
Ui_KPerfWidget, 1135
Ui_MPerfWidget, 1166
Ui_SettingsWidget, 1210
line_2
Ui::AnimSettingDialog, 97
Ui::ExtraSettingsWidget, 174
Ui::KbBindWidget, 404
Ui::KbLightWidget, 465
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1034
Ui_AnimSettingDialog, 1054
Ui_ExtraSettingsWidget, 1066
Ui_KbBindWidget, 1096
Ui_KbLightWidget, 1105
Ui_KPerfWidget, 1135
Ui_MPerfWidget, 1167
Ui_SettingsWidget, 1210
line_3
Ui::ExtraSettingsWidget, 174
Ui::KPerfWidget, 701
Ui::MPerfWidget, 776
Ui::SettingsWidget, 1034
Ui_ExtraSettingsWidget, 1066
Ui_KPerfWidget, 1135
Ui_MPerfWidget, 1167
Ui_SettingsWidget, 1210
linkedlist_data_s, 1882
linkedlist_datablock_internal_s, 1881
linkedlist_data
zip.c, 1887
linkedlist_datablock_internal
zip.c, 1887
list
AnimScript, 70
load
AnimScript, 71
Kb, 289
KbBind, 383
KbLight, 444
KbPerf, 526
LoadCentralDirectoryRecord
zip.c, 1891
loadGlobalRemap
KbBind, 384
loaddpi
dpi.c, 1278
dpi.h, 1283
loadprofile
devcmd.__unnamed__, 163
profile.c, 1466
profile.h, 1484
loadprofile_none
device_vtable.c, 1254
loadrgb_kb
led.h, 1338
led_keyboard.c, 1371
loadrgb_mouse
led.h, 1340
led_mouse.c, 1381

local
unzip.c, 1813
zip.c, 1885
locale
KeyMap, 654
localecase
ckb-daemon/main.c, 1384
lockAction
KeyAction, 627
lockBox
Ui::KPerfWidget, 702
Ui::RebindWidget, 999
Ui_KPerfWidget, 1135
Ui_RebindWidget, 1193
lockButton
Ui::RebindWidget, 999
Ui_RebindWidget, 1194
lockColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
lockColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1135
lockMutex
ckbsettings.cpp, 1661
ckbsettingswriter.cpp, 1665
lockMutexCache
ckbsettings.cpp, 1661
ckbsettingswriter.cpp, 1665
lockMutexStatic
ckbsettings.cpp, 1661
ckbsettingswriter.cpp, 1665
lockMutexStatic2
ckbsettings.cpp, 1661
ckbsettingswriter.cpp, 1665
loginItemBox
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1210

M65
KeyMap, 641
M65_HEIGHT
keymap.cpp, 1711
M65_WIDTH
keymap.cpp, 1711
M65Keys
keymap.cpp, 1718
m65Overlay
keywidget.cpp, 1731
MACRO
command.h, 1228
KbPerf, 510
MAX_FILE_NAME_LENGTH
QuaZip, 835
MEDHIGH
KbPerf, 509
MEDIUM
KbPerf, 509
MODE
command.h, 1227
KbPerf, 510
MPerfWidget::DpiUi, 783, 1756
MUTE
KbPerf, 510
MUTED
media.h, 1747
MX
KeyMap, 640
M_PI
ckb-anim.h, 1647
MACRO_MAX
structures.h, 1508
MAKEULONG64
zip.c, 1885
MAX_BUFFER
devnode.c, 1257
MAX_DIM
KbLight, 457
MAXFACTORS
_kiss_fft_guts.h, 1600
mAccelBox
Ui::ExtraSettingsWidget, 174
Ui_ExtraSettingsWidget, 1066
MD_NAME_LEN
structures.h, 1508
MODE_COUNT
structures.h, 1508
MODE_NEXT
KeyAction, 636
MODE_NEXT_WRAP
KeyAction, 636
MODE_PREV
KeyAction, 636
MODE_PREV_WRAP
KeyAction, 636
MOUSE_BUTTON_FIRST
daemon/keymap.h, 1724
MOUSE_EXTRA_FIRST
daemon/keymap.h, 1725
mPerfTab
Ui::KbWidget, 603
Ui_KbWidget, 1118
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, 603
Ui_KbWidget, 1118
MSG_SIZE
structures.h, 1508
macReader
RebindWidget, 973
macro
devcmd.__unnamed__, 164
macroAction
KeyAction, 627
macroBox
MacroReaderThread, 733
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1136
macroColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1136
macroColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1136
macroContent
KeyAction, 628
macroDelay
Kb, 290
macroDisplay
KeyAction, 628
macroFullLine
KeyAction, 629
macroLine
KeyAction, 630
macroNumber
Kb, 312
MacroReaderThread, 733
macroPath
Kb, 313
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, 999
Ui_RebindWidget, 1194
macroText
MacroReaderThread, 733
macroTiming
KeyAction, 630
macroaction, 1494
macromask
input.c, 1307
macromutex
device.c, 1236
device.h, 1246
main
ckb-anim.h, 1656
ckb-daemon/main.c, 1385
main.cpp, 1741
main.cpp
CommandLineBackground, 1739
CommandLineClose, 1739
CommandLineError, 1739
CommandLineHelpRequested, 1739
CommandLineOK, 1739
CommandLineVersionRequested, 1739
main.cpp
appShare, 1740
CommandLineParseResults, 1739
isRunning, 1740
main, 1741
parseCommandLine, 1742
pidActive, 1744
SHMEM_SIZE, 1739
SHMEM_SIZE_V015, 1739
main_ac
ckb-daemon/main.c, 1392
main_av
ckb-daemon/main.c, 1392
MainWindow, 737
~MainWindow, 741
addDevice, 742
checkFwUpdates, 743
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, 1023
showFwUpdateNotification, 746
showWindow, 747
stateChange, 748
timerTick, 749
toggleTrayIcon, 750
trayIcon, 752
trayIconMenu, 752
ui, 752
updateVersion, 750
mainWindow
MainWindow, 751
mainwindow.cpp
appShare, 1745
configLabel, 1745
makeIcon
GradientDialog, 223
makeStops
GradientDialogWidget, 234
makergb_512
led_keyboard.c, 1372
makergb_full
led_keyboard.c, 1373
map
KbAnim, 328, 329
KbBind, 385, 386
KbLight, 446
KeyMap, 655
KeyWidget, 668, 669
map_last
kbperf.cpp, 1700
matches
Kb, 291
max
ckb-mviz/main.c, 1409
maxsize
ckb-rain/main.c, 1420
mb2Box
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mb2Button
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mbBox
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mbButton
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mdAdd
QuaZip, 835
mdAppend
QuaZip, 835
mdCreate
QuaZip, 835
mdNotOpen
QuaZip, 835
mdUnzip
QuaZip, 835
media.h
MUTED, 1747
UNKNOWN, 1747
UNMUTED, 1747
media.h
ENUM_C, 1747
ENUM_END_C, 1747
EXTERN_C, 1747
getMuteState, 1747
muteState, 1747
media_linux.cpp
getMuteState, 1748
muteProcess, 1749
media_mac.m
disableAppNap, 1749
getMuteState, 1750
mediaBox
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mediaButton
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
mediaKeys
RebindWidget, 973
method
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
min
ckb-mviz/main.c, 1409
minX
AnimScript, 85
minY
AnimScript, 85
mkdevpath
devnode.c, 1261
devnode.h, 1270
mkfwnode
devnode.c, 1262
devnode.h, 1271
mknotifynode
devnode.c, 1263
devnode.h, 1272
mmutex
device.h, 1239
moc_animadddialog.cpp
QT_MOC_LITERAL, 1948

qt_meta_data_AnimAddDialog, 1948
qt_meta_stringdata_AnimAddDialog, 1949
moc_animscript.cpp
QT_MOC_LITERAL, 1951
qt_meta_data_AnimScript, 1951
qt_meta_stringdata_AnimScript, 1952
moc_animsettingdialog.cpp
QT_MOC_LITERAL, 1953
qt_meta_data_AnimSettingDialog, 1954
qt_meta_stringdata_AnimSettingDialog, 1954
moc_ckbsettingswriter.cpp
QT_MOC_LITERAL, 1956
qt_meta_data_CkbSettingsWriter, 1956
qt_meta_stringdata_CkbSettingsWriter, 1957
moc_colorbutton.cpp
QT_MOC_LITERAL, 1958
qt_meta_data_ColorButton, 1959
qt_meta_stringdata_ColorButton, 1959
moc_extrasettingswidget.cpp
QT_MOC_LITERAL, 1961
qt_meta_data_ExtraSettingsWidget, 1961
qt_meta_stringdata_ExtraSettingsWidget, 1961
moc_fwupgradedialog.cpp
QT_MOC_LITERAL, 1964
qt_meta_data_FwUpgradeDialog, 1964
qt_meta_stringdata_FwUpgradeDialog, 1965
moc_gradientbutton.cpp
QT_MOC_LITERAL, 1967
qt_meta_data_GradientButton, 1967
qt_meta_stringdata_GradientButton, 1968
moc_gradientdialog.cpp
QT_MOC_LITERAL, 1969
qt_meta_data_GradientDialog, 1970
qt_meta_stringdata_GradientDialog, 1970
moc_gradientdialogwidget.cpp
QT_MOC_LITERAL, 1972
qt_meta_data_GradientDialogWidget, 1972
qt_meta_stringdata_GradientDialogWidget, 1973
moc_kb.cpp
QT_MOC_LITERAL, 1975
qt_meta_data_Kb, 1975
qt_meta_stringdata_Kb, 1975
moc_kbanim.cpp
QT_MOC_LITERAL, 1977
qt_meta_data_KbAnim, 1977
qt_meta_stringdata_KbAnim, 1978
moc_kbanimwidget.cpp
QT_MOC_LITERAL, 1980
qt_meta_data_KbAnimWidget, 1980
qt_meta_stringdata_KbAnimWidget, 1980
moc_kbbind.cpp
QT_MOC_LITERAL, 1982
qt_meta_data_KbBind, 1982
qt_meta_stringdata_KbBind, 1982
moc_kbbindwidget.cpp
QT_MOC_LITERAL, 1984
qt_meta_data_KbBindWidget, 1985
qt_meta_stringdata_KbBindWidget, 1985
moc_kbfirmware.cpp
QT_MOC_LITERAL, 1987
qt_meta_data_KbFirmware, 1987
qt_meta_stringdata_KbFirmware, 1988
moc_kblight.cpp
QT_MOC_LITERAL, 1990
qt_meta_data_KbLight, 1990
qt_meta_stringdata_KbLight, 1991
moc_kblightwidget.cpp
QT_MOC_LITERAL, 1993
qt_meta_data_KbLightWidget, 1993
qt_meta_stringdata_KbLightWidget, 1993
moc_kbmanager.cpp
QT_MOC_LITERAL, 1995
qt_meta_data_KbManager, 1995
qt_meta_stringdata_KbManager, 1995
moc_kbmode.cpp
QT_MOC_LITERAL, 1997
qt_meta_data_KbMode, 1998
qt_meta_stringdata_KbMode, 1998
moc_kbperf.cpp
QT_MOC_LITERAL, 2000
qt_meta_data_KbPerf, 2000
qt_meta_stringdata_KbPerf, 2001
moc_kbprofile.cpp
QT_MOC_LITERAL, 2002
qt_meta_data_KbProfile, 2003
qt_meta_stringdata_KbProfile, 2003
moc_kbprofiledialog.cpp
QT_MOC_LITERAL, 2004
qt_meta_data_KbProfileDialog, 2005
qt_meta_stringdata_KbProfileDialog, 2005
moc_kbwidget.cpp
QT_MOC_LITERAL, 2007
qt_meta_data_KbWidget, 2007
qt_meta_stringdata_KbWidget, 2007
moc_keyaction.cpp
QT_MOC_LITERAL, 2009
qt_meta_data_KeyAction, 2009
qt_meta_stringdata_KeyAction, 2010
moc_keywidget.cpp
QT_MOC_LITERAL, 2011
qt_meta_data_KeyWidget, 2012
qt_meta_stringdata_KeyWidget, 2012
moc_kperfwidget.cpp
QT_MOC_LITERAL, 2014
qt_meta_data_KPerfWidget, 2014
qt_meta_stringdata_KPerfWidget, 2015
moc_layoutdialog.cpp
QT_MOC_LITERAL, 2017
qt_meta_data_LayoutDialog, 2017
qt_meta_stringdata_LayoutDialog, 2018
moc_macroreader.cpp
QT_MOC_LITERAL, 2020
qt_meta_data_MacroReader, 2020
qt_meta_data_MacroReaderThread, 2021
qt_meta_stringdata_MacroReader, 2021
qt_meta_stringdata_MacroReaderThread, 2021

moc_mainwindow.cpp
QT_MOC_LITERAL, 2023
qt_meta_data_MainWindow, 2023
qt_meta_stringdata_MainWindow, 2023
moc_modeselectdialog.cpp
QT_MOC_LITERAL, 2025
qt_meta_data_ModeSelectDialog, 2025
qt_meta_stringdata_ModeSelectDialog, 2026
moc_mperfwidget.cpp
QT_MOC_LITERAL, 2027
qt_meta_data_MPerfWidget, 2028
qt_meta_stringdata_MPerfWidget, 2028
moc_quagzipfile.cpp
QT_MOC_LITERAL, 2030
qt_meta_data_QuaGzipFile, 2030
qt_meta_stringdata_QuaGzipFile, 2031
moc_quaziodevice.cpp
QT_MOC_LITERAL, 2032
qt_meta_data_QuaZIODevice, 2033
qt_meta_stringdata_QuaZIODevice, 2033
moc_quazipfile.cpp
QT_MOC_LITERAL, 2034
qt_meta_data_QuaZipFile, 2035
qt_meta_stringdata_QuaZipFile, 2035
moc_rebindwidget.cpp
QT_MOC_LITERAL, 2037
qt_meta_data_RebindWidget, 2037
qt_meta_stringdata_RebindWidget, 2037
moc_rlistwidget.cpp
QT_MOC_LITERAL, 2039
qt_meta_data_RListWidget, 2039
qt_meta_stringdata_RListWidget, 2039
moc_settingswidget.cpp
QT_MOC_LITERAL, 2041
qt_meta_data_SettingsWidget, 2042
qt_meta_stringdata_SettingsWidget, 2042
modBox
Ui::RebindWidget, 1000
Ui_RebindWidget, 1194
modButton
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
modKeys
RebindWidget, 973
settingswidget.cpp, 2053
modNames
settingswidget.cpp, 2053
Mode
KbAnim, 317
QuaZip, 835
mode
KbAnim, 329
QuaZipPrivate, 937
mode2Raw
KPerfWidget, 711
modeAction
KeyAction, 631
modeBox
Ui::KPerfWidget, 702
Ui::RebindWidget, 1001
Ui_KPerfWidget, 1136
Ui_RebindWidget, 1195
modeButton
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
modeChanged
Kb, 291
KbWidget, 577
modeColorOff
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1136
modeColorOn
Ui::KPerfWidget, 702
Ui_KPerfWidget, 1136
modeCount
KbProfile, 550
modeIcon
KbWidget, 579
ModeList
KbProfile, 543
modeList
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1150
modeParent
KbBind, 386
KbPerf, 527
modeRenamed
Kb, 292
ModeSelectDialog, 756
~ModeSelectDialog, 758
_modeList, 760
ModeSelectDialog, 758
ModeSelectDialog, 758
on_selAllButton_clicked, 759
on_selNoneButton_clicked, 759
selection, 759
ui, 760
modeUpdate
KbWidget, 581
modeWrapBox
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
Model
KeyMap, 640
model
Kb, 291
KeyMap, 655
modelHeight
KeyMap, 656
modelWidth
KeyMap, 656
models
usb_linux.c, 1594
modes
KbProfile, 550, 551
modesList

Ui::KbWidget, 603
Ui_KbWidget, 1118
modesList_reordered
KbWidget, 580
modified
UsbId, 1217
modifiedString
UsbId, 1215, 1216
monoRgb
kblight.cpp, 1693
keywidget.cpp, 1731
monochrome
Kb, 313
KeyWidget, 669, 670
mouseAccel
Kb, 292
mouseCurrentX
KeyWidget, 683
mouseCurrentY
KeyWidget, 683
mouseDownMode
KeyWidget, 683
mouseDownX
KeyWidget, 684
mouseDownY
KeyWidget, 684
mouseExtKeys
RebindWidget, 973
mouseKeys
RebindWidget, 973
mouseMoveEvent
GradientDialogWidget, 235
KeyWidget, 670
mousePressEvent
GradientDialogWidget, 236
KeyWidget, 671
mouseReleaseEvent
GradientDialogWidget, 236
KeyWidget, 672
mouseTab
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
move
KbProfile, 551
moveCurrent
GradientDialogWidget, 237
mperfwidget.cpp
DPI_BASE, 1754
dpiExp, 1753
dpiLog, 1753
dpiRound, 1754
SET_END, 1753
SET_START, 1753
xyLinkPath, 1754
Multiply
KbAnim, 317
muteBox
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
muteColorNA
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
muteColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1136
muteColorOn
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1137
muteNAColor
KbPerf, 539
muteProcess
media_linux.cpp, 1749
muteState
media.h, 1747

NAME
command.h, 1227
NO
KbFirmware, 419
KeyMap, 640
NO_LAYOUT
KeyMap, 640
NO_MODEL
KeyMap, 641
NONE
command.h, 1227
KbPerf, 510
KeyWidget, 665
NORMAL
KPerfWidget, 709
KbPerf, 510
KeyAction, 611
NOTIFY
command.h, 1228
NOTIFYOFF
command.h, 1227
NOTIFYON
command.h, 1227
NUM
KbPerf, 510
N_BUTTONS_EXTENDED
daemon/keymap.h, 1725
N_BUTTONS_HW
daemon/keymap.h, 1725
N_KEY_ZONES
daemon/keymap.h, 1725
N_KEYBYTES_EXTENDED
daemon/keymap.h, 1725
N_KEYBYTES_HW
daemon/keymap.h, 1725
N_KEYBYTES_INPUT
daemon/keymap.h, 1725
N_KEYS_EXTENDED
daemon/keymap.h, 1725
N_KEYS_EXTRA
daemon/keymap.h, 1725
N_KEYS_HW

daemon/keymap.h, 1725
N_KEYS_INPUT
daemon/keymap.h, 1726
N_LAYOUTS
keymap.cpp, 1711
N_MODELS
keymap.cpp, 1712
usb_linux.c, 1570
N_MOUSE_ZONES
daemon/keymap.h, 1726
NEEDS_FW_UPDATE
structures.h, 1508
NEW_FLAG
KbProfileDialog, 567
KbWidget, 594
NK95_HWOFF
usb.h, 1535
NK95_HWON
usb.h, 1535
NK95_M1
usb.h, 1535
NK95_M2
usb.h, 1535
NK95_M3
usb.h, 1535
NONE
ckb-gradient/main.c, 1394
NS
keymap.cpp, 1712
name
AnimScript, 74
AnimSettingDialog, 110
devcmd.__unnamed__, 164
GradientDialog::Preset, 799
KbAnim, 329, 330
KbMode, 500
KbProfile, 552
KbWidget, 581
Key, 607
KeyMap, 656
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipNewInfo, 929
nameBox
Ui::KbAnimWidget, 349
Ui_KbAnimWidget, 1090
nameFilters
QuaZipDir, 877
nativetohw
profile.c, 1466
profile.h, 1485
needsSave
Kb, 293
KbAnim, 330
KbBind, 386
KbLight, 447
KbMode, 501
KbPerf, 528
KbProfile, 552
networkManager
KbFirmware, 428
newDuration
AnimSettingDialog, 110
newGuid
UsbId, 1216
newId
KbAnim, 331
KbMode, 501
KbProfile, 553
newLabel
Ui::FwUpgradeDialog, 192
Ui_FwUpgradeDialog, 1074
newLayout
KbBindWidget, 408
newMode
Kb, 293, 294
newModified
UsbId, 1216
newProfile
Kb, 294, 295
newSelection
KbBindWidget, 409
KbLightWidget, 472
KeyWidget, 684
newtarget
ckb-random/main.c, 1425
nk95cmd
usb.h, 1535
noAction
KbBind, 387
KeyAction, 631
noAnimLabel
Ui::KbAnimWidget, 350
Ui_KbAnimWidget, 1090
noReorder
KbAnimWidget, 368
noSelPage
Ui::KbAnimWidget, 350
Ui_KbAnimWidget, 1090
Normal
KbAnim, 317
notify
devcmd.__unnamed__, 164
notify.c
_cmd_get, 1442
cmd_get, 1444
cmd_notify, 1445
cmd_restart, 1445
HW_STANDARD, 1441
HWMODE_OR_RETURN, 1441
nprintf, 1446
nprintind, 1446
nprintkey, 1447
restart, 1448
notify.h
cmd_get, 1450

cmd_notify, 1450
cmd_restart, 1451
nprintf, 1451
nprintind, 1452
nprintkey, 1453
notifyNumber
Kb, 313
notifyPath
Kb, 313
notifyPathMutex
kb.cpp, 1682
notifyPaths
kb.cpp, 1682
nprintf
notify.c, 1446
notify.h, 1451
nprintind
notify.c, 1446
notify.h, 1452
nprintkey
notify.c, 1447
notify.h, 1453
numBox
Ui::KPerfWidget, 703
Ui::RebindWidget, 1001
Ui_KPerfWidget, 1137
Ui_RebindWidget, 1195
numButton
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
numColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1137
numColorOn
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1137
numKeys
RebindWidget, 973

O0
led_keyboard.c, 1370
O1
led_keyboard.c, 1370
O2
led_keyboard.c, 1370
O3
led_keyboard.c, 1370
O4
led_keyboard.c, 1370
O5
led_keyboard.c, 1370
O6
led_keyboard.c, 1370
O7
led_keyboard.c, 1370
O8
led_keyboard.c, 1370
OFF
KbPerf, 510
ON
KbPerf, 510
OF
ioapi.h, 1764
ONE_DAY
animscript.cpp, 1630
OTHER
KbPerf, 540
OUTFIFO_MAX
structures.h, 1508
on_aSnapBox_clicked
MPerfWidget, 790
on_actionButton_clicked
FwUpgradeDialog, 199
on_altBox_activated
SettingsWidget, 1017
on_animBox_activated
AnimAddDialog, 46
on_animBox_currentIndexChanged
RebindWidget, 948
on_animButton_clicked
KbLightWidget, 473
RebindWidget, 948
on_animList_currentItemChanged
KbAnimWidget, 357
on_animList_customContextMenuRequested
KbAnimWidget, 358
on_animList_itemChanged
KbAnimWidget, 359
on_animScanButton_clicked
ExtraSettingsWidget, 180
on_applyButton_clicked
RebindWidget, 949
on_autoFWBox_clicked
SettingsWidget, 1017
on_bgButton_clicked
KbLightWidget, 474
on_blendBox_activated
KbAnimWidget, 359
on_brightnessBox_activated
KbLightWidget, 474
on_brightnessBox_clicked
ExtraSettingsWidget, 181
on_btnClearMacro_clicked
RebindWidget, 949
on_btnStartMacro_clicked
RebindWidget, 950
on_btnStopMacro_clicked
RebindWidget, 950
on_cancelButton_clicked
FwUpgradeDialog, 200
RebindWidget, 951
on_capsBox_activated
SettingsWidget, 1017
on_copyButton_clicked
KbBindWidget, 410
KPerfWidget, 712
MPerfWidget, 790

on_ctrlBox_activated
SettingsWidget, 1018
on_delayBox_clicked
ExtraSettingsWidget, 181
on_delayBox_valueChanged
AnimSettingDialog, 111
on_deleteButton_clicked
KbAnimWidget, 360
on_ditherBox_clicked
ExtraSettingsWidget, 181
on_dpiBox_currentIndexChanged
RebindWidget, 952
on_dpiButton_clicked
RebindWidget, 953
on_extraButton_clicked
SettingsWidget, 1018
on_fnBox_currentIndexChanged
RebindWidget, 953
on_fnButton_clicked
RebindWidget, 954
on_fpsBox_valueChanged
ExtraSettingsWidget, 182
on_fwUpdButton_clicked
KbWidget, 581
on_hwSaveButton_clicked
KbWidget, 583
on_indicBox_clicked
MPerfWidget, 791
on_intensityBox_valueChanged
KPerfWidget, 713
on_keyButton_clicked
KbAnimWidget, 360
on_kpDelayBox_valueChanged
AnimSettingDialog, 112
on_kpReleaseBox_stateChanged
AnimSettingDialog, 112
on_kpRepeatBox_valueChanged
AnimSettingDialog, 113
on_lHeightBox_activated
MPerfWidget, 791
on_layoutBox_activated
SettingsWidget, 1018
on_lightBox_currentIndexChanged
RebindWidget, 954
on_lightButton_clicked
RebindWidget, 954
on_lockBox_currentIndexChanged
RebindWidget, 954
on_lockButton_clicked
RebindWidget, 955
on_loginItemBox_clicked
SettingsWidget, 1019
on_mAccelBox_clicked
ExtraSettingsWidget, 182
on_mb2Box_currentIndexChanged
RebindWidget, 955
on_mb2Button_clicked
RebindWidget, 955
on_mbBox_currentIndexChanged
RebindWidget, 955
on_mbButton_clicked
RebindWidget, 956
on_mediaBox_currentIndexChanged
RebindWidget, 956
on_mediaButton_clicked
RebindWidget, 956
on_modBox_currentIndexChanged
RebindWidget, 957
on_modButton_clicked
RebindWidget, 957
on_modeBox_currentIndexChanged
RebindWidget, 957
on_modeButton_clicked
RebindWidget, 958
on_modesList_currentItemChanged
KbWidget, 584
on_modesList_customContextMenuRequested
KbWidget, 585
on_modesList_itemChanged
KbWidget, 586
on_modesList_itemClicked
KbWidget, 587
on_nameBox_textEdited
KbAnimWidget, 361
on_numBox_currentIndexChanged
RebindWidget, 958
on_numButton_clicked
RebindWidget, 958
on_opacityBox_valueChanged
KbAnimWidget, 362
on_presetBox_activated
AnimAddDialog, 47
on_presetDelete_clicked
GradientDialog, 224
on_presetList_currentItemChanged
GradientDialog, 224
on_presetName_textEdited
GradientDialog, 225
on_presetSave_clicked
GradientDialog, 225
on_previewBox_clicked
AnimAddDialog, 48
on_profileBox_activated
KbWidget, 588
on_profileList_currentItemChanged
KbProfileDialog, 561
on_profileList_customContextMenuRequested
KbProfileDialog, 561
on_profileList_itemChanged
KbProfileDialog, 563
on_profileList_itemClicked
KbProfileDialog, 564
on_programKpBox_textChanged
RebindWidget, 958
on_programKpButton_clicked
RebindWidget, 959

on_programKpSIBox_clicked
RebindWidget, 959
on_programKrBox_textChanged
RebindWidget, 959
on_programKrButton_clicked
RebindWidget, 960
on_programKrSIBox_clicked
RebindWidget, 960
on_propertyButton_clicked
KbAnimWidget, 362
on_pteMacroBox_textChanged
RebindWidget, 960
on_pushButton_clicked
SettingsWidget, 1019
on_rb_delay_asTyped_toggled
RebindWidget, 961
on_rb_delay_default_toggled
RebindWidget, 961
on_rb_delay_no_toggled
RebindWidget, 962
on_repeatBox_valueChanged
AnimSettingDialog, 113
on_resetButton_clicked
KbBindWidget, 411
RebindWidget, 962
on_sAccelBox_clicked
ExtraSettingsWidget, 183
on_sSpeedBox_valueChanged
ExtraSettingsWidget, 183
on_selAllButton_clicked
ModeSelectDialog, 759
on_selNoneButton_clicked
ModeSelectDialog, 759
on_shiftBox_activated
SettingsWidget, 1019
on_showAnimBox_clicked
KbLightWidget, 475
on_spinBox_valueChanged
MPerfWidget, 792
on_stopOpacity_valueChanged
GradientDialog, 226
on_stopPos_valueChanged
GradientDialog, 226
on_tabWidget_currentChanged
KbWidget, 588
on_trayBox_clicked
ExtraSettingsWidget, 183
on_typingBox_currentIndexChanged
RebindWidget, 963
on_typingButton_clicked
RebindWidget, 963
on_unbindButton_clicked
RebindWidget, 963
on_wheelBox_currentIndexChanged
RebindWidget, 964
on_wheelButton_clicked
RebindWidget, 964
on_winBox_activated
SettingsWidget, 1020
on_xyBox_clicked
MPerfWidget, 792
once
AutoRun, 123
opacity
KbAnim, 331
opacityBox
Ui::KbAnimWidget, 350
Ui_KbAnimWidget, 1090
open
KbLight, 447
QuaGzipFile, 822, 823
QuaZIODevice, 829
QuaZip, 854
QuaZipFile, 895–897
operator bool
Key, 605
operator const QHash< QString, Key > &
KeyMap, 657
operator QString
KeyAction, 632
operator=
ColorMap, 160
KbPerf, 528
KeyAction, 632
QuaGzipFile, 823
QuaZip, 857
QuaZipDir, 878
QuaZipFile, 899
operator==
QuaZipDir, 878
orderChanged
RListWidget, 1010
ordered8to3
led_keyboard.c, 1374
os.h
_DEFAULT_SOURCE, 1454
_GNU_SOURCE, 1454
euid_guard_start, 1454
euid_guard_stop, 1454
UINPUT_VERSION, 1454
os_closeusb
usb.h, 1548
usb_linux.c, 1572
os_inputclose
input.h, 1313
input_linux.c, 1319
os_inputmain
usb.h, 1549
usb_linux.c, 1572
os_inputopen
input.h, 1313
input_linux.c, 1320
os_keypress
input.h, 1314
input_linux.c, 1321
os_mousemove

input.h, 1315
input_linux.c, 1322
os_resetusb
usb.h, 1552
usb_linux.c, 1576
os_sendindicators
usb.h, 1553
usb_linux.c, 1577
os_setupindicators
input.h, 1316
input_linux.c, 1323
os_setupusb
usb.h, 1554
usb_linux.c, 1578
os_usbrecv
usb.h, 1556
usb_linux.c, 1579
os_usbsend
usb.h, 1559
usb_linux.c, 1581
osxLabel
Ui::ExtraSettingsWidget, 174
Ui_ExtraSettingsWidget, 1066
osxLine
Ui::ExtraSettingsWidget, 175
Ui_ExtraSettingsWidget, 1066
outbuf
ckb-mviz/main.c, 1410

p
QuaZip, 864
QuaZipFile, 905
PL
KeyMap, 640
POLLRATE
command.h, 1227
PROFILEID
command.h, 1228
PROFILENAME
command.h, 1228
P_K65
usb.h, 1535
P_K65_LUX
usb.h, 1535
P_K65_LUX_STR
usb.h, 1536
P_K65_NRGB
usb.h, 1536
P_K65_NRGB_STR
usb.h, 1536
P_K65_RFIRE
usb.h, 1536
P_K65_RFIRE_STR
usb.h, 1536
P_K65_STR
usb.h, 1536
P_K70
usb.h, 1536
P_K70_LUX
usb.h, 1536
P_K70_LUX_NRGB
firmware_special.h, 1673
usb.h, 1536
P_K70_LUX_NRGB_STR
usb.h, 1536
P_K70_LUX_STR
usb.h, 1536
P_K70_NRGB
usb.h, 1537
P_K70_NRGB_STR
usb.h, 1537
P_K70_RFIRE
usb.h, 1537
P_K70_RFIRE_NRGB
usb.h, 1537
P_K70_RFIRE_NRGB_STR
usb.h, 1537
P_K70_RFIRE_STR
usb.h, 1537
P_K70_STR
usb.h, 1537
P_K95
usb.h, 1537
P_K95_NRGB
usb.h, 1537
P_K95_NRGB_STR
usb.h, 1537
P_K95_PLATINUM
usb.h, 1537
P_K95_PLATINUM_STR
usb.h, 1538
P_K95_STR
usb.h, 1538
P_M65
usb.h, 1538
P_M65_PRO
usb.h, 1538
P_M65_PRO_STR
usb.h, 1538
P_M65_STR
usb.h, 1538
P_SABRE_L
usb.h, 1538
P_SABRE_L_STR
usb.h, 1538
P_SABRE_N
usb.h, 1538
P_SABRE_N_STR
usb.h, 1538
P_SABRE_O
usb.h, 1538
P_SABRE_O2
usb.h, 1539
P_SABRE_O2_STR
usb.h, 1539
P_SABRE_O_STR
usb.h, 1539

P_SCIMITAR
usb.h, 1539
P_SCIMITAR_PRO
usb.h, 1539
P_SCIMITAR_PRO_STR
usb.h, 1539
P_SCIMITAR_STR
usb.h, 1539
P_STRAFE
usb.h, 1539
P_STRAFE_NRGB
usb.h, 1539
P_STRAFE_NRGB_STR
usb.h, 1539
P_STRAFE_STR
usb.h, 1540
PATCH_COUNT
keymap.cpp, 1712
PR_NAME_LEN
structures.h, 1509
PROGRAM_PR_INDEF
KeyAction, 636
PROGRAM_PR_KPSTOP
KeyAction, 636
PROGRAM_PR_KRSTOP
KeyAction, 636
PROGRAM_PR_MULTI
KeyAction, 637
PROGRAM_RE_INDEF
KeyAction, 637
PROGRAM_RE_KPSTOP
KeyAction, 637
PROGRAM_RE_MULTI
KeyAction, 637
paintEvent
GradientDialogWidget, 238
KeyWidget, 673
param
AnimScript, 74
paramIterator
AnimScript, 76
parameter
KbAnim, 331, 332
parameters
AnimScript, 75
parseCommandLine
main.cpp, 1742
parseVersionString
KbManager, 488
pas
ckb-mviz/main.c, 1410
patch
keymap.cpp, 1712
patchANSI
keymap.cpp, 1715
patchDE
keymap.cpp, 1718
patchDK
keymap.cpp, 1718
patchDvorak
keymap.cpp, 1718
patchES
keymap.cpp, 1718
patchEU
keymap.cpp, 1719
patchFR
keymap.cpp, 1719
patchISO
keymap.cpp, 1716
patchIT
keymap.cpp, 1719
patchMX
keymap.cpp, 1719
patchNO
keymap.cpp, 1719
patchSE
keymap.cpp, 1720
path
AnimScript, 76
QuaZipDir, 878
pcpx
_kiss_fft_guts.h, 1600
perf
KbBind, 388
KbMode, 502
KPerfWidget, 717
MPerfWidget, 797
period
ckb-rain/main.c, 1421
permissionsFromExternalAttr
quazipfileinfo.cpp, 1801
phase
ckb-random/main.c, 1426
pickColor
ColorButton, 150
pickGradient
GradientButton, 206
pidActive
main.cpp, 1744
pollLabel
Ui::KbWidget, 603
Ui_KbWidget, 1118
pollLabel2
Ui::KbWidget, 603
Ui_KbWidget, 1118
pollUpdates
ExtraSettingsWidget, 184
SettingsWidget, 1020
pollrate
devcmd.__unnamed__, 164
Kb, 313
popDpi
KbPerf, 529
pos
QIODevice_descriptor, 802
QuaZipFile, 899

positions
KeyMap, 658
power
ckb-mviz/main.c, 1410
powers
ckb-mviz/main.c, 1410
preProgram
KeyAction, 636
prefsPath
gradientdialog.cpp, 1679
Kb, 313
Preset
GradientDialog::Preset, 799
preset
AnimScript, 76
presetBox
Ui::AnimAddDialog, 53
Ui_AnimAddDialog, 1043
presetDelete
Ui::GradientDialog, 214
Ui_GradientDialog, 1080
presetList
Ui::GradientDialog, 215
Ui_GradientDialog, 1080
presetName
Ui::GradientDialog, 215
Ui_GradientDialog, 1081
presetSave
Ui::GradientDialog, 215
Ui_GradientDialog, 1081
PresetValue
AnimScript, 59
presets
AnimScript, 77
GradientDialog, 228
pressestofull
ckb-heat/main.c, 1404
prevMode
Kb, 313
prevProfile
Kb, 313
previewAnim
KbLight, 448
previewBox
Ui::AnimAddDialog, 53
Ui_AnimAddDialog, 1043
previousItems
RListWidget, 1012
printParams
AnimScript, 77
printRGB
KbLight, 449
printdpi
dpi.c, 1279
dpi.h, 1284
printname
profile.c, 1467
printrgb
led.c, 1334
led.h, 1341
printurl
ckb-anim.h, 1658
process
AnimScript, 85
processDownload
KbFirmware, 425
product_str
usb.c, 1523
usb.h, 1561
profile
KbBindWidget, 416
KPerfWidget, 717
MPerfWidget, 797
RebindWidget, 973
profile.c
_freeprofile, 1456
allocprofile, 1456
cmd_erase, 1457
cmd_eraseprofile, 1458
cmd_id, 1458
cmd_name, 1459
cmd_profileid, 1459
cmd_profilename, 1460
freemode, 1460
freeprofile, 1461
gethwmodename, 1461
gethwprofilename, 1462
getid, 1463
getmodename, 1463
getprofilename, 1464
hwtonative, 1465
initmode, 1465
loadprofile, 1466
nativetohw, 1466
printname, 1467
setid, 1468
u16dec, 1468
u16enc, 1469
urldecode2, 1469
urlencode2, 1470
utf16to8, 1471
utf8to16, 1471
profile.h
allocprofile, 1472
cmd_erase, 1473
cmd_eraseprofile, 1474
cmd_hwload_kb, 1474
cmd_hwload_mouse, 1475
cmd_hwsave_kb, 1476
cmd_hwsave_mouse, 1477
cmd_id, 1478
cmd_name, 1478
cmd_profileid, 1479
cmd_profilename, 1479
freeprofile, 1480
gethwmodename, 1480

gethwprofilename, 1481
getid, 1482
getmodename, 1482
getprofilename, 1483
hwloadprofile, 1472
hwtonative, 1484
loadprofile, 1484
nativetohw, 1485
setid, 1485
profile_keyboard.c
cmd_hwload_kb, 1486
cmd_hwsave_kb, 1487
hwloadmode, 1488
profile_mouse.c
cmd_hwload_mouse, 1489
cmd_hwsave_mouse, 1490
profileAdded
Kb, 296
profileBox
Ui::KbWidget, 603
Ui_KbWidget, 1118
profileChanged
Kb, 296
KbWidget, 589
profileList
Ui::KbProfileDialog, 571
Ui_KbProfileDialog, 1109
profileList_reordered
KbProfileDialog, 564
profileRenamed
Kb, 296
profileid
devcmd.__unnamed__, 164
profilename
devcmd.__unnamed__, 164
profiles
Kb, 297
progTipLabel
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
programAction
KeyAction, 632
programInfo
KeyAction, 632
programKpBox
Ui::RebindWidget, 1001
Ui_RebindWidget, 1195
programKpButton
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKpExtra
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKpModeBox
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKpSIBox
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKrBox
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKrButton
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKrExtra
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKrModeBox
Ui::RebindWidget, 1002
Ui_RebindWidget, 1196
programKrSIBox
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
programTab
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
progressBar
Ui::FwUpgradeDialog, 193
Ui_FwUpgradeDialog, 1074
propertyButton
Ui::KbAnimWidget, 350
Ui_KbAnimWidget, 1090
pteMacroBox
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
pteMacroComment
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
pteMacroText
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
pushButton
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1211
pushDpi
KbPerf, 529, 530
pushSniper
KbPerf, 531
pushedDpis
KbPerf, 540
pwd
CkbSettings, 133, 134

q
QuaZipFilePrivate, 920
QuaZipPrivate, 938
qCleanupResources_binary
qrc_binary.cpp, 2043
qCleanupResources_image
qrc_image.cpp, 2046
qCleanupResources_text
qrc_text.cpp, 2048
QColorMap
colormap.h, 1670
QColorMapIterator
colormap.h, 1670

QDialog, 800
QIODevice, 801
QIODevice_descriptor, 802
pos, 802
QIODevice_descriptor, 802
QIODevice_descriptor, 802
qInitResources_binary
qrc_binary.cpp, 2043
qInitResources_image
qrc_image.cpp, 2046
qInitResources_text
qrc_text.cpp, 2049
QListWidget, 803
QMainWindow, 804
QMutableColorMapIterator
colormap.h, 1670
QObject, 805
QPushButton, 806
qRegisterResourceData
qrc_binary.cpp, 2044
qrc_image.cpp, 2047
qrc_text.cpp, 2049
QT_MOC_LITERAL
moc_animadddialog.cpp, 1948
moc_animscript.cpp, 1951
moc_animsettingdialog.cpp, 1953
moc_ckbsettingswriter.cpp, 1956
moc_colorbutton.cpp, 1958
moc_extrasettingswidget.cpp, 1961
moc_fwupgradedialog.cpp, 1964
moc_gradientbutton.cpp, 1967
moc_gradientdialog.cpp, 1969
moc_gradientdialogwidget.cpp, 1972
moc_kb.cpp, 1975
moc_kbanim.cpp, 1977
moc_kbanimwidget.cpp, 1980
moc_kbbind.cpp, 1982
moc_kbbindwidget.cpp, 1984
moc_kbfirmware.cpp, 1987
moc_kblight.cpp, 1990
moc_kblightwidget.cpp, 1993
moc_kbmanager.cpp, 1995
moc_kbmode.cpp, 1997
moc_kbperf.cpp, 2000
moc_kbprofile.cpp, 2002
moc_kbprofiledialog.cpp, 2004
moc_kbwidget.cpp, 2007
moc_keyaction.cpp, 2009
moc_keywidget.cpp, 2011
moc_kperfwidget.cpp, 2014
moc_layoutdialog.cpp, 2017
moc_macroreader.cpp, 2020
moc_mainwindow.cpp, 2023
moc_modeselectdialog.cpp, 2025
moc_mperfwidget.cpp, 2027
moc_quagzipfile.cpp, 2030
moc_quaziodevice.cpp, 2032
moc_quazipfile.cpp, 2034
moc_rebindwidget.cpp, 2037
moc_rlistwidget.cpp, 2039
moc_settingswidget.cpp, 2041
QThread, 807
QUAZIO_INBUFSIZE
quaziodevice.cpp, 1789
QUAZIO_OUTBUFSIZE
quaziodevice.cpp, 1789
QUAZIP_EXPORT
quazip_global.h, 1794
qUnregisterResourceData
qrc_binary.cpp, 2044
qrc_image.cpp, 2047
qrc_text.cpp, 2049
QWidget, 938
qioapi.cpp
call_zopen64, 1771
call_zseek64, 1771
call_ztell64, 1771
fill_qiodevice64_filefunc, 1772
fill_qiodevice_filefunc, 1773
fill_zlib_filefunc64_32_def_from_filefunc32, 1774
qiodevice64_seek_file_func, 1775
qiodevice64_tell_file_func, 1776
qiodevice_close_file_func, 1776
qiodevice_error_file_func, 1777
qiodevice_fakeclose_file_func, 1777
qiodevice_open_file_func, 1778
qiodevice_read_file_func, 1779
qiodevice_seek_file_func, 1779
qiodevice_tell_file_func, 1780
qiodevice_write_file_func, 1780
SEEK_CUR, 1771
SEEK_END, 1771
SEEK_SET, 1771
qiodevice64_seek_file_func
qioapi.cpp, 1775
qiodevice64_tell_file_func
qioapi.cpp, 1776
qiodevice_close_file_func
qioapi.cpp, 1776
qiodevice_error_file_func
qioapi.cpp, 1777
qiodevice_fakeclose_file_func
qioapi.cpp, 1777
qiodevice_open_file_func
qioapi.cpp, 1778
qiodevice_read_file_func
qioapi.cpp, 1779
qiodevice_seek_file_func
qioapi.cpp, 1779
qiodevice_tell_file_func
qioapi.cpp, 1780
qiodevice_write_file_func
qioapi.cpp, 1780
qrc_binary.cpp
qCleanupResources_binary, 2043
qInitResources_binary, 2043

qRegisterResourceData, 2044
qUnregisterResourceData, 2044
qt_resource_data, 2045
qt_resource_name, 2045
qt_resource_struct, 2045
qrc_image.cpp
qCleanupResources_image, 2046
qInitResources_image, 2046
qRegisterResourceData, 2047
qUnregisterResourceData, 2047
qt_resource_data, 2047
qt_resource_name, 2047
qt_resource_struct, 2048
qrc_text.cpp
qCleanupResources_text, 2048
qInitResources_text, 2049
qRegisterResourceData, 2049
qUnregisterResourceData, 2049
qt_resource_data, 2050
qt_resource_name, 2050
qt_resource_struct, 2050
qs_strcmp
colormap.cpp, 1668
qt_meta_stringdata_AnimAddDialog_t, 1947
qt_meta_stringdata_AnimScript_t, 1950
qt_meta_stringdata_AnimSettingDialog_t, 1953
qt_meta_stringdata_CkbSettingsWriter_t, 1955
qt_meta_stringdata_ColorButton_t, 1958
qt_meta_stringdata_ExtraSettingsWidget_t, 1960
qt_meta_stringdata_FwUpgradeDialog_t, 1963
qt_meta_stringdata_GradientButton_t, 1966
qt_meta_stringdata_GradientDialog_t, 1969
qt_meta_stringdata_GradientDialogWidget_t, 1971
qt_meta_stringdata_KPerfWidget_t, 2013
qt_meta_stringdata_Kb_t, 1974
qt_meta_stringdata_KbAnim_t, 1976
qt_meta_stringdata_KbAnimWidget_t, 1979
qt_meta_stringdata_KbBind_t, 1981
qt_meta_stringdata_KbBindWidget_t, 1984
qt_meta_stringdata_KbFirmware_t, 1986
qt_meta_stringdata_KbLight_t, 1989
qt_meta_stringdata_KbLightWidget_t, 1992
qt_meta_stringdata_KbManager_t, 1994
qt_meta_stringdata_KbMode_t, 1997
qt_meta_stringdata_KbPerf_t, 1999
qt_meta_stringdata_KbProfile_t, 2002
qt_meta_stringdata_KbProfileDialog_t, 2004
qt_meta_stringdata_KbWidget_t, 2007
qt_meta_stringdata_KeyAction_t, 2008
qt_meta_stringdata_KeyWidget_t, 2011
qt_meta_stringdata_LayoutDialog_t, 2016
qt_meta_stringdata_MPerfWidget_t, 2027
qt_meta_stringdata_MacroReader_t, 2019
qt_meta_stringdata_MacroReaderThread_t, 2019
qt_meta_stringdata_MainWindow_t, 2023
qt_meta_stringdata_ModeSelectDialog_t, 2024
qt_meta_stringdata_QuaGzipFile_t, 2029
qt_meta_stringdata_QuaZIODevice_t, 2032
qt_meta_stringdata_QuaZipFile_t, 2034
qt_meta_stringdata_RListWidget_t, 2038
qt_meta_stringdata_RebindWidget_t, 2036
qt_meta_stringdata_SettingsWidget_t, 2041
qt_meta_data_AnimAddDialog
moc_animadddialog.cpp, 1948
qt_meta_data_AnimScript
moc_animscript.cpp, 1951
qt_meta_data_AnimSettingDialog
moc_animsettingdialog.cpp, 1954
qt_meta_data_CkbSettingsWriter
moc_ckbsettingswriter.cpp, 1956
qt_meta_data_ColorButton
moc_colorbutton.cpp, 1959
qt_meta_data_ExtraSettingsWidget
moc_extrasettingswidget.cpp, 1961
qt_meta_data_FwUpgradeDialog
moc_fwupgradedialog.cpp, 1964
qt_meta_data_GradientButton
moc_gradientbutton.cpp, 1967
qt_meta_data_GradientDialog
moc_gradientdialog.cpp, 1970
qt_meta_data_GradientDialogWidget
moc_gradientdialogwidget.cpp, 1972
qt_meta_data_KPerfWidget
moc_kperfwidget.cpp, 2014
qt_meta_data_Kb
moc_kb.cpp, 1975
qt_meta_data_KbAnim
moc_kbanim.cpp, 1977
qt_meta_data_KbAnimWidget
moc_kbanimwidget.cpp, 1980
qt_meta_data_KbBind
moc_kbbind.cpp, 1982
qt_meta_data_KbBindWidget
moc_kbbindwidget.cpp, 1985
qt_meta_data_KbFirmware
moc_kbfirmware.cpp, 1987
qt_meta_data_KbLight
moc_kblight.cpp, 1990
qt_meta_data_KbLightWidget
moc_kblightwidget.cpp, 1993
qt_meta_data_KbManager
moc_kbmanager.cpp, 1995
qt_meta_data_KbMode
moc_kbmode.cpp, 1998
qt_meta_data_KbPerf
moc_kbperf.cpp, 2000
qt_meta_data_KbProfile
moc_kbprofile.cpp, 2003
qt_meta_data_KbProfileDialog
moc_kbprofiledialog.cpp, 2005
qt_meta_data_KbWidget
moc_kbwidget.cpp, 2007
qt_meta_data_KeyAction
moc_keyaction.cpp, 2009
qt_meta_data_KeyWidget
moc_keywidget.cpp, 2012

qt_meta_data_LayoutDialog
moc_layoutdialog.cpp, 2017
qt_meta_data_MPerfWidget
moc_mperfwidget.cpp, 2028
qt_meta_data_MacroReader
moc_macroreader.cpp, 2020
qt_meta_data_MacroReaderThread
moc_macroreader.cpp, 2021
qt_meta_data_MainWindow
moc_mainwindow.cpp, 2023
qt_meta_data_ModeSelectDialog
moc_modeselectdialog.cpp, 2025
qt_meta_data_QuaGzipFile
moc_quagzipfile.cpp, 2030
qt_meta_data_QuaZIODevice
moc_quaziodevice.cpp, 2033
qt_meta_data_QuaZipFile
moc_quazipfile.cpp, 2035
qt_meta_data_RListWidget
moc_rlistwidget.cpp, 2039
qt_meta_data_RebindWidget
moc_rebindwidget.cpp, 2037
qt_meta_data_SettingsWidget
moc_settingswidget.cpp, 2042
qt_meta_stringdata_AnimAddDialog
moc_animadddialog.cpp, 1949
qt_meta_stringdata_AnimScript
moc_animscript.cpp, 1952
qt_meta_stringdata_AnimSettingDialog
moc_animsettingdialog.cpp, 1954
qt_meta_stringdata_CkbSettingsWriter
moc_ckbsettingswriter.cpp, 1957
qt_meta_stringdata_ColorButton
moc_colorbutton.cpp, 1959
qt_meta_stringdata_ExtraSettingsWidget
moc_extrasettingswidget.cpp, 1961
qt_meta_stringdata_FwUpgradeDialog
moc_fwupgradedialog.cpp, 1965
qt_meta_stringdata_GradientButton
moc_gradientbutton.cpp, 1968
qt_meta_stringdata_GradientDialog
moc_gradientdialog.cpp, 1970
qt_meta_stringdata_GradientDialogWidget
moc_gradientdialogwidget.cpp, 1973
qt_meta_stringdata_KPerfWidget
moc_kperfwidget.cpp, 2015
qt_meta_stringdata_Kb
moc_kb.cpp, 1975
qt_meta_stringdata_KbAnim
moc_kbanim.cpp, 1978
qt_meta_stringdata_KbAnimWidget
moc_kbanimwidget.cpp, 1980
qt_meta_stringdata_KbBind
moc_kbbind.cpp, 1982
qt_meta_stringdata_KbBindWidget
moc_kbbindwidget.cpp, 1985
qt_meta_stringdata_KbFirmware
moc_kbfirmware.cpp, 1988
qt_meta_stringdata_KbLight
moc_kblight.cpp, 1991
qt_meta_stringdata_KbLightWidget
moc_kblightwidget.cpp, 1993
qt_meta_stringdata_KbManager
moc_kbmanager.cpp, 1995
qt_meta_stringdata_KbMode
moc_kbmode.cpp, 1998
qt_meta_stringdata_KbPerf
moc_kbperf.cpp, 2001
qt_meta_stringdata_KbProfile
moc_kbprofile.cpp, 2003
qt_meta_stringdata_KbProfileDialog
moc_kbprofiledialog.cpp, 2005
qt_meta_stringdata_KbWidget
moc_kbwidget.cpp, 2007
qt_meta_stringdata_KeyAction
moc_keyaction.cpp, 2010
qt_meta_stringdata_KeyWidget
moc_keywidget.cpp, 2012
qt_meta_stringdata_LayoutDialog
moc_layoutdialog.cpp, 2018
qt_meta_stringdata_MPerfWidget
moc_mperfwidget.cpp, 2028
qt_meta_stringdata_MacroReader
moc_macroreader.cpp, 2021
qt_meta_stringdata_MacroReaderThread
moc_macroreader.cpp, 2021
qt_meta_stringdata_MainWindow
moc_mainwindow.cpp, 2023
qt_meta_stringdata_ModeSelectDialog
moc_modeselectdialog.cpp, 2026
qt_meta_stringdata_QuaGzipFile
moc_quagzipfile.cpp, 2031
qt_meta_stringdata_QuaZIODevice
moc_quaziodevice.cpp, 2033
qt_meta_stringdata_QuaZipFile
moc_quazipfile.cpp, 2035
qt_meta_stringdata_RListWidget
moc_rlistwidget.cpp, 2039
qt_meta_stringdata_RebindWidget
moc_rebindwidget.cpp, 2037
qt_meta_stringdata_SettingsWidget
moc_settingswidget.cpp, 2042
qt_resource_data
qrc_binary.cpp, 2045
qrc_image.cpp, 2047
qrc_text.cpp, 2050
qt_resource_name
qrc_binary.cpp, 2045
qrc_image.cpp, 2047
qrc_text.cpp, 2050
qt_resource_struct
qrc_binary.cpp, 2045
qrc_image.cpp, 2048
qrc_text.cpp, 2050
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, 1791, 1792
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, 1795, 1796
QuaZipDir_getFileInfo
quazipdir.cpp, 1796
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, 1803
QuaZipNewInfo_setPermissions
quazipnewinfo.cpp, 1804
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, 1374
quaziodevice.cpp
QUAZIO_INBUFSIZE, 1789
QUAZIO_OUTBUFSIZE, 1789
quazip.cpp
QuaZip_getFileInfo, 1791, 1792
quazip.h
UNZ_OPENERROR, 1793
quazip_global.h
QUAZIP_EXPORT, 1794
UNUSED, 1795
quazipdir.cpp
QuaZipDir_convertInfoList, 1795, 1796
QuaZipDir_getFileInfo, 1796
quazipfileinfo.cpp
getNTFSTime, 1799
permissionsFromExternalAttr, 1801
quazipnewinfo.cpp
QuaZipNewInfo_init, 1803
QuaZipNewInfo_setPermissions, 1804
setNTFSTime, 1804
quit
ckb-daemon/main.c, 1387
quitApp
MainWindow, 745
quitWithLock
ckb-daemon/main.c, 1388

REBIND
command.h, 1228
RESTART
command.h, 1228
RGB
command.h, 1228
KPerfWidget, 709
README.md, 1219
RListWidget, 1006
change, 1009
currentData, 1012
DATA_ROLE, 1012
dragged, 1012
enter, 1009
orderChanged, 1010
previousItems, 1012
RListWidget, 1008
reorderTimer, 1012
rescanItems, 1010
RListWidget, 1008
timerTick, 1011
ROADMAP.md, 1219
randomBright
ckb-heat/main.c, 1404
randomize
ckb-gradient/main.c, 1398
ckb-ripple/main.c, 1432
raw
QuaZipFilePrivate, 920
raw2Mode
KPerfWidget, 713
rb_delay_asTyped
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
rb_delay_default
Ui::RebindWidget, 1003
Ui_RebindWidget, 1197
rb_delay_no
Ui::RebindWidget, 1004
Ui_RebindWidget, 1197
rbWidget
Ui::KbBindWidget, 404
Ui_KbBindWidget, 1096
reInit
KbAnim, 333
readAnyFrame
AnimScript, 85
readData
QuaGzipFile, 823
QuaZIODevice, 830
QuaZipFile, 900
readFrame

AnimScript, 85
readMacro
MacroReaderThread, 732
readNotify
Kb, 298
readProcess
AnimScript, 78
readcmd
command.c, 1220
command.h, 1229
readlines
devnode.c, 1263
devnode.h, 1272
readlines_ctx
devnode.h, 1270
readlines_ctx_free
devnode.c, 1264
devnode.h, 1273
readlines_ctx_init
devnode.c, 1265
devnode.h, 1274
rebind
devcmd.__unnamed__, 164
RebindWidget, 939
~RebindWidget, 944
applyChanges, 944
bind, 972
convertMacroBox, 946
firstCall, 973
fnKeys, 973
helpStatus, 947
macReader, 973
mediaKeys, 973
modKeys, 973
mouseExtKeys, 973
mouseKeys, 973
numKeys, 973
on_animBox_currentIndexChanged, 948
on_animButton_clicked, 948
on_applyButton_clicked, 949
on_btnClearMacro_clicked, 949
on_btnStartMacro_clicked, 950
on_btnStopMacro_clicked, 950
on_cancelButton_clicked, 951
on_dpiBox_currentIndexChanged, 952
on_dpiButton_clicked, 953
on_fnBox_currentIndexChanged, 953
on_fnButton_clicked, 954
on_lightBox_currentIndexChanged, 954
on_lightButton_clicked, 954
on_lockBox_currentIndexChanged, 954
on_lockButton_clicked, 955
on_mb2Box_currentIndexChanged, 955
on_mb2Button_clicked, 955
on_mbBox_currentIndexChanged, 955
on_mbButton_clicked, 956
on_mediaBox_currentIndexChanged, 956
on_mediaButton_clicked, 956
on_modBox_currentIndexChanged, 957
on_modButton_clicked, 957
on_modeBox_currentIndexChanged, 957
on_modeButton_clicked, 958
on_numBox_currentIndexChanged, 958
on_numButton_clicked, 958
on_programKpBox_textChanged, 958
on_programKpButton_clicked, 959
on_programKpSIBox_clicked, 959
on_programKrBox_textChanged, 959
on_programKrButton_clicked, 960
on_programKrSIBox_clicked, 960
on_pteMacroBox_textChanged, 960
on_rb_delay_asTyped_toggled, 961
on_rb_delay_default_toggled, 961
on_rb_delay_no_toggled, 962
on_resetButton_clicked, 962
on_typingBox_currentIndexChanged, 963
on_typingButton_clicked, 963
on_unbindButton_clicked, 963
on_wheelBox_currentIndexChanged, 964
on_wheelButton_clicked, 964
profile, 973
RebindWidget, 943
RebindWidget, 943
selection, 974
setBind, 964
setBox, 967
setCorrectRadioButton, 968
setSelection, 969
TAB_ANIM, 974
TAB_KB, 974
TAB_MACRO, 974
TAB_MOUSE, 974
TAB_PROGRAM, 974
TAB_SPECIAL, 974
typingKeys, 974
ui, 974
wheelKeys, 975
rebindwidget.cpp
DPI_CUST_IDX, 1945
DPI_OFFSET, 1945
rebuildBaseMap
KbLight, 450
refreshList
KbAnimWidget, 363
relProgram
KeyAction, 637
relativeFilePath
QuaZipDir, 879
remove
CkbSettings, 135
removeAll
KbProfile, 554
removeCache
CkbSettings, 140
removeDev
FwUpgradeDialog, 200

removeDevice
MainWindow, 746
removeFile
JlCompress, 261
reorderAnims
KbAnimWidget, 364
reorderTimer
RListWidget, 1012
repeatBox
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
repeatKey
KbAnim, 341
repeatLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
repeatLabel_2
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
repeatMsec
AnimScript, 85
KbAnim, 341
repeatTime
KbAnim, 341
repopulate
KbProfileDialog, 565
rescanItems
RListWidget, 1010
reset
QuaAdler32, 810
QuaChecksum32, 813
QuaCrc32, 816
reset_stop
ckb-daemon/main.c, 1392
usb.c, 1528
resetAction
KbBind, 389
resetButton
Ui::KbBindWidget, 404
Ui::RebindWidget, 1004
Ui_KbBindWidget, 1096
Ui_RebindWidget, 1198
resetIndicators
KbLight, 451
resetParams
KbAnim, 333
resetZipError
QuaZipFilePrivate, 918
resetusb
usb.h, 1540
restart
ckb-daemon/main.c, 1389
devcmd.__unnamed__, 164
notify.c, 1448
restartAnimation
KbLight, 451
restoreAction
MainWindow, 751
retranslateUi
Ui::AnimAddDialog, 50
Ui::AnimSettingDialog, 88
Ui::ExtraSettingsWidget, 167
Ui::FwUpgradeDialog, 189
Ui::GradientDialog, 210
Ui::KbAnimWidget, 343
Ui::KbBindWidget, 400
Ui::KbLightWidget, 459
Ui::KbProfileDialog, 569
Ui::KbWidget, 596
Ui::KPerfWidget, 688
Ui::LayoutDialog, 719
Ui::MainWindow, 735
Ui::ModeSelectDialog, 754
Ui::MPerfWidget, 763
Ui::RebindWidget, 979
Ui::SettingsWidget, 1026
Ui_AnimAddDialog, 1040
Ui_AnimSettingDialog, 1046
Ui_ExtraSettingsWidget, 1059
Ui_FwUpgradeDialog, 1070
Ui_GradientDialog, 1076
Ui_KbAnimWidget, 1084
Ui_KbBindWidget, 1093
Ui_KbLightWidget, 1099
Ui_KbProfileDialog, 1107
Ui_KbWidget, 1111
Ui_KPerfWidget, 1122
Ui_LayoutDialog, 1140
Ui_MainWindow, 1145
Ui_ModeSelectDialog, 1148
Ui_MPerfWidget, 1154
Ui_RebindWidget, 1174
Ui_SettingsWidget, 1203
retrigger
AnimScript, 79
revertusb
usb.c, 1524
usb.h, 1562
rgb, 1422
devcmd.__unnamed__, 164
rgbMode
KeyWidget, 678, 679
rgbcmp
led_keyboard.c, 1375
led_mouse.c, 1381
right
settingswidget.cpp, 2053
rm_recursive
devnode.c, 1265
rmdevpath
devnode.c, 1266
devnode.h, 1274
rmnotifynode
devnode.c, 1267
devnode.h, 1275
run

CkbSettingsWriter, 142
Kb, 302
MacroReaderThread, 732
runningPushIdx
KbPerf, 540

SABRE
KeyMap, 641
SCIMITAR
KeyMap, 641
SCROLL
KbPerf, 510
SCROLLSPEED
command.h, 1227
SE
KeyMap, 640
SET
KeyWidget, 665
SNAP
command.h, 1228
SPECIAL
KeyAction, 611
STRAFE
KeyMap, 641
SUBTRACT
KeyWidget, 665
SWITCH
command.h, 1227
S_CUSTOM
devnode.h, 1270
S_CUSTOM_R
devnode.h, 1270
S_GID_READ
devnode.c, 1257
S_MUL
_kiss_fft_guts.h, 1600
S_READ
devnode.h, 1270
S_READDIR
devnode.h, 1270
S_READWRITE
devnode.h, 1270
SABRE_HEIGHT
keymap.cpp, 1712
SABRE_WIDTH
keymap.cpp, 1712
sAccelBox
Ui::ExtraSettingsWidget, 175
Ui_ExtraSettingsWidget, 1066
sAuthorLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
SCAN_KBD
daemon/keymap.h, 1726
SCAN_MOUSE
daemon/keymap.h, 1726
SCAN_SILENT
daemon/keymap.h, 1726
SCIM_HEIGHT
keymap.cpp, 1712
SCIM_WIDTH
keymap.cpp, 1712
SCROLL_ACCELERATED
structures.h, 1509
SCROLL_MAX
structures.h, 1509
SCROLL_MIN
structures.h, 1509
sDescLabel
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
SEEK_CUR
qioapi.cpp, 1771
zip.c, 1886
SEEK_END
qioapi.cpp, 1771
zip.c, 1886
SEEK_SET
qioapi.cpp, 1771
zip.c, 1886
SERIAL_LEN
structures.h, 1509
SET_END
mperfwidget.cpp, 1753
SET_KEYBIT
structures.h, 1509
SET_START
mperfwidget.cpp, 1753
SGroup, 1036
~SGroup, 1038
_settings, 1038
SGroup, 1038
SGroup, 1038
SHMEM_SIZE
main.cpp, 1739
SHMEM_SIZE_V015
main.cpp, 1739
SIZECENTRALDIRITEM
unzip.c, 1813
SIZECENTRALHEADER
zip.c, 1886
SIZEDATA_INDATABLOCK
zip.c, 1886
SIZEZIPLOCALHEADER
unzip.c, 1813
sLicenseLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
SNIPER
KbPerf, 540
sNameLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
sSpeedBox
Ui::ExtraSettingsWidget, 175
Ui_ExtraSettingsWidget, 1067
sSpeedWidget

Ui::ExtraSettingsWidget, 175
Ui_ExtraSettingsWidget, 1067
sToL
kblight.cpp, 1694
sVerLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
sYearLabel
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
sabOverlay
keywidget.cpp, 1732
SabreKeys
keymap.cpp, 1720
save
Kb, 303
KbAnim, 334
KbBind, 390
KbLight, 452
KbMode, 502
KbPerf, 532
KbProfile, 555
saveBlob
FwUpgradeDialog, 201
saveGlobalRemap
KbBind, 391
savePath
FwUpgradeDialog, 202
savedpi
dpi.c, 1280
dpi.h, 1285
savergb_kb
led.h, 1343
led_keyboard.c, 1375
savergb_mouse
led.h, 1344
led_mouse.c, 1382
scan
AnimScript, 80
scanKeyboards
KbManager, 488
scanTimer
KbManager, 490
ScimKeys
keymap.cpp, 1720
scimOverlay
keywidget.cpp, 1732
script
KbAnim, 335
scriptName
KbAnim, 335
scripts
AnimAddDialog, 48
AnimScript, 85
scrollBox
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1137
scrollColorOff
Ui::KPerfWidget, 703
Ui_KPerfWidget, 1137
scrollColorOn
Ui::KPerfWidget, 704
Ui_KPerfWidget, 1137
scrollSpeed
Kb, 304
selAllButton
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1150
selLabel
Ui::KbLightWidget, 465
Ui_KbLightWidget, 1105
selNoneButton
Ui::ModeSelectDialog, 756
Ui_ModeSelectDialog, 1151
selectAll
KeyWidget, 679
selectLabel
Ui::KbBindWidget, 404
Ui_KbBindWidget, 1096
selected
GradientDialogWidget, 244
LayoutDialog, 725
selectedKeys
KbAnimWidget, 368
selectedOffset
GradientDialogWidget, 244
selectedPos
GradientDialogWidget, 244
selectedStop
GradientDialogWidget, 239
selection
KeyWidget, 684
ModeSelectDialog, 759
RebindWidget, 974
selectionChanged
KeyWidget, 680
selectionColors
GradientDialogWidget, 240
selectionStack
Ui::KbAnimWidget, 350
Ui_KbAnimWidget, 1090
serialLabel
Ui::KbWidget, 603
Ui_KbWidget, 1118
set
CkbSettings, 136
setAction
KbBind, 392
setAnimation
KeyWidget, 680
setAnimationToSelection
KeyWidget, 681
setAutoClose
QuaZip, 857
setBind
KbBindWidget, 412

RebindWidget, 964
setBox
RebindWidget, 967
setCaseSensitivity
QuaZipDir, 879
setComment
QuaZip, 858
setCommentCodec
QuaZip, 858
setCorrectRadioButton
RebindWidget, 968
setCurrent
KbAnimWidget, 365
setCurrentColor
GradientDialogWidget, 240
setCurrentFile
QuaZip, 858
setCurrentMode
Kb, 305, 306
setCurrentProfile
Kb, 307
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, 393
setIndicator
KbLight, 453
KbPerf, 533
setIoDevice
QuaZip, 862
setLabel
ColorButton, 150, 151
setLight
KbAnimWidget, 366
KbLightWidget, 475
setMonochrome
KbLightWidget, 476
setNTFSTime
quazipnewinfo.cpp, 1804
setNameFilters
QuaZipDir, 880
setNeedsSave
KbMode, 503
KbProfile, 556
setNeedsUpdate
KbBind, 394
KbMode, 504
KbPerf, 533
KbProfile, 556
setPath
QuaZipDir, 880
setPerf
KPerfWidget, 714
MPerfWidget, 793
setPermissions
QuaZipNewInfo, 928
setPreset
GradientDialog, 226
setSelectedKeys
KbAnimWidget, 367
setSelection
KeyWidget, 681
RebindWidget, 969
setSorting
QuaZipDir, 881
setStatus
SettingsWidget, 1021
setStops
GradientDialogWidget, 241
setValue
CkbSettings, 137
setVersion
SettingsWidget, 1021
setWritable
CkbSettings, 138
setZip
QuaZipFile, 901
setZip64Enabled
QuaZip, 863
setZipError
QuaZipFilePrivate, 918
setZipName
QuaZip, 863
QuaZipFile, 902
setactive
device.h, 1239
setactive_kb
device.h, 1241
device_keyboard.c, 1247
setactive_mouse
device.h, 1243
device_mouse.c, 1251
setid

profile.c, 1468
profile.h, 1485
setmodeindex
devcmd.__unnamed__, 164
setmodeindex_nrgb
device.h, 1244
device_keyboard.c, 1249
settingPath
autorun.cpp, 1635
settingTab
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1055
settingWidgets
AnimSettingDialog, 119
settingsCacheMutex
ckbsettings.cpp, 1663
ckbsettingswriter.cpp, 1666
settingsGrid
Ui::AnimSettingDialog, 97
Ui_AnimSettingDialog, 1054
settingsMutex
ckbsettings.cpp, 1663
ckbsettingswriter.cpp, 1666
settingsUpdated
KbPerf, 534
SettingsWidget, 1012
~SettingsWidget, 1016
extra, 1024
MainWindow, 1023
on_altBox_activated, 1017
on_autoFWBox_clicked, 1017
on_capsBox_activated, 1017
on_ctrlBox_activated, 1018
on_extraButton_clicked, 1018
on_layoutBox_activated, 1018
on_loginItemBox_clicked, 1019
on_pushButton_clicked, 1019
on_shiftBox_activated, 1019
on_winBox_activated, 1020
pollUpdates, 1020
setStatus, 1021
setVersion, 1021
SettingsWidget, 1015
SettingsWidget, 1015
showLayoutDialog, 1021
ui, 1024
updateModifiers, 1022
settingsWidget
MainWindow, 752
settingswidget.cpp
devpath, 2053
modKeys, 2053
modNames, 2053
right, 2053
setupUi
Ui::AnimAddDialog, 51
Ui::AnimSettingDialog, 89
Ui::ExtraSettingsWidget, 168
Ui::FwUpgradeDialog, 189
Ui::GradientDialog, 211
Ui::KbAnimWidget, 344
Ui::KbBindWidget, 400
Ui::KbLightWidget, 460
Ui::KbProfileDialog, 570
Ui::KbWidget, 597
Ui::KPerfWidget, 689
Ui::LayoutDialog, 719
Ui::MainWindow, 735
Ui::ModeSelectDialog, 754
Ui::MPerfWidget, 765
Ui::RebindWidget, 981
Ui::SettingsWidget, 1027
Ui_AnimAddDialog, 1040
Ui_AnimSettingDialog, 1047
Ui_ExtraSettingsWidget, 1060
Ui_FwUpgradeDialog, 1070
Ui_GradientDialog, 1077
Ui_KbAnimWidget, 1084
Ui_KbBindWidget, 1093
Ui_KbLightWidget, 1100
Ui_KbProfileDialog, 1108
Ui_KbWidget, 1112
Ui_KPerfWidget, 1123
Ui_LayoutDialog, 1140
Ui_MainWindow, 1145
Ui_ModeSelectDialog, 1149
Ui_MPerfWidget, 1155
Ui_RebindWidget, 1176
Ui_SettingsWidget, 1203
setupusb
usb.c, 1525
usb.h, 1563
shareDimming
KbLight, 453, 454
shiftBox
Ui::SettingsWidget, 1034
Ui_SettingsWidget, 1211
shiftLabel
Ui::SettingsWidget, 1035
Ui_SettingsWidget, 1211
showAnimBox
Ui::KbLightWidget, 465
Ui_KbLightWidget, 1105
showFirstTab
KbWidget, 590
showFwUpdate
KbWidget, 590
showFwUpdateNotification
MainWindow, 746
showLastTab
KbWidget, 591
showLayoutDialog
SettingsWidget, 1021
showPreview
AnimAddDialog, 48
showWindow

MainWindow, 747
sidelightToggled
KeyWidget, 682
sighandler
ckb-daemon/main.c, 1390
sighandler2
ckb-daemon/main.c, 1391
size
QuaZipFile, 902
sliderXMapper
MPerfWidget, 797
sliderXMoved
MPerfWidget, 794
sliderYMapper
MPerfWidget, 797
sliderYMoved
MPerfWidget, 795
snap
devcmd.__unnamed__, 164
sniperDpi
KbPerf, 534, 535
sniperValue
KeyAction, 637
sorting
QuaZipDir, 881
spawn
ckb-rain/main.c, 1421
specialInfo
KeyAction, 633
specials
firmware_special.h, 1673
speed
ckb-rain/main.c, 1421
spinBox
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1167
src/ckb-daemon/command.c, 1219
src/ckb-daemon/command.h, 1224
src/ckb-daemon/device.c, 1233
src/ckb-daemon/device.h, 1237
src/ckb-daemon/device_keyboard.c, 1246
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, 1268
src/ckb-daemon/dpi.c, 1276
src/ckb-daemon/dpi.h, 1281
src/ckb-daemon/extra_mac.c, 1286
src/ckb-daemon/firmware.c, 1287
src/ckb-daemon/firmware.h, 1292
src/ckb-daemon/includes.h, 1294
src/ckb-daemon/input.c, 1298
src/ckb-daemon/input.h, 1308
src/ckb-daemon/input_linux.c, 1317
src/ckb-daemon/input_mac.c, 1324
src/ckb-daemon/input_mac_mouse.c, 1325
src/ckb-daemon/keymap.c, 1325
src/ckb-daemon/keymap.h, 1721
src/ckb-daemon/keymap_mac.h, 1329
src/ckb-daemon/led.c, 1330
src/ckb-daemon/led.h, 1336
src/ckb-daemon/led_keyboard.c, 1347
src/ckb-daemon/led_mouse.c, 1380
src/ckb-daemon/main.c, 1383
src/ckb-daemon/notify.c, 1440
src/ckb-daemon/notify.h, 1449
src/ckb-daemon/os.h, 1453
src/ckb-daemon/profile.c, 1455
src/ckb-daemon/profile.h, 1471
src/ckb-daemon/profile_keyboard.c, 1486
src/ckb-daemon/profile_mouse.c, 1489
src/ckb-daemon/structures.h, 1491
src/ckb-daemon/usb.c, 1510
src/ckb-daemon/usb.h, 1529
src/ckb-daemon/usb_linux.c, 1568
src/ckb-daemon/usb_mac.c, 1595
src/ckb-gradient/main.c, 1392
src/ckb-heat/main.c, 1399
src/ckb-mviz/_kiss_fft_guts.h, 1596
src/ckb-mviz/kiss_fft.c, 1600
src/ckb-mviz/kiss_fft.h, 1612
src/ckb-mviz/kiss_fftr.c, 1619
src/ckb-mviz/kiss_fftr.h, 1624
src/ckb-mviz/main.c, 1404
src/ckb-pinwheel/main.c, 1410
src/ckb-rain/main.c, 1415
src/ckb-random/main.c, 1421
src/ckb-ripple/main.c, 1426
src/ckb-wave/main.c, 1432
src/ckb/animadddialog.cpp, 1628
src/ckb/animadddialog.h, 1629
src/ckb/animscript.cpp, 1629
src/ckb/animscript.h, 1631
src/ckb/animsettingdialog.cpp, 1632
src/ckb/animsettingdialog.h, 1634
src/ckb/autorun.cpp, 1635
src/ckb/autorun.h, 1636
src/ckb/ckb-anim.h, 1636
src/ckb/ckbsettings.cpp, 1660
src/ckb/ckbsettings.h, 1663
src/ckb/ckbsettingswriter.cpp, 1664
src/ckb/ckbsettingswriter.h, 1666
src/ckb/colorbutton.cpp, 1666
src/ckb/colorbutton.h, 1667
src/ckb/colormap.cpp, 1668
src/ckb/colormap.h, 1669
src/ckb/extrasettingswidget.cpp, 1670
src/ckb/extrasettingswidget.h, 1671
src/ckb/firmware_special.h, 1671
src/ckb/fwupgradedialog.cpp, 1674
src/ckb/fwupgradedialog.h, 1676
src/ckb/gradientbutton.cpp, 1677
src/ckb/gradientbutton.h, 1678
src/ckb/gradientdialog.cpp, 1679
src/ckb/gradientdialog.h, 1679
src/ckb/gradientdialogwidget.cpp, 1680

src/ckb/gradientdialogwidget.h, 1680
src/ckb/kb.cpp, 1681
src/ckb/kb.h, 1682
src/ckb/kbanim.cpp, 1683
src/ckb/kbanim.h, 1685
src/ckb/kbanimwidget.cpp, 1686
src/ckb/kbanimwidget.h, 1686
src/ckb/kbbind.cpp, 1687
src/ckb/kbbind.h, 1688
src/ckb/kbbindwidget.cpp, 1688
src/ckb/kbbindwidget.h, 1689
src/ckb/kbfirmware.cpp, 1689
src/ckb/kbfirmware.h, 1691
src/ckb/kblight.cpp, 1692
src/ckb/kblight.h, 1694
src/ckb/kblightwidget.cpp, 1695
src/ckb/kblightwidget.h, 1695
src/ckb/kbmanager.cpp, 1696
src/ckb/kbmanager.h, 1697
src/ckb/kbmode.cpp, 1698
src/ckb/kbmode.h, 1699
src/ckb/kbperf.cpp, 1700
src/ckb/kbperf.h, 1700
src/ckb/kbprofile.cpp, 1701
src/ckb/kbprofile.h, 1701
src/ckb/kbprofiledialog.cpp, 1702
src/ckb/kbprofiledialog.h, 1702
src/ckb/kbwidget.cpp, 1703
src/ckb/kbwidget.h, 1704
src/ckb/keyaction.cpp, 1704
src/ckb/keyaction.h, 1705
src/ckb/keymap.cpp, 1706
src/ckb/keymap.h, 1721
src/ckb/keywidget.cpp, 1730
src/ckb/keywidget.h, 1732
src/ckb/kperfwidget.cpp, 1733
src/ckb/kperfwidget.h, 1733
src/ckb/layoutdialog.cpp, 1735
src/ckb/layoutdialog.h, 1736
src/ckb/macroreader.cpp, 1737
src/ckb/macroreader.h, 1737
src/ckb/main.cpp, 1738
src/ckb/mainwindow.cpp, 1744
src/ckb/mainwindow.h, 1745
src/ckb/media.h, 1746
src/ckb/media_linux.cpp, 1748
src/ckb/media_mac.m, 1749
src/ckb/modeselectdialog.cpp, 1751
src/ckb/modeselectdialog.h, 1751
src/ckb/mperfwidget.cpp, 1752
src/ckb/mperfwidget.h, 1755
src/ckb/quazip/JlCompress.cpp, 1767
src/ckb/quazip/JlCompress.h, 1769
src/ckb/quazip/crypt.h, 1757
src/ckb/quazip/ioapi.h, 1760
src/ckb/quazip/qioapi.cpp, 1769
src/ckb/quazip/quaadler32.cpp, 1781
src/ckb/quazip/quaadler32.h, 1782
src/ckb/quazip/quachecksum32.h, 1783
src/ckb/quazip/quacrc32.cpp, 1784
src/ckb/quazip/quacrc32.h, 1785
src/ckb/quazip/quagzipfile.cpp, 1786
src/ckb/quazip/quagzipfile.h, 1787
src/ckb/quazip/quaziodevice.cpp, 1788
src/ckb/quazip/quaziodevice.h, 1789
src/ckb/quazip/quazip.cpp, 1790
src/ckb/quazip/quazip.h, 1792
src/ckb/quazip/quazip_global.h, 1793
src/ckb/quazip/quazipdir.cpp, 1795
src/ckb/quazip/quazipdir.h, 1797
src/ckb/quazip/quazipfile.cpp, 1797
src/ckb/quazip/quazipfile.h, 1798
src/ckb/quazip/quazipfileinfo.cpp, 1799
src/ckb/quazip/quazipfileinfo.h, 1801
src/ckb/quazip/quazipnewinfo.cpp, 1802
src/ckb/quazip/quazipnewinfo.h, 1806
src/ckb/quazip/unzip.c, 1807
src/ckb/quazip/unzip.h, 1858
src/ckb/quazip/zip.c, 1878
src/ckb/quazip/zip.h, 1934
src/ckb/rebindwidget.cpp, 1945
src/ckb/rebindwidget.h, 1945
src/ckb/release/moc_animadddialog.cpp, 1946
src/ckb/release/moc_animscript.cpp, 1949
src/ckb/release/moc_animsettingdialog.cpp, 1952
src/ckb/release/moc_ckbsettingswriter.cpp, 1955
src/ckb/release/moc_colorbutton.cpp, 1957
src/ckb/release/moc_extrasettingswidget.cpp, 1959
src/ckb/release/moc_fwupgradedialog.cpp, 1962
src/ckb/release/moc_gradientbutton.cpp, 1965
src/ckb/release/moc_gradientdialog.cpp, 1968
src/ckb/release/moc_gradientdialogwidget.cpp, 1971
src/ckb/release/moc_kb.cpp, 1973
src/ckb/release/moc_kbanim.cpp, 1976
src/ckb/release/moc_kbanimwidget.cpp, 1978
src/ckb/release/moc_kbbind.cpp, 1981
src/ckb/release/moc_kbbindwidget.cpp, 1983
src/ckb/release/moc_kbfirmware.cpp, 1985
src/ckb/release/moc_kblight.cpp, 1988
src/ckb/release/moc_kblightwidget.cpp, 1991
src/ckb/release/moc_kbmanager.cpp, 1994
src/ckb/release/moc_kbmode.cpp, 1996
src/ckb/release/moc_kbperf.cpp, 1998
src/ckb/release/moc_kbprofile.cpp, 2001
src/ckb/release/moc_kbprofiledialog.cpp, 2003
src/ckb/release/moc_kbwidget.cpp, 2006
src/ckb/release/moc_keyaction.cpp, 2008
src/ckb/release/moc_keywidget.cpp, 2010
src/ckb/release/moc_kperfwidget.cpp, 2012
src/ckb/release/moc_layoutdialog.cpp, 2015
src/ckb/release/moc_macroreader.cpp, 2018
src/ckb/release/moc_mainwindow.cpp, 2022
src/ckb/release/moc_modeselectdialog.cpp, 2024
src/ckb/release/moc_mperfwidget.cpp, 2026
src/ckb/release/moc_quagzipfile.cpp, 2029
src/ckb/release/moc_quaziodevice.cpp, 2031

src/ckb/release/moc_quazipfile.cpp, 2033
src/ckb/release/moc_rebindwidget.cpp, 2035
src/ckb/release/moc_rlistwidget.cpp, 2038
src/ckb/release/moc_settingswidget.cpp, 2040
src/ckb/release/qrc_binary.cpp, 2042
src/ckb/release/qrc_image.cpp, 2045
src/ckb/release/qrc_text.cpp, 2048
src/ckb/rlistwidget.cpp, 2051
src/ckb/rlistwidget.h, 2051
src/ckb/settingswidget.cpp, 2052
src/ckb/settingswidget.h, 2054
src/ckb/ui_animadddialog.h, 2055
src/ckb/ui_animsettingdialog.h, 2055
src/ckb/ui_extrasettingswidget.h, 2056
src/ckb/ui_fwupgradedialog.h, 2057
src/ckb/ui_gradientdialog.h, 2058
src/ckb/ui_kbanimwidget.h, 2059
src/ckb/ui_kbbindwidget.h, 2060
src/ckb/ui_kblightwidget.h, 2061
src/ckb/ui_kbprofiledialog.h, 2062
src/ckb/ui_kbwidget.h, 2063
src/ckb/ui_kperfwidget.h, 2064
src/ckb/ui_layoutdialog.h, 2065
src/ckb/ui_mainwindow.h, 2066
src/ckb/ui_modeselectdialog.h, 2067
src/ckb/ui_mperfwidget.h, 2068
src/ckb/ui_rebindwidget.h, 2069
src/ckb/ui_settingswidget.h, 2070
stages
    MPerfWidget, 798
standardMaps
    keymap.cpp, 1720
start
    devcmd.__unnamed__, 164
start_dev
    device.c, 1235
    device.h, 1245
start_kb_nrgb
    device.h, 1245
    device_keyboard.c, 1249
startWorkInAThread
    MacroReader, 728
stateChange
    MainWindow, 748
statusLabel
    Ui::FwUpgradeDialog, 193
    Ui_FwUpgradeDialog, 1074
stop
    AnimScript, 81
    KbAnim, 336
    KbManager, 490
stopBox
    Ui::GradientDialog, 215
    Ui_GradientDialog, 1081
stopCheck
    AnimSettingDialog, 119
stopColor
    Ui::GradientDialog, 215
    Ui_GradientDialog, 1081
stopCount
    GradientDialogWidget, 242
stopOpacity
    Ui::GradientDialog, 215
    Ui_GradientDialog, 1081
stopPos
    Ui::GradientDialog, 215
    Ui_GradientDialog, 1081
stopPreview
    KbLight, 454
stopRect
    GradientDialogWidget, 242
stopTime
    KbAnim, 341
stopped
    AnimScript, 85
stops
    GradientDialogWidget, 243
storageName
    Key, 606
strLayout
    KeyMap, 658
strModel
    KeyMap, 659
strcmpcasenosensitive_internal
    unzip.c, 1814
strtrim
    usb_linux.c, 1582
structures.h
    CLEAR_KEYBIT, 1505
    DPI_COUNT, 1505
    FEAT_ADJRATE, 1505
    FEAT_ANSI, 1505
    FEAT_BIND, 1505
    FEAT_COMMON, 1505
    FEAT_FWUPDATE, 1505
    FEAT_FWVERSION, 1505
    FEAT_HWLOAD, 1506
    FEAT_ISO, 1506
    FEAT_LMASK, 1506
    FEAT_MONOCHROME, 1506
    FEAT_MOUSEACCEL, 1506
    FEAT_NOTIFY, 1506
    FEAT_POLLRATE, 1506
    FEAT_RGB, 1506
    FEAT_STD_NRGB, 1506
    FEAT_STD_RGB, 1507
    HAS_ANY_FEATURE, 1507
    HAS_FEATURES, 1507
    HWMODE_K70, 1507
    HWMODE_K95, 1507
    HWMODE_MAX, 1507
    I_CAPS, 1507
    I_NUM, 1507
    I_SCROLL, 1507
    IFACE_MAX, 1507
    KB_NAME_LEN, 1508

LIFT_MAX, 1508
LIFT_MIN, 1508
MACRO_MAX, 1508
MD_NAME_LEN, 1508
MODE_COUNT, 1508
MSG_SIZE, 1508
NEEDS_FW_UPDATE, 1508
OUTFIFO_MAX, 1508
PR_NAME_LEN, 1509
SCROLL_ACCELERATED, 1509
SCROLL_MAX, 1509
SCROLL_MIN, 1509
SERIAL_LEN, 1509
SET_KEYBIT, 1509
vtable_keyboard, 1509
vtable_keyboard_nonrgb, 1509
vtable_mouse, 1509
Subtract
KbAnim, 317
symmetric
ckb-pinwheel/main.c, 1414
ckb-ripple/main.c, 1432
ckb-wave/main.c, 1440

TOGGLE
KeyWidget, 665
TAB_ANIM
RebindWidget, 974
TAB_KB
RebindWidget, 974
TAB_MACRO
RebindWidget, 974
TAB_MOUSE
RebindWidget, 974
TAB_PROGRAM
RebindWidget, 974
TAB_SPECIAL
RebindWidget, 974
TEST_RESET
usb_linux.c, 1570
TRUE
ckb-anim.h, 1647
TRY_WITH_RESET
command.c, 1220
TRYFREE
unzip.c, 1813
zip.c, 1886
tabWidget
Ui::AnimSettingDialog, 98
Ui::KbWidget, 603
Ui::MainWindow, 737
Ui::RebindWidget, 1004
Ui_AnimSettingDialog, 1055
Ui_KbWidget, 1118
Ui_MainWindow, 1147
Ui_RebindWidget, 1198
tableDownload
KbFirmware, 428
tableName
kbfirmware.cpp, 1690
target
ckb-random/main.c, 1426
tick
ckb-rain/main.c, 1421
timeGrid
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
timeTab
Ui::AnimSettingDialog, 98
Ui_AnimSettingDialog, 1055
timerTick
MainWindow, 749
RListWidget, 1011
timespec_add
ckb-daemon/main.c, 1391
includes.h, 1298
timespec_eq
includes.h, 1297
timespec_ge
includes.h, 1297
timespec_gt
includes.h, 1298
timespec_le
includes.h, 1298
timespec_lt
includes.h, 1298
tm_unz_s, 1860
tm_zip_s, 1936
tm_unz
unzip.h, 1868
tm_zip
zip.h, 1940
toQuaZipFileInfo
QuaZipFileInfo64, 913
toStorage
KeyMap, 659
toString
GradientButton, 207
toggleSidelight
KbLightWidget, 477
toggleTrayIcon
MainWindow, 750
top
ckb-wave/main.c, 1440
trayBox
Ui::ExtraSettingsWidget, 175
Ui_ExtraSettingsWidget, 1067
trayIcon
MainWindow, 752
trayIconMenu
MainWindow, 752
trigger
KbAnim, 337
txtBuffer
Ui::RebindWidget, 1004
Ui_RebindWidget, 1198
Type

KeyAction, 611
type
KeyAction, 633
typingBox
Ui::RebindWidget, 1004
Ui_RebindWidget, 1198
typingButton
Ui::RebindWidget, 1004
Ui_RebindWidget, 1198
typingKeys
RebindWidget, 974

u16dec
profile.c, 1468
u16enc
profile.c, 1469
UNBIND
command.h, 1228
UNBOUND
KeyAction, 611
UNKNOWN
KbFirmware, 419
media.h, 1747
UNMUTED
media.h, 1747
US
KeyMap, 640
US_DVORAK
KeyMap, 640
UINPUT_VERSION
os.h, 1454
UNUSED
quazip_global.h, 1795
UNZ_AUTO_CLOSE
unzip.h, 1866
UNZ_BADZIPFILE
unzip.h, 1866
UNZ_BUFSIZE
unzip.c, 1813
UNZ_CRCERROR
unzip.h, 1866
UNZ_DEFAULT_FLAGS
unzip.h, 1866
UNZ_EOF
unzip.h, 1867
UNZ_ERRNO
unzip.h, 1867
UNZ_INTERNALERROR
unzip.h, 1867
UNZ_MAXFILENAMEINZIP
unzip.c, 1813
UNZ_OK
unzip.h, 1867
UNZ_OPENERROR
quazip.h, 1793
UNZ_PARAMERROR
unzip.h, 1867
USB_DELAY_DEFAULT
usb.h, 1540

uchar
includes.h, 1298
udev
usb_linux.c, 1595
udev_enum
usb_linux.c, 1584
udevthread
usb_linux.c, 1595
Ui, 41
ui
AnimAddDialog, 49
AnimSettingDialog, 119
ExtraSettingsWidget, 185
FwUpgradeDialog, 202
GradientDialog, 229
KbAnimWidget, 368
KbBindWidget, 416
KbLightWidget, 479
KbProfileDialog, 567
KbWidget, 594
KPerfWidget, 717
LayoutDialog, 725
MainWindow, 752
ModeSelectDialog, 760
MPerfWidget, 798
RebindWidget, 974
SettingsWidget, 1024
Ui::AnimAddDialog, 49
animBox, 52
buttonBox, 53
gridLayout, 53
horizontalLayout, 53
horizontalSpacer, 53
horizontalSpacer_2, 53
label, 53
label_2, 53
presetBox, 53
previewBox, 53
retranslateUi, 50
setupUi, 51
verticalSpacer_2, 54
verticalSpacer_3, 54
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, 164
animCountLabel, 172
animPathLabel, 172
animScanButton, 172
brightnessBox, 172
buttonBox, 172
delayBox, 172
ditherBox, 172
fpsBox, 172
fpsWarnLabel, 172
gridLayout, 173
horizontalLayout, 173
horizontalLayout_2, 173
horizontalSpacer, 173
horizontalSpacer_2, 173
horizontalSpacer_3, 173
label, 173
label_10, 173
label_11, 173
label_2, 174
label_3, 174
label_5, 174
label_6, 174
line, 174
line_2, 174
line_3, 174
mAccelBox, 174
osxLabel, 174
osxLine, 175
retranslateUi, 167
sAccelBox, 175
sSpeedBox, 175
sSpeedWidget, 175
setupUi, 168
trayBox, 175
verticalSpacer, 175
verticalSpacer_10, 175
verticalSpacer_11, 175
verticalSpacer_2, 176
verticalSpacer_3, 176
verticalSpacer_4, 176
verticalSpacer_5, 176
verticalSpacer_6, 176
verticalSpacer_7, 176
verticalSpacer_8, 176
verticalSpacer_9, 176
Ui::FwUpgradeDialog, 186
actionButton, 191
cancelButton, 191
curLabel, 191
devLabel, 191
gridLayout, 192
gridLayout_2, 192
horizontalSpacer, 192
horizontalSpacer_2, 192
horizontalSpacer_3, 192
horizontalSpacer_4, 192
label_2, 192
label_4, 192
newLabel, 192
progressBar, 193
retranslateUi, 189
setupUi, 189
statusLabel, 193
Ui::GradientDialog, 208
buttonBox, 213
gridLayout, 213
gridLayout_2, 213
gridLayout_3, 213
groupBox_2, 214
horizontalLayout, 214
horizontalLayout_2, 214
horizontalSpacer, 214
horizontalSpacer_2, 214
horizontalSpacer_3, 214
label, 214
label_2, 214
presetDelete, 214
presetList, 215

presetName, 215
presetSave, 215
retranslateUi, 210
setupUi, 211
stopBox, 215
stopColor, 215
stopOpacity, 215
stopPos, 215
verticalSpacer, 215
verticalSpacer_2, 216
widget, 216
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, 341
aCopyLabel, 347
aMissingLabel, 347
aMissingPage, 347
aNameLabel, 347
aVerLabel, 348
animList, 347
animPage, 347
blendBox, 348
deleteButton, 348
gridLayout, 348
gridLayout_2, 348
gridLayout_3, 348
gridLayout_4, 348
horizontalLayout, 348
horizontalSpacer, 348
horizontalSpacer_2, 349
horizontalSpacer_3, 349
horizontalSpacer_4, 349
horizontalSpacer_5, 349
keyButton, 349
label_5, 349
label_6, 349
label_7, 349
nameBox, 349
noAnimLabel, 350

noSelPage, 350
opacityBox, 350
propertyButton, 350
retranslateUi, 343
selectionStack, 350
setupUi, 344
verticalLayout, 350
verticalSpacer, 350
verticalSpacer_2, 350
verticalSpacer_3, 350
Ui::KbBindWidget, 398
copyButton, 403
gridLayout, 403
gridLayout_2, 403
horizontalLayout_2, 403
horizontalSpacer, 403
horizontalSpacer_2, 403
keyWidget, 403
label, 403
label_2, 404
line, 404
line_2, 404
rbWidget, 404
resetButton, 404
retranslateUi, 400
selectLabel, 404
setupUi, 400
verticalLayout, 404
verticalSpacer, 404
widget, 404
Ui::KbLightWidget, 457
animButton, 463
animWidget, 463
bgButton, 463
brightnessBox, 463
gridLayout, 463
gridLayout_2, 463
gridLayout_4, 464
horizontalLayout, 464
horizontalLayout_2, 464
horizontalLayout_3, 464
horizontalSpacer_3, 464
horizontalSpacer_4, 464
horizontalSpacer_5, 464
horizontalSpacer_6, 464
keyWidget, 464
label, 465
label_2, 465
label_3, 465
line, 465
line_2, 465
retranslateUi, 459
selLabel, 465
setupUi, 460
showAnimBox, 465
verticalLayout, 465
verticalSpacer, 466
verticalSpacer_2, 466
verticalSpacer_3, 466
widget, 466
Ui::KbProfileDialog, 567
buttonBox, 571
gridLayout, 571
horizontalSpacer, 571
horizontalSpacer_2, 571
profileList, 571
retranslateUi, 569
setupUi, 570
Ui::KbWidget, 594
bindTab, 600
bindWidget, 600
devTab, 600
fwLabel, 600
fwUpdButton, 601
fwUpdLabel, 601
fwUpdLayout, 601
gridLayout, 601
gridLayout_2, 601
gridLayout_3, 601
gridLayout_4, 601
gridLayout_5, 601
gridLayout_7, 601
horizontalSpacer_2, 602
horizontalSpacer_3, 602
hwSaveButton, 602
kPerfTab, 602
kPerfWidget, 602
label_3, 602
label_4, 602
label_9, 602
lightTab, 602
lightWidget, 603
mPerfTab, 603
mPerfWidget, 603
modesList, 603
pollLabel, 603
pollLabel2, 603
profileBox, 603
retranslateUi, 596
serialLabel, 603
setupUi, 597
tabWidget, 603
verticalSpacer, 604
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, 737
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, 975
actionTab, 992
animBox, 992
animButton, 992
animKrBox, 992
animOnceBox, 992
animTab, 992
applyButton, 992
btnClearMacro, 993
btnStartMacro, 993
btnStopMacro, 993
cancelButton, 993
delayButtons, 993
dpiBox, 993
dpiButton, 993
dpiCustLabel, 993
dpiCustXBox, 994
dpiCustYBox, 994
dpiWarning, 994
fnBox, 994
fnButton, 994

gridLayout, 994
gridLayout_10, 994
gridLayout_2, 994
gridLayout_3, 995
gridLayout_4, 995
gridLayout_5, 995
gridLayout_8, 995
groupBox, 995
groupBox_2, 995
groupBox_3, 995
groupBox_4, 995
horizontalLayout, 995
horizontalLayout_2, 996
horizontalLayout_3, 996
horizontalSpacer, 996
horizontalSpacer_10, 996
horizontalSpacer_11, 996
horizontalSpacer_12, 996
horizontalSpacer_13, 996
horizontalSpacer_14, 996
horizontalSpacer_15, 996
horizontalSpacer_16, 997
horizontalSpacer_17, 997
horizontalSpacer_18, 997
horizontalSpacer_19, 997
horizontalSpacer_20, 997
horizontalSpacer_21, 997
horizontalSpacer_22, 997
horizontalSpacer_23, 997
horizontalSpacer_24, 997
horizontalSpacer_25, 998
horizontalSpacer_26, 998
horizontalSpacer_3, 998
horizontalSpacer_4, 998
horizontalSpacer_5, 998
horizontalSpacer_8, 998
keyTab, 998
layoutWidget, 998
layoutWidget1, 998
layoutWidget_2, 999
lbl_macro, 999
lightBox, 999
lightButton, 999
lightWrapBox, 999
lockBox, 999
lockButton, 999
macroTab, 999
mb2Box, 1000
mb2Button, 1000
mbBox, 1000
mbButton, 1000
mediaBox, 1000
mediaButton, 1000
modBox, 1000
modButton, 1001
modeBox, 1001
modeButton, 1001
modeWrapBox, 1001
mouseTab, 1001
numBox, 1001
numButton, 1001
progTipLabel, 1003
programKpBox, 1001
programKpButton, 1002
programKpExtra, 1002
programKpModeBox, 1002
programKpSIBox, 1002
programKrBox, 1002
programKrButton, 1002
programKrExtra, 1002
programKrModeBox, 1002
programKrSIBox, 1003
programTab, 1003
pteMacroBox, 1003
pteMacroComment, 1003
pteMacroText, 1003
rb_delay_asTyped, 1003
rb_delay_default, 1003
rb_delay_no, 1004
resetButton, 1004
retranslateUi, 979
setupUi, 981
tabWidget, 1004
txtBuffer, 1004
typingBox, 1004
typingButton, 1004
unbindButton, 1004
verticalLayout, 1004
verticalLayout_2, 1005
verticalSpacer, 1005
verticalSpacer_10, 1005
verticalSpacer_11, 1005
verticalSpacer_2, 1005
verticalSpacer_3, 1005
verticalSpacer_4, 1005
verticalSpacer_5, 1005
verticalSpacer_6, 1005
verticalSpacer_7, 1006
verticalSpacer_8, 1006
wheelBox, 1006
wheelButton, 1006
Ui::SettingsWidget, 1024
altBox, 1031
altLabel, 1031
autoFWBox, 1031
capsBox, 1031
capsLabel, 1031
ctrlBox, 1032
ctrlLabel, 1032
devicesLabel, 1032
extraButton, 1032
gridLayout, 1032
gridLayout_3, 1032
gridLayout_5, 1032
horizontalLayout, 1032
horizontalLayout_2, 1032

horizontalSpacer, 1033
horizontalSpacer_10, 1033
horizontalSpacer_2, 1033
horizontalSpacer_7, 1033
horizontalSpacer_9, 1033
label, 1033
label_2, 1033
label_3, 1033
label_5, 1033
label_6, 1034
label_8, 1034
layoutBox, 1034
line, 1034
line_2, 1034
line_3, 1034
loginItemBox, 1034
pushButton, 1034
retranslateUi, 1026
setupUi, 1027
shiftBox, 1034
shiftLabel, 1035
versionLabel, 1035
verticalSpacer, 1035
verticalSpacer_10, 1035
verticalSpacer_2, 1035
verticalSpacer_3, 1035
verticalSpacer_4, 1035
verticalSpacer_5, 1035
verticalSpacer_6, 1035
verticalSpacer_7, 1036
verticalSpacer_8, 1036
winBox, 1036
winLabel, 1036
Ui_AnimAddDialog, 1039
animBox, 1042
buttonBox, 1042
gridLayout, 1042
horizontalLayout, 1042
horizontalSpacer, 1042
horizontalSpacer_2, 1042
label, 1043
label_2, 1043
presetBox, 1043
previewBox, 1043
retranslateUi, 1040
setupUi, 1040
verticalSpacer_2, 1043
verticalSpacer_3, 1043
Ui_AnimSettingDialog, 1043
animName, 1050
buttonBox, 1050
delayBox, 1051
gridLayout, 1051
gridLayout_2, 1051
horizontalSpacer, 1051
horizontalSpacer_2, 1051
horizontalSpacer_3, 1051
horizontalSpacer_4, 1051
horizontalSpacer_5, 1051
horizontalSpacer_6, 1051
infoTab, 1051
kpDelayBox, 1052
kpModeStopBox, 1052
kpReleaseBox, 1052
kpRepeatBox, 1052
kpRepeatLabel, 1052
kpRepeatLabel_2, 1052
label, 1052
label_10, 1052
label_11, 1052
label_12, 1053
label_13, 1053
label_2, 1053
label_3, 1053
label_4, 1053
label_5, 1053
label_6, 1053
label_7, 1053
label_8, 1053
label_9, 1054
line, 1054
line_2, 1054
repeatBox, 1054
repeatLabel, 1054
repeatLabel_2, 1054
retranslateUi, 1046
sAuthorLabel, 1054
sDescLabel, 1054
sLicenseLabel, 1055
sNameLabel, 1055
sVerLabel, 1055
sYearLabel, 1055
settingTab, 1055
settingsGrid, 1054
setupUi, 1047
tabWidget, 1055
timeGrid, 1055
timeTab, 1055
verticalSpacer, 1055
verticalSpacer_2, 1056
verticalSpacer_3, 1056
Ui_ExtraSettingsWidget, 1056
animCountLabel, 1063
animPathLabel, 1063
animScanButton, 1064
brightnessBox, 1064
buttonBox, 1064
delayBox, 1064
ditherBox, 1064
fpsBox, 1064
fpsWarnLabel, 1064
gridLayout, 1064
horizontalLayout, 1064
horizontalLayout_2, 1065
horizontalSpacer, 1065
horizontalSpacer_2, 1065

horizontalSpacer_3, 1065
label, 1065
label_10, 1065
label_11, 1065
label_2, 1065
label_3, 1065
label_5, 1066
label_6, 1066
line, 1066
line_2, 1066
line_3, 1066
mAccelBox, 1066
osxLabel, 1066
osxLine, 1066
retranslateUi, 1059
sAccelBox, 1066
sSpeedBox, 1067
sSpeedWidget, 1067
setupUi, 1060
trayBox, 1067
verticalSpacer, 1067
verticalSpacer_10, 1067
verticalSpacer_11, 1067
verticalSpacer_2, 1067
verticalSpacer_3, 1067
verticalSpacer_4, 1067
verticalSpacer_5, 1068
verticalSpacer_6, 1068
verticalSpacer_7, 1068
verticalSpacer_8, 1068
verticalSpacer_9, 1068
Ui_FwUpgradeDialog, 1068
actionButton, 1072
cancelButton, 1073
curLabel, 1073
devLabel, 1073
gridLayout, 1073
gridLayout_2, 1073
horizontalSpacer, 1073
horizontalSpacer_2, 1073
horizontalSpacer_3, 1073
horizontalSpacer_4, 1073
label_2, 1074
label_4, 1074
newLabel, 1074
progressBar, 1074
retranslateUi, 1070
setupUi, 1070
statusLabel, 1074
Ui_GradientDialog, 1074
buttonBox, 1079
gridLayout, 1079
gridLayout_2, 1079
gridLayout_3, 1079
groupBox_2, 1080
horizontalLayout, 1080
horizontalLayout_2, 1080
horizontalSpacer, 1080
horizontalSpacer_2, 1080
horizontalSpacer_3, 1080
label, 1080
label_2, 1080
presetDelete, 1080
presetList, 1080
presetName, 1081
presetSave, 1081
retranslateUi, 1076
setupUi, 1077
stopBox, 1081
stopColor, 1081
stopOpacity, 1081
stopPos, 1081
verticalSpacer, 1081
verticalSpacer_2, 1081
widget, 1081
Ui_KPerfWidget, 1119
capsBox, 1129
capsColorOff, 1129
capsColorOn, 1130
copyButton, 1130
gridLayout, 1130
horizontalLayout, 1130
horizontalLayout_2, 1130
horizontalSpacer, 1130
horizontalSpacer_2, 1130
horizontalSpacer_3, 1130
horizontalSpacer_4, 1130
horizontalSpacer_5, 1131
horizontalSpacer_6, 1131
horizontalSpacer_7, 1131
horizontalSpacer_8, 1131
intensityBox, 1131
k95Label1, 1131
k95Label2, 1131
k95Label3, 1131
k95Label4, 1131
k95Label5, 1132
k95Label6, 1132
k95Line, 1132
k95Spacer, 1132
label, 1132
label_10, 1132
label_11, 1132
label_12, 1132
label_14, 1132
label_15, 1133
label_16, 1133
label_17, 1133
label_18, 1133
label_19, 1133
label_2, 1133
label_20, 1133
label_21, 1133
label_22, 1133
label_23, 1134
label_24, 1134

label_3, 1134
label_4, 1134
label_5, 1134
label_6, 1134
label_7, 1134
label_8, 1134
lightBox, 1134
lightColor1, 1135
lightColor2, 1135
lightColor3, 1135
line, 1135
line_2, 1135
line_3, 1135
lockBox, 1135
lockColorOff, 1135
lockColorOn, 1135
macroBox, 1136
macroColorOff, 1136
macroColorOn, 1136
modeBox, 1136
modeColorOff, 1136
modeColorOn, 1136
muteBox, 1136
muteColorNA, 1136
muteColorOff, 1136
muteColorOn, 1137
numBox, 1137
numColorOff, 1137
numColorOn, 1137
retranslateUi, 1122
scrollBox, 1137
scrollColorOff, 1137
scrollColorOn, 1137
setupUi, 1123
verticalSpacer, 1137
verticalSpacer_2, 1137
verticalSpacer_3, 1138
verticalSpacer_4, 1138
Ui_KbAnimWidget, 1082
aCopyLabel, 1087
aMissingLabel, 1087
aMissingPage, 1087
aNameLabel, 1087
aVerLabel, 1088
animList, 1087
animPage, 1088
blendBox, 1088
deleteButton, 1088
gridLayout, 1088
gridLayout_2, 1088
gridLayout_3, 1088
gridLayout_4, 1088
horizontalLayout, 1088
horizontalSpacer, 1089
horizontalSpacer_2, 1089
horizontalSpacer_3, 1089
horizontalSpacer_4, 1089
horizontalSpacer_5, 1089
keyButton, 1089
label_5, 1089
label_6, 1089
label_7, 1089
nameBox, 1090
noAnimLabel, 1090
noSelPage, 1090
opacityBox, 1090
propertyButton, 1090
retranslateUi, 1084
selectionStack, 1090
setupUi, 1084
verticalLayout, 1090
verticalSpacer, 1090
verticalSpacer_2, 1090
verticalSpacer_3, 1091
Ui_KbBindWidget, 1091
copyButton, 1095
gridLayout, 1095
gridLayout_2, 1095
horizontalLayout_2, 1095
horizontalSpacer, 1095
horizontalSpacer_2, 1096
keyWidget, 1096
label, 1096
label_2, 1096
line, 1096
line_2, 1096
rbWidget, 1096
resetButton, 1096
retranslateUi, 1093
selectLabel, 1096
setupUi, 1093
verticalLayout, 1097
verticalSpacer, 1097
widget, 1097
Ui_KbLightWidget, 1097
animButton, 1103
animWidget, 1103
bgButton, 1103
brightnessBox, 1103
gridLayout, 1103
gridLayout_2, 1103
gridLayout_4, 1103
horizontalLayout, 1103
horizontalLayout_2, 1104
horizontalLayout_3, 1104
horizontalSpacer_3, 1104
horizontalSpacer_4, 1104
horizontalSpacer_5, 1104
horizontalSpacer_6, 1104
keyWidget, 1104
label, 1104
label_2, 1104
label_3, 1105
line, 1105
line_2, 1105
retranslateUi, 1099

selLabel, 1105
setupUi, 1100
showAnimBox, 1105
verticalLayout, 1105
verticalSpacer, 1105
verticalSpacer_2, 1105
verticalSpacer_3, 1105
widget, 1106
Ui_KbProfileDialog, 1106
buttonBox, 1109
gridLayout, 1109
horizontalSpacer, 1109
horizontalSpacer_2, 1109
profileList, 1109
retranslateUi, 1107
setupUi, 1108
Ui_KbWidget, 1109
bindTab, 1115
bindWidget, 1115
devTab, 1115
fwLabel, 1115
fwUpdButton, 1115
fwUpdLabel, 1116
fwUpdLayout, 1116
gridLayout, 1116
gridLayout_2, 1116
gridLayout_3, 1116
gridLayout_4, 1116
gridLayout_5, 1116
gridLayout_7, 1116
horizontalSpacer_2, 1116
horizontalSpacer_3, 1117
hwSaveButton, 1117
kPerfTab, 1117
kPerfWidget, 1117
label_3, 1117
label_4, 1117
label_9, 1117
lightTab, 1117
lightWidget, 1117
mPerfTab, 1118
mPerfWidget, 1118
modesList, 1118
pollLabel, 1118
pollLabel2, 1118
profileBox, 1118
retranslateUi, 1111
serialLabel, 1118
setupUi, 1112
tabWidget, 1118
verticalSpacer, 1118
Ui_LayoutDialog, 1138
buttonBox, 1142
comboBox, 1142
gridLayout, 1142
horizontalSpacer, 1142
horizontalSpacer_2, 1142
label, 1142
label_2, 1143
retranslateUi, 1140
setupUi, 1140
verticalSpacer, 1143
verticalSpacer_2, 1143
verticalSpacer_3, 1143
verticalSpacer_4, 1143
Ui_MPerfWidget, 1151
aSnapBox, 1162
copyButton, 1162
eBox1, 1162
eBox2, 1162
eBox3, 1162
eBox4, 1162
eBox5, 1163
gridLayout, 1163
horizontalLayout, 1163
horizontalLayout_2, 1163
horizontalLayout_4, 1163
horizontalSpacer, 1163
horizontalSpacer_2, 1163
horizontalSpacer_3, 1163
horizontalSpacer_4, 1163
horizontalSpacer_5, 1164
horizontalSpacer_6, 1164
horizontalSpacer_7, 1164
iButton0, 1164
iButton1, 1164
iButton2, 1164
iButton3, 1164
iButton4, 1164
iButton5, 1164
iButtonO, 1165
indicBox, 1165
lHeightBox, 1166
label, 1165
label_11, 1165
label_12, 1165
label_13, 1165
label_14, 1165
label_15, 1165
label_2, 1165
label_25, 1166
label_3, 1166
label_4, 1166
label_5, 1166
label_6, 1166
label_7, 1166
label_8, 1166
line, 1166
line_2, 1167
line_3, 1167
retranslateUi, 1154
setupUi, 1155
spinBox, 1167
verticalLayout, 1167
verticalSpacer, 1167
verticalSpacer_2, 1167

verticalSpacer_3, 1167
xBox0, 1167
xBox1, 1167
xBox2, 1168
xBox3, 1168
xBox4, 1168
xBox5, 1168
xSlider0, 1168
xSlider1, 1168
xSlider2, 1168
xSlider3, 1168
xSlider4, 1168
xSlider5, 1169
xyBox, 1169
yBox0, 1169
yBox1, 1169
yBox2, 1169
yBox3, 1169
yBox4, 1169
yBox5, 1169
ySlider0, 1169
ySlider1, 1170
ySlider2, 1170
ySlider3, 1170
ySlider4, 1170
ySlider5, 1170
Ui_MainWindow, 1143
actionAbout, 1146
actionExit, 1146
centralWidget, 1146
gridLayout, 1147
retranslateUi, 1145
setupUi, 1145
tabWidget, 1147
Ui_ModeSelectDialog, 1147
buttonBox, 1150
gridLayout, 1150
label, 1150
modeList, 1150
retranslateUi, 1148
selAllButton, 1150
selNoneButton, 1151
setupUi, 1149
Ui_RebindWidget, 1170
actionTab, 1186
animBox, 1186
animButton, 1186
animKrBox, 1186
animOnceBox, 1187
animTab, 1187
applyButton, 1187
btnClearMacro, 1187
btnStartMacro, 1187
btnStopMacro, 1187
cancelButton, 1187
delayButtons, 1187
dpiBox, 1187
dpiButton, 1188
dpiCustLabel, 1188
dpiCustXBox, 1188
dpiCustYBox, 1188
dpiWarning, 1188
fnBox, 1188
fnButton, 1188
gridLayout, 1188
gridLayout_10, 1189
gridLayout_2, 1189
gridLayout_3, 1189
gridLayout_4, 1189
gridLayout_5, 1189
gridLayout_8, 1189
groupBox, 1189
groupBox_2, 1189
groupBox_3, 1189
groupBox_4, 1190
horizontalLayout, 1190
horizontalLayout_2, 1190
horizontalLayout_3, 1190
horizontalSpacer, 1190
horizontalSpacer_10, 1190
horizontalSpacer_11, 1190
horizontalSpacer_12, 1190
horizontalSpacer_13, 1190
horizontalSpacer_14, 1191
horizontalSpacer_15, 1191
horizontalSpacer_16, 1191
horizontalSpacer_17, 1191
horizontalSpacer_18, 1191
horizontalSpacer_19, 1191
horizontalSpacer_20, 1191
horizontalSpacer_21, 1191
horizontalSpacer_22, 1191
horizontalSpacer_23, 1192
horizontalSpacer_24, 1192
horizontalSpacer_25, 1192
horizontalSpacer_26, 1192
horizontalSpacer_3, 1192
horizontalSpacer_4, 1192
horizontalSpacer_5, 1192
horizontalSpacer_8, 1192
keyTab, 1192
layoutWidget, 1193
layoutWidget1, 1193
layoutWidget_2, 1193
lbl_macro, 1193
lightBox, 1193
lightButton, 1193
lightWrapBox, 1193
lockBox, 1193
lockButton, 1194
macroTab, 1194
mb2Box, 1194
mb2Button, 1194
mbBox, 1194
mbButton, 1194
mediaBox, 1194

mediaButton, 1194
modBox, 1194
modButton, 1195
modeBox, 1195
modeButton, 1195
modeWrapBox, 1195
mouseTab, 1195
numBox, 1195
numButton, 1195
progTipLabel, 1197
programKpBox, 1195
programKpButton, 1196
programKpExtra, 1196
programKpModeBox, 1196
programKpSIBox, 1196
programKrBox, 1196
programKrButton, 1196
programKrExtra, 1196
programKrModeBox, 1196
programKrSIBox, 1197
programTab, 1197
pteMacroBox, 1197
pteMacroComment, 1197
pteMacroText, 1197
rb_delay_asTyped, 1197
rb_delay_default, 1197
rb_delay_no, 1197
resetButton, 1198
retranslateUi, 1174
setupUi, 1176
tabWidget, 1198
txtBuffer, 1198
typingBox, 1198
typingButton, 1198
unbindButton, 1198
verticalLayout, 1198
verticalLayout_2, 1198
verticalSpacer, 1199
verticalSpacer_10, 1199
verticalSpacer_11, 1199
verticalSpacer_2, 1199
verticalSpacer_3, 1199
verticalSpacer_4, 1199
verticalSpacer_5, 1199
verticalSpacer_6, 1199
verticalSpacer_7, 1199
verticalSpacer_8, 1200
wheelBox, 1200
wheelButton, 1200
Ui_SettingsWidget, 1200
altBox, 1207
altLabel, 1207
autoFWBox, 1207
capsBox, 1208
capsLabel, 1208
ctrlBox, 1208
ctrlLabel, 1208
devicesLabel, 1208
extraButton, 1208
gridLayout, 1208
gridLayout_3, 1208
gridLayout_5, 1208
horizontalLayout, 1209
horizontalLayout_2, 1209
horizontalSpacer, 1209
horizontalSpacer_10, 1209
horizontalSpacer_2, 1209
horizontalSpacer_7, 1209
horizontalSpacer_9, 1209
label, 1209
label_2, 1209
label_3, 1210
label_5, 1210
label_6, 1210
label_8, 1210
layoutBox, 1210
line, 1210
line_2, 1210
line_3, 1210
loginItemBox, 1210
pushButton, 1211
retranslateUi, 1203
setupUi, 1203
shiftBox, 1211
shiftLabel, 1211
versionLabel, 1211
verticalSpacer, 1211
verticalSpacer_10, 1211
verticalSpacer_2, 1211
verticalSpacer_3, 1211
verticalSpacer_4, 1211
verticalSpacer_5, 1212
verticalSpacer_6, 1212
verticalSpacer_7, 1212
verticalSpacer_8, 1212
winBox, 1212
winLabel, 1212
uiUpdated
KPerfWidget, 715
uinputopen
input_linux.c, 1323
unbind
devcmd.__unnamed__, 164
unbindButton
Ui::RebindWidget, 1004
Ui_RebindWidget, 1198
uncompressedSize
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
QuaZipFilePrivate, 920
QuaZipNewInfo, 929
unz64_file_pos_s, 1865
unz64_s, 1811
unz64_file_pos
unzip.h, 1868
unz64local_CheckCurrentFileCoherencyHeader

unzip.c, 1814
unz64local_DosDateToTmuDate
unzip.c, 1816
unz64local_GetCurrentFileInfoInternal
unzip.c, 1817
unz64local_SearchCentralDir
unzip.c, 1824
unz64local_SearchCentralDir64
unzip.c, 1825
unz64local_getByte
unzip.c, 1817
unz64local_getLong
unzip.c, 1821
unz64local_getLong64
unzip.c, 1822
unz64local_getShort
unzip.c, 1823
unz_file_info64_internal_s, 1810
unz_file_info64_s, 1862
unz_file_info_s, 1863
unz_file_pos_s, 1865
unz_global_info64_s, 1860
unz_global_info_s, 1861
unz_copyright
unzip.c, 1857
unz_file_info
unzip.h, 1868
unz_file_info64
unzip.h, 1868
unz_file_info64_internal
unzip.c, 1814
unz_file_pos
unzip.h, 1868
unz_global_info
unzip.h, 1868
unz_global_info64
unzip.h, 1868
unzClearFlags
unzip.c, 1827
unzip.h, 1869
unzClose
unzip.c, 1828
unzCloseCurrentFile
unzip.c, 1829
unzFile
unzip.h, 1868
unzGetCurrentFileInfo
unzip.c, 1830
unzGetCurrentFileInfo64
unzip.c, 1831
unzGetCurrentFileZStreamPos64
unzip.c, 1832
unzGetFilePos
unzip.c, 1832
unzip.h, 1869
unzGetFilePos64
unzip.c, 1833
unzip.h, 1870
unzGetGlobalComment
unzip.c, 1833
unzGetGlobalInfo
unzip.c, 1834
unzGetGlobalInfo64
unzip.c, 1834
unzGetLocalExtrafield
unzip.c, 1835
unzGetOffset
unzip.c, 1835
unzip.h, 1870
unzGetOffset64
unzip.c, 1836
unzip.h, 1871
unzGoToFilePos
unzip.c, 1836
unzip.h, 1871
unzGoToFilePos64
unzip.c, 1837
unzip.h, 1872
unzGoToFirstFile
unzip.c, 1838
unzGoToNextFile
unzip.c, 1839
unzLocateFile
unzip.c, 1840
unzOpen
unzip.c, 1841
unzOpen2
unzip.c, 1841
unzOpen2_64
unzip.c, 1842
unzOpen64
unzip.c, 1843
unzOpenCurrentFile
unzip.c, 1843
unzOpenCurrentFile2
unzip.c, 1844
unzOpenCurrentFile3
unzip.c, 1844
unzOpenCurrentFilePassword
unzip.c, 1847
unzOpenInternal
unzip.c, 1848
unzip.h, 1873
unzReadCurrentFile
unzip.c, 1851
unzSetFlags
unzip.c, 1854
unzip.h, 1876
unzSetOffset
unzip.c, 1855
unzip.h, 1877
unzSetOffset64
unzip.c, 1855
unzip.h, 1877
unzStringFileNameCompare
unzip.c, 1856

unzeof
unzip.c, 1830
unzip.c
_Z_OF, 1814
ALLOC, 1812
BUFREADCOMMENT, 1813
local, 1813
SIZECENTRALDIRITEM, 1813
SIZEZIPLOCALHEADER, 1813
strcmpcasenosensitive_internal, 1814
TRYFREE, 1813
UNZ_BUFSIZE, 1813
UNZ_MAXFILENAMEINZIP, 1813
unz64local_CheckCurrentFileCoherencyHeader, 1814
unz64local_DosDateToTmuDate, 1816
unz64local_GetCurrentFileInfoInternal, 1817
unz64local_SearchCentralDir, 1824
unz64local_SearchCentralDir64, 1825
unz64local_getByte, 1817
unz64local_getLong, 1821
unz64local_getLong64, 1822
unz64local_getShort, 1823
unz_copyright, 1857
unz_file_info64_internal, 1814
unzClearFlags, 1827
unzClose, 1828
unzCloseCurrentFile, 1829
unzGetCurrentFileInfo, 1830
unzGetCurrentFileInfo64, 1831
unzGetCurrentFileZStreamPos64, 1832
unzGetFilePos, 1832
unzGetFilePos64, 1833
unzGetGlobalComment, 1833
unzGetGlobalInfo, 1834
unzGetGlobalInfo64, 1834
unzGetLocalExtrafield, 1835
unzGetOffset, 1835
unzGetOffset64, 1836
unzGoToFilePos, 1836
unzGoToFilePos64, 1837
unzGoToFirstFile, 1838
unzGoToNextFile, 1839
unzLocateFile, 1840
unzOpen, 1841
unzOpen2, 1841
unzOpen2_64, 1842
unzOpen64, 1843
unzOpenCurrentFile, 1843
unzOpenCurrentFile2, 1844
unzOpenCurrentFile3, 1844
unzOpenCurrentFilePassword, 1847
unzOpenInternal, 1848
unzReadCurrentFile, 1851
unzSetFlags, 1854
unzSetOffset, 1855
unzSetOffset64, 1855
unzStringFileNameCompare, 1856
unzeof, 1830
unztell, 1856
unztell64, 1857
z_crc_t, 1814
unzip.h
_Z_OF, 1868, 1869
tm_unz, 1868
UNZ_AUTO_CLOSE, 1866
UNZ_BADZIPFILE, 1866
UNZ_CRCERROR, 1866
UNZ_DEFAULT_FLAGS, 1866
UNZ_EOF, 1867
UNZ_ERRNO, 1867
UNZ_INTERNALERROR, 1867
UNZ_OK, 1867
UNZ_PARAMERROR, 1867
unz64_file_pos, 1868
unz_file_info, 1868
unz_file_info64, 1868
unz_file_pos, 1868
unz_global_info, 1868
unz_global_info64, 1868
unzClearFlags, 1869
unzFile, 1868
unzGetFilePos, 1869
unzGetFilePos64, 1870
unzGetOffset, 1870
unzGetOffset64, 1871
unzGoToFilePos, 1871
unzGoToFilePos64, 1872
unzOpenInternal, 1873
unzSetFlags, 1876
unzSetOffset, 1877
unzSetOffset64, 1877
Z_BZIP2ED, 1867
unztell
unzip.c, 1856
unztell64
unzip.c, 1857
update
KbBind, 394
KbPerf, 536
QuaAdler32, 811
QuaChecksum32, 813
QuaCrc32, 817
update_keys
crypt.h, 1759
updateBind
KbBindWidget, 413
updateFwButton
KbWidget, 591
updateImage
ColorButton, 151
GradientButton, 207
updateLayout
Kb, 308
updateLight
KbLightWidget, 478

updateMapper
AnimSettingDialog, 119
KPerfWidget, 717
updateModifiers
SettingsWidget, 1022
updateParam
AnimSettingDialog, 114
updateParams
KbAnim, 338
updatePresets
GradientDialog, 227
updateProfileList
KbWidget, 592
updateSelDisplay
KbBindWidget, 414
updateStops
AnimSettingDialog, 117
updateVersion
MainWindow, 750
updateconnected
devnode.c, 1267
devnode.h, 1276
updated
KbBind, 396
KbLight, 455
KbMode, 504
updatedpi
devcmd.__unnamed__, 164
dpi.c, 1281
dpi.h, 1286
updateindicators
devcmd.__unnamed__, 164
updateindicators_kb
input.c, 1307
input.h, 1317
updatergb
devcmd.__unnamed__, 164
updatergb_kb
led.h, 1344
led_keyboard.c, 1376
updatergb_mouse
led.h, 1346
led_mouse.c, 1382
url
KbFirmware::FW, 186
urlParam
animscript.cpp, 1630
urldecode
ckb-anim.h, 1659
urldecode2
profile.c, 1469
urlencode2
profile.c, 1470
usb.c
_resetusb, 1511
_setupusb, 1511
_usbrecv, 1516
_usbsend, 1517
closeusb, 1518
devmain, 1520
features_mask, 1528
get_vtable, 1522
hwload_mode, 1528
product_str, 1523
reset_stop, 1528
revertusb, 1524
setupusb, 1525
usb_tryreset, 1526
usbmutex, 1528
vendor_str, 1527
usb.h
_nk95cmd, 1541
_resetusb, 1542
_usbrecv, 1543
_usbsend, 1544
closeusb, 1546
DELAY_LONG, 1533
DELAY_MEDIUM, 1533
DELAY_SHORT, 1533
IS_FULLRANGE, 1533
IS_K65, 1533
IS_K70, 1533
IS_K95, 1533
IS_M65, 1533
IS_MONOCHROME, 1534
IS_MONOCHROME_DEV, 1534
IS_MOUSE, 1534
IS_MOUSE_DEV, 1534
IS_RGB, 1534
IS_RGB_DEV, 1534
IS_SABRE, 1534
IS_SCIMITAR, 1534
IS_STRAFE, 1534
NK95_HWOFF, 1535
NK95_HWON, 1535
NK95_M1, 1535
NK95_M2, 1535
NK95_M3, 1535
nk95cmd, 1535
os_closeusb, 1548
os_inputmain, 1549
os_resetusb, 1552
os_sendindicators, 1553
os_setupusb, 1554
os_usbrecv, 1556
os_usbsend, 1559
P_K65, 1535
P_K65_LUX, 1535
P_K65_LUX_STR, 1536
P_K65_NRGB, 1536
P_K65_NRGB_STR, 1536
P_K65_RFIRE, 1536
P_K65_RFIRE_STR, 1536
P_K65_STR, 1536
P_K70, 1536
P_K70_LUX, 1536

P_K70_LUX_NRGB, 1536
P_K70_LUX_NRGB_STR, 1536
P_K70_LUX_STR, 1536
P_K70_NRGB, 1537
P_K70_NRGB_STR, 1537
P_K70_RFIRE, 1537
P_K70_RFIRE_NRGB, 1537
P_K70_RFIRE_STR, 1537
P_K70_STR, 1537
P_K95, 1537
P_K95_NRGB, 1537
P_K95_NRGB_STR, 1537
P_K95_PLATINUM, 1537
P_K95_PLATINUM_STR, 1538
P_K95_STR, 1538
P_M65, 1538
P_M65_PRO, 1538
P_M65_PRO_STR, 1538
P_M65_STR, 1538
P_SABRE_L, 1538
P_SABRE_L_STR, 1538
P_SABRE_N, 1538
P_SABRE_N_STR, 1538
P_SABRE_O, 1538
P_SABRE_O2, 1539
P_SABRE_O2_STR, 1539
P_SABRE_O_STR, 1539
P_SCIMITAR, 1539
P_SCIMITAR_PRO, 1539
P_SCIMITAR_PRO_STR, 1539
P_SCIMITAR_STR, 1539
P_STRAFE, 1539
P_STRAFE_NRGB, 1539
P_STRAFE_NRGB_STR, 1539
P_STRAFE_STR, 1540
product_str, 1561
resetusb, 1540
revertusb, 1562
setupusb, 1563
USB_DELAY_DEFAULT, 1540
usb_tryreset, 1564
usbkill, 1565
usbmain, 1566
usbrecv, 1540
usbsend, 1540
V_CORSAIR, 1540
V_CORSAIR_STR, 1540
vendor_str, 1567
usb_add_device
usb_linux.c, 1585
usb_linux.c
_nk95cmd, 1571
DEBUG, 1570
kbsyspath, 1594
models, 1594
N_MODELS, 1570
os_closeusb, 1572
os_inputmain, 1572
os_resetusb, 1576
os_sendindicators, 1577
os_setupusb, 1578
os_usbrecv, 1579
os_usbsend, 1581
strtrim, 1582
TEST_RESET, 1570
udev, 1595
udev_enum, 1584
udevthread, 1595
usb_add_device, 1585
usb_rm_device, 1586
usbadd, 1588
usbclaim, 1590
usbkill, 1591
usbmain, 1591
usbthread, 1595
usbunclaim, 1593
usb_rm_device
usb_linux.c, 1586
usb_tryreset
usb.c, 1526
usb.h, 1564
UsbId, 1212
guid, 1217
guidString, 1214
hwModified, 1217
hwModifiedString, 1215
modified, 1217
modifiedString, 1215, 1216
newGuid, 1216
newModified, 1216
UsbId, 1214
UsbId, 1214
usbModel
Kb, 313
usbSerial
Kb, 314
usbadd
usb_linux.c, 1588
usbclaim
usb_linux.c, 1590
usbdevice, 1503
usbid, 1493
usbinput, 1502
usbkill
usb.h, 1565
usb_linux.c, 1591
usbmain
usb.h, 1566
usb_linux.c, 1591
usbmode, 1499
usbmutex
usb.c, 1528
usbprofile, 1500
usbrecv
usb.h, 1540
usbsend

usb.h, 1540
usbthread
usb_linux.c, 1595
usbunclaim
usb_linux.c, 1593
useopacity
ckb-random/main.c, 1426
ushort
includes.h, 1298
usize
QuaZipFile, 903
utf16to8
profile.c, 1471
utf8to16
profile.c, 1471

V_CORSAIR
firmware_special.h, 1673
usb.h, 1540
V_CORSAIR_STR
usb.h, 1540
VERSIONMADEBY
zip.c, 1886
value
CkbSettings, 138
KeyAction, 634
QuaAdler32, 811
QuaChecksum32, 813
QuaCrc32, 817
vendor_str
usb.c, 1527
usb.h, 1567
verifyFw
fwupgradedialog.cpp, 1675
version
AnimScript, 82
versionCreated
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
versionForBoard
KbFirmware, 426
versionLabel
Ui::SettingsWidget, 1035
Ui_SettingsWidget, 1211
versionNeeded
QuaZipFileInfo, 908
QuaZipFileInfo64, 915
versionUpdated
KbManager, 491
verticalLayout
Ui::KbAnimWidget, 350
Ui::KbBindWidget, 404
Ui::KbLightWidget, 465
Ui::MPerfWidget, 777
Ui::RebindWidget, 1004
Ui_KbAnimWidget, 1090
Ui_KbBindWidget, 1097
Ui_KbLightWidget, 1105
Ui_MPerfWidget, 1167
Ui_RebindWidget, 1198
verticalLayout_2
Ui::RebindWidget, 1005
Ui_RebindWidget, 1198
verticalSpacer
Ui::AnimSettingDialog, 98
Ui::ExtraSettingsWidget, 175
Ui::GradientDialog, 215
Ui::KbAnimWidget, 350
Ui::KbBindWidget, 404
Ui::KbLightWidget, 466
Ui::KbWidget, 604
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_AnimSettingDialog, 1055
Ui_ExtraSettingsWidget, 1067
Ui_GradientDialog, 1081
Ui_KbAnimWidget, 1090
Ui_KbBindWidget, 1097
Ui_KbLightWidget, 1105
Ui_KbWidget, 1118
Ui_KPerfWidget, 1137
Ui_LayoutDialog, 1143
Ui_MPerfWidget, 1167
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_10
Ui::ExtraSettingsWidget, 175
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_11
Ui::ExtraSettingsWidget, 175
Ui::RebindWidget, 1005
Ui_ExtraSettingsWidget, 1067
Ui_RebindWidget, 1199
verticalSpacer_2
Ui::AnimAddDialog, 54
Ui::AnimSettingDialog, 98
Ui::ExtraSettingsWidget, 176
Ui::GradientDialog, 216
Ui::KbAnimWidget, 350
Ui::KbLightWidget, 466
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_AnimAddDialog, 1043
Ui_AnimSettingDialog, 1056
Ui_ExtraSettingsWidget, 1067
Ui_GradientDialog, 1081
Ui_KbAnimWidget, 1090

Ui_KbLightWidget, 1105
Ui_KPerfWidget, 1137
Ui_LayoutDialog, 1143
Ui_MPerfWidget, 1167
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_3
Ui::AnimAddDialog, 54
Ui::AnimSettingDialog, 99
Ui::ExtraSettingsWidget, 176
Ui::KbAnimWidget, 350
Ui::KbLightWidget, 466
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::MPerfWidget, 777
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_AnimAddDialog, 1043
Ui_AnimSettingDialog, 1056
Ui_ExtraSettingsWidget, 1067
Ui_KbAnimWidget, 1091
Ui_KbLightWidget, 1105
Ui_KPerfWidget, 1138
Ui_LayoutDialog, 1143
Ui_MPerfWidget, 1167
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_4
Ui::ExtraSettingsWidget, 176
Ui::KPerfWidget, 704
Ui::LayoutDialog, 722
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1067
Ui_KPerfWidget, 1138
Ui_LayoutDialog, 1143
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1211
verticalSpacer_5
Ui::ExtraSettingsWidget, 176
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1068
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1212
verticalSpacer_6
Ui::ExtraSettingsWidget, 176
Ui::RebindWidget, 1005
Ui::SettingsWidget, 1035
Ui_ExtraSettingsWidget, 1068
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1212
verticalSpacer_7
Ui::ExtraSettingsWidget, 176
Ui::RebindWidget, 1006
Ui::SettingsWidget, 1036
Ui_ExtraSettingsWidget, 1068
Ui_RebindWidget, 1199
Ui_SettingsWidget, 1212
verticalSpacer_8
Ui::ExtraSettingsWidget, 176
Ui::RebindWidget, 1006
Ui::SettingsWidget, 1036
Ui_ExtraSettingsWidget, 1068
Ui_RebindWidget, 1200
Ui_SettingsWidget, 1212
verticalSpacer_9
Ui::ExtraSettingsWidget, 176
Ui_ExtraSettingsWidget, 1068
vtable_keyboard
device_vtable.c, 1254
structures.h, 1509
vtable_keyboard_nonrgb
device_vtable.c, 1254
structures.h, 1509
vtable_mouse
device_vtable.c, 1254
structures.h, 1509

wheelBox
Ui::RebindWidget, 1006
Ui_RebindWidget, 1200
wheelButton
Ui::RebindWidget, 1006
Ui_RebindWidget, 1200
wheelKeys
RebindWidget, 975
widget
Ui::GradientDialog, 216
Ui::KbBindWidget, 404
Ui::KbLightWidget, 466
Ui_GradientDialog, 1081
Ui_KbBindWidget, 1097
Ui_KbLightWidget, 1106
width
ckb-wave/main.c, 1440
Key, 607
KeyMap, 660
winBox
Ui::SettingsWidget, 1036
Ui_SettingsWidget, 1212
winLabel
Ui::SettingsWidget, 1036
Ui_SettingsWidget, 1212
winLock
KbBind, 396
Write_EndOfCentralDirectoryRecord
zip.c, 1894
Write_GlobalComment
zip.c, 1895
Write_LocalFileHeader
zip.c, 1896
Write_Zip64EndOfCentralDirectoryLocator
zip.c, 1898
Write_Zip64EndOfCentralDirectoryRecord
zip.c, 1899
writeCache

CkbSettings, 140
writeData
QuaGzipFile, 823
QuaZIODevice, 831
QuaZipFile, 904
writePos
QuaZipFilePrivate, 920
writeProfileHeader
Kb, 309

x
ckb-pinwheel/main.c, 1414
Key, 607
x_offset
ckb-pinwheel/main.c, 1415
ckb-ripple/main.c, 1432
xBox0
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1167
xBox1
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1167
xBox2
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1168
xBox3
Ui::MPerfWidget, 777
Ui_MPerfWidget, 1168
xBox4
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xBox5
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider0
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider1
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider2
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider3
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider4
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1168
xSlider5
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1169
xyBox
Ui::MPerfWidget, 778
Ui_MPerfWidget, 1169
xyLinkPath
mperfwidget.cpp, 1754

y
ckb-pinwheel/main.c, 1415
Key, 607
YES
KbFirmware, 419
y_offset
ckb-pinwheel/main.c, 1415
ckb-ripple/main.c, 1432
yBox0
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
yBox1
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
yBox2
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
yBox3
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
yBox4
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
yBox5
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
ySlider0
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1169
ySlider1
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1170
ySlider2
Ui::MPerfWidget, 779
Ui_MPerfWidget, 1170
ySlider3
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1170
ySlider4
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1170
ySlider5
Ui::MPerfWidget, 780
Ui_MPerfWidget, 1170
year
AnimScript, 82

Z_BUFSIZE
zip.c, 1886
Z_BZIP2ED
unzip.h, 1867
zip.h, 1939
Z_MAXFILENAMEINZIP
zip.c, 1886
z_crc_t
unzip.c, 1814
zip.c, 1887
ZCALLBACK
ioapi.h, 1764
ZCLOSE64

ioapi.h, 1764
ZERROR64
ioapi.h, 1764
ZFAKECLOSE64
ioapi.h, 1764
ZIP64ENDHEADERMAGIC
zip.c, 1886
ZIP64ENDLOCHEADERMAGIC
zip.c, 1887
ZIP_AUTO_CLOSE
zip.h, 1939
ZIP_BADZIPFILE
zip.h, 1939
ZIP_DEFAULT_FLAGS
zip.h, 1939
ZIP_EOF
zip.h, 1939
ZIP_ERRNO
zip.h, 1939
ZIP_INTERNALERROR
zip.h, 1939
ZIP_OK
zip.h, 1939
ZIP_PARAMERROR
zip.h, 1940
ZIP_SEQUENTIAL
zip.h, 1940
ZOPEN64
ioapi.h, 1765
ZPOS64_T
ioapi.h, 1766
ZREAD64
ioapi.h, 1765
ZSEEK64
ioapi.h, 1765
ZTELL64
ioapi.h, 1766
ZWRITE64
ioapi.h, 1766
zdecode
crypt.h, 1758
zencode
crypt.h, 1758
zip
QuaZipFilePrivate, 920
zip.c
_Z_OF, 1887
ALLOC, 1884
add_data_in_datablock, 1887
allocate_new_datablock, 1888
BUFREADCOMMENT, 1885
CENTRALHEADERMAGIC, 1885
DESCRIPTORHEADERMAGIC, 1885
ENDHEADERMAGIC, 1885
free_datablock, 1889
free_linkedlist, 1889
init_linkedlist, 1890
LOCALHEADERMAGIC, 1885
linkedlist_data, 1887
linkedlist_datablock_internal, 1887
LoadCentralDirectoryRecord, 1891
local, 1885
MAKEULONG64, 1885
SEEK_CUR, 1886
SEEK_END, 1886
SEEK_SET, 1886
SIZECENTRALHEADER, 1886
SIZEDATA_INDATABLOCK, 1886
TRYFREE, 1886
VERSIONMADEBY, 1886
Write_EndOfCentralDirectoryRecord, 1894
Write_GlobalComment, 1895
Write_LocalFileHeader, 1896
Write_Zip64EndOfCentralDirectoryLocator, 1898
Write_Zip64EndOfCentralDirectoryRecord, 1899
Z_BUFSIZE, 1886
Z_MAXFILENAMEINZIP, 1886
z_crc_t, 1887
ZIP64ENDHEADERMAGIC, 1886
ZIP64ENDLOCHEADERMAGIC, 1887
zip64FlushWriteBuffer, 1900
zip64local_SearchCentralDir, 1906
zip64local_SearchCentralDir64, 1907
zip64local_TmzDateToDosDate, 1909
zip64local_getByte, 1901
zip64local_getLong, 1902
zip64local_getLong64, 1903
zip64local_getShort, 1904
zip64local_putValue, 1905
zip64local_putValue_inmemory, 1906
zip_copyright, 1934
zipClearFlags, 1910
zipClose, 1910
zipCloseFileInZip, 1912
zipCloseFileInZipRaw, 1913
zipCloseFileInZipRaw64, 1913
zipOpen, 1918
zipOpen2, 1918
zipOpen2_64, 1919
zipOpen3, 1920
zipOpen64, 1922
zipOpenNewFileInZip, 1923
zipOpenNewFileInZip2, 1923
zipOpenNewFileInZip2_64, 1924
zipOpenNewFileInZip3, 1924
zipOpenNewFileInZip3_64, 1925
zipOpenNewFileInZip4, 1925
zipOpenNewFileInZip4_64, 1926
zipOpenNewFileInZip64, 1930
zipRemoveExtraInfoBlock, 1930
zipSetFlags, 1931
zipWriteInFileInZip, 1932
zip.h
_Z_OF, 1940, 1941
DEF_MEM_LEVEL, 1939
tm_zip, 1940

Z_BZIP2ED, 1939
ZIP_AUTO_CLOSE, 1939
ZIP_BADZIPFILE, 1939
ZIP_DEFAULT_FLAGS, 1939
ZIP_EOF, 1939
ZIP_ERRNO, 1939
ZIP_INTERNALERROR, 1939
ZIP_OK, 1939
ZIP_PARAMERROR, 1940
ZIP_SEQUENTIAL, 1940
zipClearFlags, 1941
zipFile, 1940
zipOpen3, 1942
zipSetFlags, 1944
zipcharpc, 1940
zip64
QuaZipPrivate, 938
zip64_internal, 1884
zip64FlushWriteBuffer
zip.c, 1900
zip64local_SearchCentralDir
zip.c, 1906
zip64local_SearchCentralDir64
zip.c, 1907
zip64local_TmzDateToDosDate
zip.c, 1909
zip64local_getByte
zip.c, 1901
zip64local_getLong
zip.c, 1902
zip64local_getLong64
zip.c, 1903
zip64local_getShort
zip.c, 1904
zip64local_putValue
zip.c, 1905
zip64local_putValue_inmemory
zip.c, 1906
zip_fileinfo, 1937
zip_copyright
zip.c, 1934
zipClearFlags
zip.c, 1910
zip.h, 1941
zipClose
zip.c, 1910
zipCloseFileInZip
zip.c, 1912
zipCloseFileInZipRaw
zip.c, 1913
zipCloseFileInZipRaw64
zip.c, 1913
zipError
QuaZipFilePrivate, 920
QuaZipPrivate, 938
zipFile
zip.h, 1940
zipName
QuaZipPrivate, 938
zipOpen
zip.c, 1918
zipOpen2
zip.c, 1918
zipOpen2_64
zip.c, 1919
zipOpen3
zip.c, 1920
zip.h, 1942
zipOpen64
zip.c, 1922
zipOpenNewFileInZip
zip.c, 1923
zipOpenNewFileInZip2
zip.c, 1923
zipOpenNewFileInZip2_64
zip.c, 1924
zipOpenNewFileInZip3
zip.c, 1924
zipOpenNewFileInZip3_64
zip.c, 1925
zipOpenNewFileInZip4
zip.c, 1925
zipOpenNewFileInZip4_64
zip.c, 1926
zipOpenNewFileInZip64
zip.c, 1930
zipRemoveExtraInfoBlock
zip.c, 1930
zipSetFlags
zip.c, 1931
zip.h, 1944
zipWriteInFileInZip
zip.c, 1932
zipcharpc
zip.h, 1940
zlib_filefunc64_32_def_s, 1763
zlib_filefunc64_def_s, 1762
zlib_filefunc_def_s, 1762
zlib_filefunc64_32_def
ioapi.h, 1766
zlib_filefunc64_def
ioapi.h, 1766
zlib_filefunc_def
ioapi.h, 1766