multichannel systems

McsUsbNet.dll

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Multi Channel Systems MCS GmbH
Aspenhaustrasse 21
72770 Reutlingen
Germany
Fon +49-71 21-90 92 5 - 0
Fax +49-71 21-90 92 5 -11
info@multichannelsystems.com
www.multichannelsystems.com

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1 McsUsbNet.dll for MCS USB devices 1
1.1 Introduction . . . 1
1.2 System requirements . . . 1
1.3 Connecting to an MCS device . . . 2

2 Device Classes 2
2.1 The MCS FluidControl Device . . . 2
2.1.1 Introduction . . . 2
2.1.2 Access to the FluidControl device . . . 2
2.2 MCS-USB-Sw2to64 device . . . 3

3 Function Classes 3

4 Data ACQuisition (DACQ) Devices 4

5 The MCS Robo Device 5
5.1 Introduction . . . 5

6 STG200x & STG400x STimulus Generator 5
6.1 Introduction . . . 5
6.2 Download mode . . . 6
6.2.1 Memory Layout and Trigger Setup . . . 6
6.3 Streaming mode . . . 8
6.3.1 Memory Layout and Trigger Setup . . . 9

7 Namespace Index 11
7.1 Namespace List . . . 11

8 Hierarchical Index 11
8.1 Class Hierarchy . . . 11

9 Class Index 16
9.1 Class List . . . 16

10 Namespace Documentation 22
10.1 Mcs Namespace Reference . . . 22
10.2 Mcs::Usb Namespace Reference . . . 22
10.2.1 Enumeration Type Documentation . . . 51
10.2.2 Function Documentation . . . 91

11 Class Documentation 93
11.1 CW2100_FunctionNet::AudioChannelsNet Struct Reference . . . 93
11.1.1 Member Data Documentation . . . 93
11.2 BatteryState Class Reference . . . 93
11.2.1 Property Documentation . . . 93
11.3 BesselFilterHighPassNet Class Reference . . . 94

11.3.1 Constructor & Destructor Documentation . . . 94
11.4 BesselFilterLowPassNet Class Reference . . . 94
11.4.1 Constructor & Destructor Documentation . . . 95
11.5 ButterworthFilterHighPassNet Class Reference . . . 95
11.5.1 Constructor & Destructor Documentation . . . 95
11.6 ButterworthFilterLowPassNet Class Reference . . . 96
11.6.1 Constructor & Destructor Documentation . . . 96
11.7 CChannelTestDeviceNet Class Reference . . . 96
11.7.1 Constructor & Destructor Documentation . . . 97
11.7.2 Member Function Documentation . . . 97
11.8 CCMOSMea_FunctionNet Class Reference . . . 97
11.8.1 Constructor & Destructor Documentation . . . 99
11.8.2 Member Function Documentation . . . 100
11.9 CCMOSMeaDeviceNet Class Reference . . . 108
11.9.1 Constructor & Destructor Documentation . . . 109
11.9.2 Member Function Documentation . . . 109
11.9.3 Property Documentation . . . 111
11.10 CCreateFilterNet Class Reference . . . 111
11.10.1 Constructor & Destructor Documentation . . . 112
11.10.2 Member Function Documentation . . . 112
11.10.3 Property Documentation . . . 113
11.11 CDacCalibrationFunctionNet Class Reference . . . 113
11.11.1 Detailed Description . . . 114
11.11.2 Constructor & Destructor Documentation . . . 114
11.11.3 Member Function Documentation . . . 114
11.12 CDacqGroupChannelGenericSelectionNet Class Reference . . . 115
11.12.1 Constructor & Destructor Documentation . . . 116
11.13 CDacqGroupChannelSelectionNet Class Reference . . . 116
11.13.1 Constructor & Destructor Documentation . . . 116
11.14 CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet > Class Template Reference . . . 116
11.14.1 Constructor & Destructor Documentation . . . 117
11.14.2 Member Function Documentation . . . 117
11.15 CDeviceGroupChannelInfoGenericNet Class Reference . . . 119
11.15.1 Constructor & Destructor Documentation . . . 119
11.16 CDeviceGroupChannelInfoMEA2100_256Net Class Reference . . . 120
11.16.1 Constructor & Destructor Documentation . . . 120
11.17 CDeviceGroupChannelInfoNet Class Reference . . . 120
11.17.1 Constructor & Destructor Documentation . . . 121
11.18 CDeviceGroupChannelInfoSCUNet Class Reference . . . 121
11.18.1 Constructor & Destructor Documentation . . . 121
11.19 CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet > Class Template Reference . . . 121

11.19.1 Constructor & Destructor Documentation . . . 122
11.19.2 Member Data Documentation . . . 122
11.20 CDeviceGroupChannelInfoW2100Net Class Reference . . . 122
11.20.1 Constructor & Destructor Documentation . . . 123
11.21 CDigOutStimulatorFunctionNet Class Reference . . . 123
11.21.1 Detailed Description . . . 124
11.21.2 Constructor & Destructor Documentation . . . 124
11.21.3 Member Function Documentation . . . 124
11.22 CEncapsulatorDeviceNet Class Reference . . . 127
11.22.1 Detailed Description . . . 127
11.22.2 Constructor & Destructor Documentation . . . 128
11.22.3 Member Function Documentation . . . 128
11.23 CExternDTesterDeviceNet Class Reference . . . 128
11.23.1 Detailed Description . . . 128
11.23.2 Constructor & Destructor Documentation . . . 129
11.23.3 Member Function Documentation . . . 129
11.24 CFilterCoefficientsNet Class Reference . . . 130
11.24.1 Constructor & Destructor Documentation . . . 130
11.24.2 Member Function Documentation . . . 131
11.24.3 Property Documentation . . . 132
11.25 CFilterConfigurationNet Class Reference . . . 132
11.25.1 Constructor & Destructor Documentation . . . 132
11.25.2 Member Function Documentation . . . 133
11.26 CFilterConfigurationRegisterNet Class Reference . . . 134
11.26.1 Constructor & Destructor Documentation . . . 134
11.26.2 Member Function Documentation . . . 134
11.27 CFilterPropertyNet Class Reference . . . 136
11.27.1 Constructor & Destructor Documentation . . . 136
11.27.2 Member Function Documentation . . . 136
11.27.3 Property Documentation . . . 136
11.28 CFluidControlDeviceNet Class Reference . . . 137
11.28.1 Detailed Description . . . 138
11.28.2 Constructor & Destructor Documentation . . . 139
11.28.3 Member Function Documentation . . . 139
11.28.4 Property Documentation . . . 144
11.29 CFYIDeviceNet Class Reference . . . 144
11.29.1 Detailed Description . . . 145
11.29.2 Constructor & Destructor Documentation . . . 145
11.29.3 Property Documentation . . . 145
11.30 CGenericDevelopDeviceNet Class Reference . . . 146
11.30.1 Detailed Description . . . 153
11.30.2 Constructor & Destructor Documentation . . . 153

11.30.3 Member Function Documentation . . . 153
11.31 CGilsonDeviceNet Class Reference . . . 164
11.31.1 Detailed Description . . . 164
11.31.2 Constructor & Destructor Documentation . . . 164
11.31.3 Member Function Documentation . . . 165
11.31.4 Member Data Documentation . . . 165
11.32 CGrapheneASICDeviceNet Class Reference . . . 166
11.32.1 Constructor & Destructor Documentation . . . 166
11.32.2 Member Function Documentation . . . 166
11.33 CGrapheneFunctionNet Class Reference . . . 167
11.33.1 Detailed Description . . . 169
11.33.2 Constructor & Destructor Documentation . . . 169
11.33.3 Member Function Documentation . . . 169
11.34 CHiClampDeviceNet Class Reference . . . 178
11.34.1 Detailed Description . . . 179
11.34.2 Constructor & Destructor Documentation . . . 179
11.34.3 Property Documentation . . . 179
11.35 CHLADacqNet Class Reference . . . 179
11.35.1 Constructor & Destructor Documentation . . . 180
11.36 CHLADeviceNet Class Reference . . . 180
11.36.1 Detailed Description . . . 180
11.36.2 Constructor & Destructor Documentation . . . 180
11.36.3 Property Documentation . . . 181
11.37 CMcsUsbDacqNet::CHWInfo Class Reference . . . 181
11.37.1 Detailed Description . . . 181
11.37.2 Constructor & Destructor Documentation . . . 181
11.37.3 Member Function Documentation . . . 182
11.38 CIntanMea_FunctionNet Class Reference . . . 184
11.38.1 Constructor & Destructor Documentation . . . 184
11.38.2 Member Function Documentation . . . 185
11.39 CInterfaceboard2FunctionNet Class Reference . . . 186
11.39.1 Detailed Description . . . 186
11.39.2 Constructor & Destructor Documentation . . . 187
11.39.3 Member Function Documentation . . . 187
11.40 CInterfaceboardFunctionNet Class Reference . . . 188
11.40.1 Detailed Description . . . 188
11.40.2 Constructor & Destructor Documentation . . . 188
11.40.3 Member Function Documentation . . . 189
11.41 CLIH3DeviceNet Class Reference . . . 190
11.41.1 Detailed Description . . . 192
11.41.2 Constructor & Destructor Documentation . . . 192
11.41.3 Member Function Documentation . . . 192

11.41.4 Property Documentation . . . 199
11.42 CMcsBus_AxisParametersNet Class Reference . . . 199
11.42.1 Constructor & Destructor Documentation . . . 200
11.42.2 Member Function Documentation . . . 200
11.43 CMcsBus_ExtensionNet Class Reference . . . 201
11.43.1 Constructor & Destructor Documentation . . . 201
11.43.2 Member Function Documentation . . . 202
11.44 CMcsBus_FYIExtensionNet Class Reference . . . 202
11.44.1 Constructor & Destructor Documentation . . . 202
11.44.2 Member Function Documentation . . . 203
11.45 CMcsBus_MotorControlNet Class Reference . . . 204
11.45.1 Constructor & Destructor Documentation . . . 207
11.45.2 Member Function Documentation . . . 207
11.46 CMcsBus_SensorNet Class Reference . . . 221
11.46.1 Constructor & Destructor Documentation . . . 223
11.46.2 Member Function Documentation . . . 223
11.47 CMcsBus_TempSensorNet Class Reference . . . 231
11.47.1 Constructor & Destructor Documentation . . . 232
11.47.2 Member Function Documentation . . . 232
11.48 CMcsBus_VoltageModeNet Class Reference . . . 233
11.48.1 Constructor & Destructor Documentation . . . 234
11.48.2 Member Function Documentation . . . 235
11.49 CMcsBusNet Class Reference . . . 238
11.49.1 Constructor & Destructor Documentation . . . 238
11.49.2 Member Function Documentation . . . 239
11.50 CMcsUsbDacqNet Class Reference . . . 242
11.50.1 Detailed Description . . . 248
11.50.2 Constructor & Destructor Documentation . . . 248
11.50.3 Member Function Documentation . . . 248
11.50.4 Member Data Documentation . . . 288
11.50.5 Property Documentation . . . 289
11.50.6 Event Documentation . . . 289
11.51 CMcsUsbDeviceStatePushFunctionNet Class Reference . . . 289
11.51.1 Constructor & Destructor Documentation . . . 290
11.51.2 Member Function Documentation . . . 290
11.51.3 Event Documentation . . . 290
11.52 CMcsUsbDeviceStatePushNet Class Reference . . . 290
11.52.1 Constructor & Destructor Documentation . . . 291
11.52.2 Member Function Documentation . . . 291
11.52.3 Event Documentation . . . 291
11.53 CMcsUsbFactoryNet Class Reference . . . 291
11.53.1 Constructor & Destructor Documentation . . . 293

11.53.2 Member Function Documentation . . . 293
11.53.3 Member Data Documentation . . . 299
11.54 CMcsUsbFunctionNet Class Reference . . . 300
11.54.1 Constructor & Destructor Documentation . . . 300
11.54.2 Member Function Documentation . . . 301
11.54.3 Member Data Documentation . . . 301
11.55 CMcsUsbFunctionPointerContainer Class Reference . . . 301
11.56 CMcsUsbListEntryNet Class Reference . . . 301
11.56.1 Detailed Description . . . 302
11.56.2 Constructor & Destructor Documentation . . . 302
11.56.3 Member Function Documentation . . . 303
11.56.4 Property Documentation . . . 306
11.57 CMcsUsbListNet Class Reference . . . 307
11.57.1 Detailed Description . . . 307
11.57.2 Constructor & Destructor Documentation . . . 307
11.57.3 Member Function Documentation . . . 308
11.57.4 Property Documentation . . . 309
11.57.5 Event Documentation . . . 309
11.58 CMcsUsbNet Class Reference . . . 310
11.58.1 Detailed Description . . . 314
11.58.2 Constructor & Destructor Documentation . . . 314
11.58.3 Member Function Documentation . . . 314
11.58.4 Member Data Documentation . . . 326
11.58.5 Property Documentation . . . 330
11.59 CMcsUsbPointerContainer Class Reference . . . 331
11.60 CMEA2100_256DacqGroupChannelSelectionNet Class Reference . . . 331
11.60.1 Constructor & Destructor Documentation . . . 331
11.61 CMEA2100x256FunctionNet Class Reference . . . 331
11.61.1 Detailed Description . . . 332
11.61.2 Constructor & Destructor Documentation . . . 332
11.61.3 Member Function Documentation . . . 332
11.62 CMeaAudioFunctionNet Class Reference . . . 333
11.62.1 Constructor & Destructor Documentation . . . 333
11.62.2 Member Function Documentation . . . 334
11.63 CMeaCleanDeviceNet Class Reference . . . 336
11.63.1 Detailed Description . . . 337
11.63.2 Constructor & Destructor Documentation . . . 337
11.63.3 Member Function Documentation . . . 337
11.64 CMeaCoatDeviceNet Class Reference . . . 340
11.64.1 Detailed Description . . . 341
11.64.2 Constructor & Destructor Documentation . . . 341
11.64.3 Member Function Documentation . . . 341

11.65 CMeaDeviceNet Class Reference . . . 345
11.65.1 Detailed Description . . . 346
11.65.2 Constructor & Destructor Documentation . . . 347
11.65.3 Member Function Documentation . . . 347
11.65.4 Property Documentation . . . 352
11.66 CMeaDigitalDataFunctionNet Class Reference . . . 353
11.66.1 Constructor & Destructor Documentation . . . 354
11.66.2 Member Function Documentation . . . 354
11.67 CMeaFeedbackFunctionNet Class Reference . . . 355
11.67.1 Constructor & Destructor Documentation . . . 356
11.67.2 Member Function Documentation . . . 356
11.68 CMeaImpedanceDeviceNet Class Reference . . . 359
11.68.1 Constructor & Destructor Documentation . . . 360
11.68.2 Member Function Documentation . . . 360
11.69 CMeasureTableDeviceNet Class Reference . . . 361
11.69.1 Detailed Description . . . 361
11.69.2 Constructor & Destructor Documentation . . . 361
11.69.3 Property Documentation . . . 361
11.70 CMeaSwitchDeviceNet Class Reference . . . 362
11.70.1 Detailed Description . . . 362
11.70.2 Constructor & Destructor Documentation . . . 362
11.70.3 Member Function Documentation . . . 363
11.71 CMeaUSBDeviceNet Class Reference . . . 363
11.71.1 Detailed Description . . . 364
11.71.2 Constructor & Destructor Documentation . . . 364
11.71.3 Member Function Documentation . . . 365
11.72 CMeFunctionNet Class Reference . . . 365
11.72.1 Detailed Description . . . 365
11.72.2 Constructor & Destructor Documentation . . . 365
11.72.3 Member Function Documentation . . . 366
11.73 CMultiBatteryChargerDeviceNet Class Reference . . . 366
11.73.1 Detailed Description . . . 367
11.73.2 Constructor & Destructor Documentation . . . 367
11.73.3 Member Function Documentation . . . 368
11.74 CMultiwellCallbackFunctionNet Class Reference . . . 373
11.74.1 Detailed Description . . . 374
11.74.2 Constructor & Destructor Documentation . . . 374
11.74.3 Member Function Documentation . . . 374
11.74.4 Event Documentation . . . 375
11.75 CMultiwellDeviceNet Class Reference . . . 375
11.75.1 Detailed Description . . . 377
11.75.2 Constructor & Destructor Documentation . . . 377

11.75.3 Member Function Documentation . . . 377
11.76 CMultiwellOptoStimFunctionNet Class Reference . . . 383
11.76.1 Detailed Description . . . 383
11.76.2 Constructor & Destructor Documentation . . . 383
11.76.3 Member Function Documentation . . . 384
11.77 CNF_GenDeviceNet Class Reference . . . 387
11.77.1 Constructor & Destructor Documentation . . . 388
11.77.2 Member Function Documentation . . . 388
11.78 COctoPotDeviceNet Class Reference . . . 388
11.78.1 Constructor & Destructor Documentation . . . 389
11.78.2 Member Function Documentation . . . 389
11.79 COkuvisionStimulatorDeviceNet Class Reference . . . 392
11.79.1 Constructor & Destructor Documentation . . . 393
11.79.2 Member Function Documentation . . . 393
11.80 CPatchServerDeviceNet Class Reference . . . 396
11.80.1 Detailed Description . . . 396
11.80.2 Constructor & Destructor Documentation . . . 396
11.80.3 Property Documentation . . . 396
11.81 CPathIdentDeviceNet Class Reference . . . 397
11.81.1 Constructor & Destructor Documentation . . . 397
11.81.2 Member Function Documentation . . . 397
11.82 CPedoterDeviceNet Class Reference . . . 398
11.82.1 Detailed Description . . . 398
11.82.2 Constructor & Destructor Documentation . . . 398
11.82.3 Member Function Documentation . . . 398
11.83 CPeristalticPumpDeviceNet Class Reference . . . 399
11.83.1 Detailed Description . . . 399
11.83.2 Constructor & Destructor Documentation . . . 400
11.83.3 Property Documentation . . . 400
11.84 CPgaDeviceNet Class Reference . . . 400
11.84.1 Constructor & Destructor Documentation . . . 401
11.84.2 Member Function Documentation . . . 401
11.85 CPositionIIDeviceNet Class Reference . . . 402
11.85.1 Detailed Description . . . 404
11.85.2 Constructor & Destructor Documentation . . . 404
11.85.3 Member Function Documentation . . . 404
11.85.4 Property Documentation . . . 411
11.86 CPositionImpDeviceNet Class Reference . . . 411
11.86.1 Detailed Description . . . 411
11.86.2 Constructor & Destructor Documentation . . . 412
11.86.3 Member Function Documentation . . . 412
11.87 CPPCDeviceNet Class Reference . . . 414

11.87.1 Constructor & Destructor Documentation . . . 414
11.87.2 Property Documentation . . . 415
11.88 CPPCFunctionNet Class Reference . . . 415
11.88.1 Detailed Description . . . 416
11.88.2 Constructor & Destructor Documentation . . . 416
11.88.3 Member Function Documentation . . . 417
11.89 CPPS_DeviceNet Class Reference . . . 424
11.89.1 Constructor & Destructor Documentation . . . 424
11.89.2 Property Documentation . . . 424
11.90 CPPS_FunctionNet Class Reference . . . 425
11.90.1 Constructor & Destructor Documentation . . . 425
11.90.2 Member Function Documentation . . . 426
11.91 CPPSDeviceNet Class Reference . . . 429
11.91.1 Detailed Description . . . 429
11.91.2 Constructor & Destructor Documentation . . . 430
11.92 CProgramPressureCurveNet Class Reference . . . 430
11.92.1 Detailed Description . . . 430
11.92.2 Constructor & Destructor Documentation . . . 430
11.92.3 Member Function Documentation . . . 431
11.93 CPulseGeneratorFunctionNet Class Reference . . . 431
11.93.1 Detailed Description . . . 432
11.93.2 Constructor & Destructor Documentation . . . 432
11.93.3 Member Function Documentation . . . 433
11.94 CRadioControledDevicesNet Class Reference . . . 434
11.94.1 Constructor & Destructor Documentation . . . 435
11.94.2 Member Function Documentation . . . 435
11.95 CCMOSMeaDeviceNet::CRegionOfInterestRect Class Reference . . . 436
11.95.1 Constructor & Destructor Documentation . . . 436
11.95.2 Member Function Documentation . . . 436
11.95.3 Member Data Documentation . . . 437
11.96 CRetinaLedDeviceNet Class Reference . . . 437
11.96.1 Constructor & Destructor Documentation . . . 438
11.96.2 Member Function Documentation . . . 438
11.97 CRFFunctionNet Class Reference . . . 439
11.97.1 Detailed Description . . . 440
11.97.2 Constructor & Destructor Documentation . . . 440
11.97.3 Member Function Documentation . . . 440
11.98 CRobo_FYIProgram_FunctionNet Class Reference . . . 444
11.98.1 Constructor & Destructor Documentation . . . 444
11.98.2 Member Function Documentation . . . 444
11.99 CRobo_FYITemp_FunctionNet Class Reference . . . 445
11.99.1 Constructor & Destructor Documentation . . . 446

11.99.2 Member Function Documentation . . . 446
11.100 CRoboDacqNet Class Reference . . . 447
11.100.1 Constructor & Destructor Documentation . . . 450
11.100.2 Member Function Documentation . . . 450
11.100.3 Member Data Documentation . . . 461
11.101 CRoboDeviceNet Class Reference . . . 462
11.101.1 Detailed Description . . . 465
11.101.2 Constructor & Destructor Documentation . . . 465
11.101.3 Member Function Documentation . . . 465
11.101.4 Member Data Documentation . . . 473
11.101.5 Property Documentation . . . 477
11.101.6 Event Documentation . . . 478
11.102 CRoboFluidDeviceNet Class Reference . . . 478
11.102.1 Constructor & Destructor Documentation . . . 479
11.102.2 Member Function Documentation . . . 479
11.102.3 Member Data Documentation . . . 481
11.102.4 Property Documentation . . . 481
11.103 CRoboInjectDeviceNet Class Reference . . . 481
11.103.1 Detailed Description . . . 482
11.103.2 Constructor & Destructor Documentation . . . 482
11.104 CRoboocyte2DeviceNet Class Reference . . . 482
11.104.1 Detailed Description . . . 482
11.104.2 Constructor & Destructor Documentation . . . 483
11.104.3 Member Function Documentation . . . 483
11.105 CRoboStatorDeviceNet Class Reference . . . 483
11.105.1 Constructor & Destructor Documentation . . . 485
11.105.2 Member Function Documentation . . . 485
11.105.3 Property Documentation . . . 489
11.106 CSafeISDeviceNet Class Reference . . . 489
11.106.1 Detailed Description . . . 490
11.106.2 Constructor & Destructor Documentation . . . 490
11.106.3 Member Function Documentation . . . 491
11.106.4 Property Documentation . . . 492
11.107 CSCUDacqGroupChannelSelectionNet Class Reference . . . 492
11.107.1 Constructor & Destructor Documentation . . . 493
11.108 CSCUFunctionNet Class Reference . . . 493
11.108.1 Detailed Description . . . 495
11.108.2 Constructor & Destructor Documentation . . . 496
11.108.3 Member Function Documentation . . . 496
11.108.4 Event Documentation . . . 510
11.109 CSerialPortNet Class Reference . . . 510
11.109.1 Constructor & Destructor Documentation . . . 510

11.109.2 Member Function Documentation . . . 511
11.110 CStg200xBasicNet Class Reference . . . 511
11.110.1 Detailed Description . . . 516
11.110.2 Constructor & Destructor Documentation . . . 516
11.110.3 Member Function Documentation . . . 516
11.111 CStg200xDownloadBasicNet Class Reference . . . 548
11.111.1 Detailed Description . . . 549
11.111.2 Member Function Documentation . . . 550
11.111.3 Property Documentation . . . 555
11.112 CStg200xDownloadNet Class Reference . . . 555
11.112.1 Detailed Description . . . 556
11.112.2 Constructor & Destructor Documentation . . . 556
11.112.3 Member Function Documentation . . . 557
11.112.4 Event Documentation . . . 562
11.113 CStimulusFunctionNet Class Reference . . . 562
11.113.1 Constructor & Destructor Documentation . . . 564
11.113.2 Member Function Documentation . . . 564
11.113.3 Event Documentation . . . 573
11.114 CSw2to64DeviceNet Class Reference . . . 573
11.114.1 Detailed Description . . . 573
11.114.2 Constructor & Destructor Documentation . . . 574
11.114.3 Member Function Documentation . . . 574
11.115 CTcxDeviceNet Class Reference . . . 575
11.115.1 Detailed Description . . . 577
11.115.2 Constructor & Destructor Documentation . . . 577
11.115.3 Member Function Documentation . . . 578
11.116 CTEERFunctionNet Class Reference . . . 588
11.116.1 Detailed Description . . . 590
11.116.2 Constructor & Destructor Documentation . . . 590
11.116.3 Member Function Documentation . . . 591
11.117 CTEERMachineDeviceNet Class Reference . . . 599
11.117.1 Constructor & Destructor Documentation . . . 599
11.117.2 Property Documentation . . . 600
11.118 CUsbDeviceConfigurationFunctionNet Class Reference . . . 600
11.118.1 Detailed Description . . . 600
11.118.2 Constructor & Destructor Documentation . . . 600
11.118.3 Member Function Documentation . . . 601
11.119 CUsbExceptionNet Class Reference . . . 601
11.119.1 Detailed Description . . . 602
11.119.2 Constructor & Destructor Documentation . . . 602
11.119.3 Property Documentation . . . 602
11.120 CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet Class Reference . . . 602

11.120.1 Constructor & Destructor Documentation . . . 603
11.120.2 Member Data Documentation . . . 603
11.121 CW2100_FunctionNet Class Reference . . . 603
11.121.1 Constructor & Destructor Documentation . . . 605
11.121.2 Member Function Documentation . . . 605
11.121.3 Property Documentation . . . 610
11.122 CW2100_StimulatorFunctionNet Class Reference . . . 611
11.122.1 Constructor & Destructor Documentation . . . 612
11.122.2 Member Function Documentation . . . 612
11.122.3 Member Data Documentation . . . 617
11.122.4 Event Documentation . . . 617
11.123 CW2100DacqGroupChannelSelectionNet Class Reference . . . 617
11.123.1 Constructor & Destructor Documentation . . . 617
11.124 CWarnerUssingDeviceNet Class Reference . . . 618
11.124.1 Detailed Description . . . 618
11.124.2 Constructor & Destructor Documentation . . . 618
11.124.3 Property Documentation . . . 619
11.125 CWarnerUssingFunctionNet Class Reference . . . 619
11.125.1 Detailed Description . . . 621
11.125.2 Constructor & Destructor Documentation . . . 621
11.125.3 Member Function Documentation . . . 621
11.126 CWarnerValveControllerDeviceNet Class Reference . . . 635
11.126.1 Detailed Description . . . 639
11.126.2 Constructor & Destructor Documentation . . . 640
11.126.3 Member Function Documentation . . . 640
11.126.4 Event Documentation . . . 657
11.127 CWarnerValveControllerDeviceTesterFunctionNet Class Reference . . . 660
11.127.1 Detailed Description . . . 661
11.127.2 Constructor & Destructor Documentation . . . 661
11.127.3 Member Function Documentation . . . 662
11.128 CWClassicFunctionNet Class Reference . . . 663
11.128.1 Constructor & Destructor Documentation . . . 664
11.128.2 Member Function Documentation . . . 665
11.129 CWirelessBaseFunctionNet Class Reference . . . 668
11.129.1 Constructor & Destructor Documentation . . . 669
11.129.2 Member Function Documentation . . . 669
11.130 DeviceIdNet Struct Reference . . . 669
11.130.1 Detailed Description . . . 669
11.130.2 Constructor & Destructor Documentation . . . 670
11.130.3 Member Function Documentation . . . 670
11.130.4 Member Data Documentation . . . 670
11.131 DigitalSource< digitalsourceenum > Class Template Reference . . . 671

11.131.1 Constructor & Destructor Documentation . . . 671
11.131.2 Member Function Documentation . . . 671
11.131.3 Property Documentation . . . 672
11.132 DigitalSourceGeneral Class Reference . . . 672
11.132.1 Constructor & Destructor Documentation . . . 672
11.132.2 Member Function Documentation . . . 672
11.132.3 Property Documentation . . . 673
11.133 DriverVersionNet Class Reference . . . 673
11.133.1 Detailed Description . . . 674
11.133.2 Constructor & Destructor Documentation . . . 674
11.133.3 Member Function Documentation . . . 674
11.134 FirmwareDestinationNames Class Reference . . . 679
11.134.1 Member Data Documentation . . . 680
11.135 HeadStageIDType Class Reference . . . 682
11.135.1 Member Enumeration Documentation . . . 683
11.135.2 Constructor & Destructor Documentation . . . 683
11.135.3 Member Function Documentation . . . 684
11.135.4 Property Documentation . . . 684
11.136 HeadstageIDTypeObject Class Reference . . . 685
11.136.1 Constructor & Destructor Documentation . . . 686
11.136.2 Member Function Documentation . . . 686
11.136.3 Member Data Documentation . . . 686
11.136.4 Property Documentation . . . 687
11.137 HeadStageIDTypeState Class Reference . . . 687
11.137.1 Property Documentation . . . 687
11.138 mkfilterNet Class Reference . . . 688
11.138.1 Member Function Documentation . . . 688
11.139 CRoboDeviceNet::RoboMainLowLevelCommands Class Reference . . . 691
11.139.1 Member Function Documentation . . . 692
11.140 CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands Class Reference . . . 698
11.140.1 Member Function Documentation . . . 698
11.141 CFilterCoefficientsNet::s_FilterAttributesNet Struct Reference . . . 698
11.141.1 Constructor & Destructor Documentation . . . 698
11.141.2 Member Function Documentation . . . 698
11.141.3 Member Data Documentation . . . 699
11.142 CMeaAudioFunctionNet::s_setaudionet Struct Reference . . . 699
11.142.1 Member Data Documentation . . . 699
11.143 CStimulusFunctionNet::SidebandData Class Reference . . . 700
11.143.1 Constructor & Destructor Documentation . . . 700
11.143.2 Property Documentation . . . 700
11.144 StgStatusNet Class Reference . . . 701
11.144.1 Member Function Documentation . . . 701

11.144.2 Member Data Documentation . . . 701
11.145 CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData Class Reference . . . 701
11.145.1 Constructor & Destructor Documentation . . . 702
11.145.2 Property Documentation . . . 702
11.146 CMcsUsbFactoryNet::TargetSelectionInfoNet Class Reference . . . 703
11.146.1 Member Data Documentation . . . 703
11.147 usbSetupPacket_t Class Reference . . . 703
11.147.1 Member Data Documentation . . . 703
11.148 W2100_StimulusParametersNet Struct Reference . . . 704
11.148.1 Member Data Documentation . . . 704

Index **705**

1 McsUsbNet.dll for MCS USB devices

1.1 Introduction

This DLL provides the .NET interface to MCS devices

The most important options are accessing our stimulator and data acquisition devices:

- STG200x & STG400x STimulus Generator
- Data ACQuisition (DACQ) Devices

See here for a list of our other devices: Device Classes.

And here for a list of function classes addressing groups of features that might be shared between different devices: Function Classes.

1.2 System requirements

The DLL can be used with any .NET compatible language.

The DLL needs the **.NET Framework 4.7.2**.

It requires the **Microsoft Visual C++ Redistributable for Visual Studio 2019** to be installed.

It also requires the **USB driver** to be installed.

The simplest way to achieve this is to install the latest **Multi Channel Experimenter** setup (will install 64bit redistributable).

All examples assume that the Mcs.Usb namespace is loaded:

```
using namespace Mcs.Usb;
```

Include the file McsUsbNet.dll into the references of your project.

1.3 Connecting to an MCS device

A connection to a DAQ device is established by Mcs.Usb.CMcsUsbNet.Connect. When this function is called without argument, the first DAQ device found on the USB bus is used:

```
CMcsUsbNet device = new CMcsUsbNet();
device.Connect();
```

When more than one DAQ device of the specific type is connected, you can use the Mcs.Usb.CMcsUsbListNet class to get a list of available devices:

```
CMcsUsbListNet usblist = new CMcsUsbListNet(DeviceEnumNet.MCS_DEVICE_USB);
var entry = usblist.GetUsbListEntry((uint)0);
CMcsUsbNet device = new CMcsUsbNet();
device.Connect(entry);
```

After you are finished with the device, you can disconnect the device object from the device by:

```
device.Disonnect();
```

2 Device Classes

- For FluidControl device see MCS FluidControl
- For SW2TO64 device see MCS-USB-Sw2to64
- For TCx device see Mcs.Usb.CTcxDeviceNet

2.1 The MCS FluidControl Device

2.1.1 Introduction

The FluidControl Device can control up to 24 valves. The nominal voltage is 24V.

8 TTL level digital output ports are available and 8 TTL inputs can be read in.

The device has 8 ADC inputs with a rage from 0V to 3.3V.

2.1.2 Access to the FluidControl device

For connecting to a FluidControl device see Connecting to an MCS device.∗

```
CFluidControlDevice* m_dacq;
m_fluidcontrol = new CFluidControlDevice;
status = m_fluidcontrol->Connect();
```

The valves are controlled with the CFluidControlDevice::SetValve call. The argument given is a bit pattern of all valves which should be open.

The digital outputs can be controlled with the CFluidControlDevice::SetDigout call. Again, a bit pattern of all digital output pins which should be set to a logic high level is given as an argument.

The current state of the valves and the digital outputs can be read back with the CFluidControlDevice::GetValve and CFluidControlDevice::GetDigout

The command to read an ADC-Channel is CFluidControlDevice::GetAdc. Here the channelnummer which should be read in is given as an argument and the return value is the current Adc level.

The state of the digital inputs is read with the CFluidControlDevice::GetDigin call. Here the return value is the bit pattern of the digital inputs.

The connection to the device is closed with the CFluidControlDevice::Disconnect call.

2.2 MCS-USB-Sw2to64 device

The class Mcs.Usb.CSw2to64DeviceNet controls the setting of the switches in the MCS-USB-Sw2to64 device.

First construct an object of the class:
```
CSw2to64DeviceNet device = new CSw2to64DeviceNet();
```

For connecting to an MCS-USB-Sw2to64 device see Connecting to an MCS device.

To get the number of channels the device handles:
```
int number = device.GetNumber()
```

Set all channel switches at once:
```
byte z = 1;
byte[] pattern = new byte[number];
for(int i = 0;i < number;i++)
{
    pattern[i] = z; // pattern you want to switch this channel to
}
device.SetChannels(pattern);
```

Get all channel switches at once:
```
byte[] pattern = device.GetChannels();
```

Set one channel switch:
```
ushort index = 10;
byte pattern = 1;
device.SetChannel(index, pattern)
```

Get one channel switch:
```
ushort index = 10;
byte pattern = device.GetChannel(index);
```

3 Function Classes

- Mcs.Usb.CCMOSMea_FunctionNet
- Mcs.Usb.CDacCalibrationFunctionNet
- Mcs.Usb.CDigOutStimulatorFunctionNet
- Mcs.Usb.CGrapheneFunctionNet
- Mcs.Usb.CIntanMea_FunctionNet
- Mcs.Usb.CInterfaceboard2FunctionNet
- Mcs.Usb.CInterfaceboardFunctionNet
- Mcs.Usb.CMcsBus_MotorControlNet
- Mcs.Usb.CMcsBus_VoltageModeNet
- Mcs.Usb.CMcsBus_AxisParametersNet
- Mcs.Usb.CMcsBus_SensorNet
- Mcs.Usb.CMcsBus_TempSensorNet
- Mcs.Usb.CMcsBus_ExtensionNet
- Mcs.Usb.CMcsBus_FYIExtensionNet
- Mcs.Usb.CMcsUsbDeviceStatePushFunctionNet
- Mcs.Usb.CMEA2100x256FunctionNet

- Mcs.Usb.CMeaAudioFunctionNet
- Mcs.Usb.CMeaDigitalDataFunctionNet
- Mcs.Usb.CMeaFeedbackFunctionNet
- Mcs.Usb.CMeFunctionNet
- Mcs.Usb.CMultiwellCallbackFunctionNet
- Mcs.Usb.CMultiwellOptoStimFunctionNet
- Mcs.Usb.CPPCFunctionNet
- Mcs.Usb.CPPS_FunctionNet
- Mcs.Usb.CPulseGeneratorFunctionNet
- Mcs.Usb.CRFFunctionNet
- Mcs.Usb.CRobo_FYITemp_FunctionNet
- Mcs.Usb.CRobo_FYIProgram_FunctionNet
- Mcs.Usb.CSCUFunctionNet
- Mcs.Usb.CStimulusFunctionNet
- Mcs.Usb.CTEERFunctionNet
- Mcs.Usb.CW2100_FunctionNet
- Mcs.Usb.CW2100_StimulatorFunctionNet
- Mcs.Usb.CWarnerUssingFunctionNet
- Mcs.Usb.CWarnerValveControllerDeviceTesterFunctionNet
- Mcs.Usb.CWClassicFunctionNet
- Mcs.Usb.CWirelessBaseFunctionNet

4 Data ACQuisition (DACQ) Devices

There are different device types of (MEA) data acquisition (DACQ) devices. All of them are supported by this class.

This library does **not** support the writing of the MCD (MC_Rack), MSRD (Multi Channel Experimenter) or HDF5 file format!

The class Mcs.Usb.CMeaDeviceNet is the base class for DACQ devices.

The base class Mcs.Usb.CMeaDeviceNet constructs actually the underlying classes for USB-MEA devices (Mcs.Usb.CMeaUSBDeviceNet).

```
CMeaDeviceNet device = new CMeaDeviceNet(McsBusTypeEnumNet.MCS_USB_BUS, OnChannelData, OnError);
```

For connecting to a DACQ device see Connecting to an MCS device.

Get the number of available analog hardware channels and set the number of channels to the maximum.

```
int hwchannels;
device.HWInfo().GetNumberOfHWADCChannels(out hwchannels);
device.SetNumberOfChannels(hwchannels);
int samplingrate = 1000;
device.SetSamplerate(samplingrate, 1, 0);
device.EnableDigitalIn(true, 0);
```

Get the layout to know how the data look like that you receive

```
int ana, digi, che, tim, block;
device.GetChannelLayout(out ana, out digi, out che, out tim, out block);
```

For the Mcs.Usb.OnChannelData callback function you have to provide a definition of the channels you want to receive.

```
bool[] selChannels = new bool[block];
for (int i = 0; i < block; i++)
{
    selChannels[i] = true; // With true channel i is selected
    // selChannels[i] = false; // With false the channel i is deselected
}
channelblocksize = samplingrate / 10;
// queue size and threshold should be selected carefully
device.SetSelectedChannels(selChannels, 10 * channelblocksize, channelblocksize);
```

The Mcs.Usb.OnChannelData callback function gets a callback for each channelblock that is defined. In this example a callback for each channel.

```
void OnChannelData(CMcsUsbDacqNet d, int cbHandle, int numSamples)
{
    int size_ret;
    ushort[] channeldata = device.ChannelBlock_ReadFramesUI16(CbHandle, numSamples, out size_ret);
}
void OnError(String msg, int info)
{
    MessageBox.Show("Mea Device Error: " + msg);
}
```

see MEA_Recording in the Examples directory.

5 The MCS Robo Device

5.1 Introduction

Up to now two MCS devices exist that base on the Robo platform.

- The MCS Roboinject device is controlled by the Mcs.Usb.CRoboInjectDeviceNet class.
- The MCS Roboocyte2 device is controlled by the Mcs.Usb.CRoboocyte2DeviceNet class.

Both classes are derived from Mcs.Usb.CRoboDeviceNet

6 STG200x & STG400x STimulus Generator

6.1 Introduction

The STG200x & STG400x Series Stimulus Generators have two distinct modes of operation, the Download mode and the Streaming mode.

6.2 Download mode

The Download mode is the "classic" mode of operation, as used by the MC Stimulus software. In this mode, one or multiple waveforms are defined in PC memory and downloaded to the STG. The waveforms are stored in STG device onboard memory and can be sent to the analog and sync outputs once or multiple times. The STG can operate independantly from the PC (without computer connection) after the download. Output is triggered either by the front panel start/stop button, the digital trigger inputs or under software control.

In the Download mode, there are up to eight independent triggers available (depending on the device). The user can assign each of the analog outputs and sync (digital) outputs to any of the triggers.

The analog output waveform is stored sample by sample in the STG memory. To reduce memory usage, this data can be compressed: whenever a given output value is to be held for more than one sample period, it has only to be given once. The user can define the number of sample periods for that a pattern should remain active. Compression is done for each channel independantly of the others, thus the algorithm to compress the data is very easy to implement.

A new feature of the Download mode is the segmentation of the STG memory. The onboard memory can be devided into up to 100 segments. Each segment can hold its own waveform pattern. Under software control, the user can switch between the defined segments within milliseconds. Another option is to use the four trigger inputs to select between four predefined segments. This option is accessible from the MC_Stimulus Software as the "Multi-File mode", and can start each of up to four defined waveforms within microseconds. This feature allows a predefinied flexible response (feedback) to recorded data.

Mcs.Usb.CStg200xDownloadNet is the class for using the STG in download mode.

6.2.1 Memory Layout and Trigger Setup

The class to be used for the Download mode is Mcs.Usb.CStg200xDownloadNet, which is derived from Mcs.Usb.CStg200xBasicNet. You can add a poll handler delegate (Mcs.Usb.OnStg200xPollStatus) to the constructor Mcs.Usb.CStg200xDownloadNet.

For connecting to an STG see Connecting to an MCS device.

To use the Download mode, the memory layout of the STG200x can be set up, if the default is not sufficient. The total amount of memory available in the STG is obtained by the Mcs.Usb.CStg200xDownloadNet.GetTotalMemory call. With Mcs.Usb.CStg200xDownloadNet.SendSegmentDefine the segment sizes are assigned.

```
uint32_t memory = device.GetTotalMemory();  // obtain total memory available
uint[] segmentmemory = new uint[2];     // each segments has half of total memory
segmentmemory[0] = memory / 2;
segmentmemory[1] = memory / 2;
device.SendSegmentDefine(segmentmemory);// setup the STG
```

Next, for each segment, one has to assign the amount of memory to be used for each channel and sync output. This is done by Mcs.Usb.CStg200xDownloadBasicNet.SetCapacity. Its arguments contain a list of memory sizes, with one entry per channel and one entry per sync output. Again, the total memory assigned to the channels and sync outputs must not exceed the memory assigned to the segment.

```
uint32_t nchannels = device.GetNumberOfAnalogChannels();
uint32_t nsync = device.GetNumberOfSyncoutChannels();
uint[] channel_cap = new uint[nchannels];
uint[] syncout_cap = new uint[nsync];
for (int i = 0; i < 2; i++)                             // for each segment
{
    device.SendSegmentSelect((uint32_t)i);                  // switch to segment
    uint32_t segment_mem = device.GetMemory();              // get memory available in this segment
    for(int j = 0;j < nchannels;j++)
    {
        channel_cap[j] = segment_mem/(nchannels+nsync); // devide memory amount to all channels
    }
    for(int j = 0;j < nsync;j++)
    {
        syncout_cap[j] = segment_mem/(nchannels+nsync); // and all sync outs.
    }
    device.SetCapacity(channel_cap, syncout_cap);       // define memory for current segment
```

```
}
```

Before the STG can start, the trigger has to be configured. This is done by the Mcs.Usb.CStg200xDownloadNet.SetupTrigger call. Its arguments are a list of channelmaps, syncoutmaps and repeats, one for each of the four available triggers. channelmap is a bitmap, each bit representing one of the available channels. To assign channel 1 and syncout 1 to trigger 1 and channel 3 to trigger 2 use:

```
uint32_t TriggerInputs = device.GetNumberOfTriggerInputs();
uint[] channelmap = new uint[TriggerInputs];
uint[] syncoutmap = new uint[TriggerInputs];
uint[] repeat = new uint[TriggerInputs];
for (int i = 0; i < TriggerInputs; i++)
{
    channelmap[i] = 0;
    syncoutmap[i] = 0;
    repeat[i] = 0;
}
// Trigger 0
channelmap[0] = 1; // Channel 1
syncoutmap[0] = 1; // Syncout 1
repeat[0] = 0; // forever
// Trigger 1
channelmap[1] = 4; // Channel 3
device.SetupTrigger(channelmap, syncoutmap, repeat);
```

For the STG400x series you have to set the output mode of the channels. Mcs.Usb.CStg200xDownloadNet.SetVoltageMode interprets the values as voltages. Mcs.Usb.CStg200xDownloadNet.SetCurrentMode as currents.

```
// Only meaningfull for STG400x
device.SetVoltageMode();
```

For each segment, data can be sent to each of the defined channels and sync outputs using the Mcs.Usb.CStg200xDownloadNet.SendChannelData and Mcs.Usb.CStg200xDownloadNet.SendSyncData calls. channeldata and syncdata are a list of analog and digital samples as a list of two byte values (unsigned short). Multiple calls to Mcs.Usb.CStg200xDownloadNet.SendChannelData and Mcs.Usb.CStg200xDownloadNet.SendSyncData to the same channel append data to that channel.

If the Multi-File mode of the STG is enabled using the Mcs.Usb.CStg200xDownloadNet.EnableMultiFileMode call, the four trigger inputs are used to switch between four segments. A hardware trigger signal (TTL) on trigger input 1 selects the first segment and starts all pulses in this segment. Thus with the Multi-File mode, one can predefine four stimulus patterns and switch between them without a connection to the PC.

The STG200x series has an analog resolution of 13 bits, thus the analog data contains the information in bits 0 to 12 of each sample. Bits 13 to 15 have to be 0.

```
int DACResolution = device.GetDACResolution();
// Data for Channel 0
{
    device.ClearChannelData(0);
    double factor = 0.1;
    const int l = 1000;
        ushort[] pData = new ushort[l];
        Uint64_t[] tData = new Uint64_t[l];
        for (int i = 0; i < l; i++)
        {
            // calculate Sin-Wave
            double sin = factor * (Math.Pow(2, DACResolution - 1) - 1.0) *
                Math.Sin(2.0 * (double)i * Math.PI / (double)l);
            // calculate sign
            pData[i] = sin >= 0 ? (ushort)sin : (ushort)((int)Math.Abs(sin) +
                (int)Math.Pow(2, DACResolution - 1));
            tData[i] = (Uint64_t)20; // duration in µs
        }
        device.SendChannelData(0, pData, tData);
}
// Data for Channel 3
{
    device.ClearChannelData(2);
    double factor = 0.1;
    const int l = 700;
    // without compression
    ushort[] pData = new ushort[l];
    Uint64_t[] tData = new Uint64_t[l];
    for (int i = 0; i < l; i++)
    {
        // calculate Sin-Wave
        double sin = factor * (Math.Pow(2, DACResolution - 1) - 1.0) *
            Math.Sin(2.0 * (double)i * Math.PI / (double)l);
        // calculate sign
```

```
        pData[i] = sin >= 0 ? (ushort)sin : (ushort)((int)Math.Abs(sin) +
            (int)Math.Pow(2, DACResolution - 1));
        tData[i] = (Uint64_t)20; // duration in µs
    }
    device.SendChannelData(2, pData, tData);
}
// Data for Sync 0
{
    device.ClearSyncData(0);
    ushort[] pData = new ushort[1000];
    Uint64_t[] tData = new Uint64_t[1000];
    for (int i = 0; i < 1000; i++)
    {
        pData[i] = (ushort)(i&1);
        tData[i] = 20;
    }
    device.SendSyncData(0, pData, tData);
}
```

Start the trigger by pushing the front button or by software

```
// Start Trigger 1 and 2
device.SendStart(1 + 2); // Trigger 1 und 2
```

see the StgDownloadExampleNet in the example directory.

6.3 Streaming mode

The other mode of operation is the Streaming mode. Here the analog output is sent to the STG device in "real time". The PC has to be connected to the STG all the time. The data that is sent to the analog output is downloaded from the PC to the STG on the fly.

The Streaming mode is useful for applications where flexible feedback is needed as well for applications where very long waveforms which are not repeated (such as white noise) are used.

The Streaming mode works by use of two ring buffers which hold data. One is in PC memory and managed by the DLL, and one is in on-board STG memory. Data is transfered from PC memory to the STG via the USB bus in time slices of one millisecond.

The user can define both the size of the ring buffer in DLL memory and in the STG memory. Once the Streaming mode is started, the STG request data from the PC. The data rate from PC to STG is variable and controlled by the STG. The STG request data from the PC at a rate to keep its internal ringbuffer at about half full.

It is the responsibility of the user to keep the ring buffer in the memory of the PC filled, so the DLL can supply sufficient data to the STG. To do so, the Windows DLL allows to define a "callback" function which is called whenever new data is needed, or more precise, as soon as the ring buffer in the memory of the PC falls below the user defined threshold.

Small buffers have the advantage of a low latency between data generation in the callback funtion and its output as a analog signal from the STG. However for low latency to work, the user-written callback function has to be fast and to produce a steady flow of data.

In the Streaming mode, all triggers are available as well. Each of the eight analog and sync outputs can be assigned to one of the triggers.

The output rate is user defined with a maximum of 50 kHz

Mcs.Usb.CStg200xStreamingNet is the class for using the STG in streaming mode.

6.3.1 Memory Layout and Trigger Setup

With the constructor for Mcs.Usb.CStg200xStreamingNet.CStg200xStreamingNet, the name of the callback function for the data handler is provided. The data handler function is called automatically, whenever the STG needs new data. This data is first written to a ring buffer in the memory of the PC. The size for this ring buffer is defined as first argument in the constructor. The user provided delegate gets the trigger number which needs new data as argument

```
CStg200xStreamingNet device = new CStg200xStreamingNet(10000, dataHandler, errorHandler);
```

The callback funtion, which is defined in the constructor, is called whenever the STG needs new data for a trigger, or more precise, whenever the ring buffer in PC memory falls below the defined threshold.

The user can query the amount of space available for queuing by use of the Mcs.Usb.CStg200xStreamingNet.↩ GetDataQueueSpace call. Its return value is the number of samples that can be send to the STG.

User code is required to fill an array analog and sync out data, sample by sample for up to the maximum number of samples as obtained by Mcs.Usb.CStg200xStreamingNet.GetDataQueueSpace or Mcs.Usb.CStg200xStreaming↩ Net.GetSyncoutQueueSpace.

The values for the analog outputs are 16 bits signed integers. The lower bits are trunctated according to the resolution of the STG. This behaviour is different to the behaviour in download mode.

Note: Compression as described in the download mode can NOT be used for the streaming mode.

The new data is sent to the STG by using the Mcs.Usb.CStg200xStreamingNet.EnqueueData call.

```
void dataHandler(uint32_t trigger)
{
    double factor = 1;
    if (trigger == 0) // Callback for Trigger 1
    {
        {// Handle Channel 1
            uint32_t channel = 0;
            for (; ; )
            {
                uint32_t space = device.GetDataQueueSpace(channel);
                if (space < 1000)
                    break;
                short[] data = new short[1000];
                for (int i = 0; i < 1000; i++)
                {
                    // Calc Sin-Wave (16 bits) lower bits will be removed according resolution
                    double sin = factor * (Math.Pow(2, 16 - 1) - 1.0) *
                        Math.Sin(2.0 * (double)i * Math.PI / (double)1000);
                    data[i] = (short)sin;
                }
                uint32_t enqueued = device.EnqueueData(channel, data);
            }
        }
        {// Handle Channel 3
            uint32_t channel = 2;
            for (; ; )
            {
                uint32_t space = device.GetDataQueueSpace(channel);
                if (space < 700)
                    break;
                short[] data = new short[700];
                for (int i = 0; i < 700; i++)
                {
                    // Calc Sin-Wave (16 bits) lower bits will be removed according resolution
                    double sin = factor * (Math.Pow(2, 16 - 1) - 1.0) *
                        Math.Sin(2.0 * (double)i * Math.PI / (double)700);
                    data[i] = (short)sin;
                }
                uint32_t enqueued = device.EnqueueData(channel, data);
            }
        }
        {// Handle Syncout 1
            uint32_t channel = 0;
            for (; ; )
            {
                uint32_t space = device.GetSyncoutQueueSpace(channel);
                if (space < 1000)
                    break;
                ushort[] data = new ushort[1000];
                for (int i = 0; i < 1000; i++)
```

```
                    data[i] = (ushort)(i & 1);
                uint32_t enqueued = device.EnqueueSyncout(channel, data);
            }
        }
    }
}
void errorHandler()
{
}
```

For connecting to an STG device see Connecting to an MCS device.

With enabling or disabling the continuous mode it can be selected how the STG handles an "out of data" situation.

When Mcs.Usb.CStg200xStreamingNet.EnableContinousMode is used, the STG does not stop when it runs out of data, but it keeps running and sends a zero voltage to its outputs.

When Mcs.Usb.CStg200xStreamingNet.DisableContinousMode is used, the STG stops when it runs out of data. It has to be retriggered to resume the output.

```
device.EnableContinousMode();
```

Mcs.Usb.CStg200xStreamingNet.SetOutputRate is used to set the sampling rate.

```
device.SetOutputRate(50000);
```

To use the Streaming mode, the memory layout of the STG has to be set up. To total amount of memory available in the STG is obtained by the Mcs.Usb.CStg200xStreamingNet.GetTotalMemory call.

This memory can be assigned to four ring buffers (one per trigger) which buffer the data received from the PC via USB cable. This is done with the CStg200xStreaming::SetCapacity call. The total amount of memory must not exceed the total memory size as obtained by Mcs.Usb.CStg200xStreamingNet.GetTotalMemory.

This internal ring buffer is crucial for proper operation of the Streaming mode. The size of the ring buffer determines the latency of the Streaming mode. The firmware of the STG requests data from the PC in order to keep the ring buffer about half full. Thus the average latency is:

```
latency = (ringbuffersize in bytes/4) / output rate
```

If the ring buffer size is too big, the latency of the STG might be too long. If the ring buffer size is too low, an overflow or underflow of data in the STG ringbuffer might occur, resulting in data jumps of the output signals or the "out of data" situation described erlier.

The following example divides the total memory equally amoung the four triggers:

```
uint32_t dwMemory = device.GetTotalMemory();            // obtain total memory available
uint32_t ntrigger = device.GetNumberOfTriggerInputs();  // obtain number of triggers in this STG
uint[] stg_triggercapacity = new uint[ntrigger];
for (int i = 0; i < ntrigger; i++)
    stg_triggercapacity[i] = dwMemory / ntrigger;
device.SetCapacity(stg_triggercapacity);            // setup the STG
```

or fixed memory sizes:

```
uint32_t ntrigger = device.GetNumberOfTriggerInputs();  // obtain number of triggers in this STG
uuint[] stg_triggercapacity = new uint[ntrigger];
for(int i = 0;i < ntrigger;i++)
    stg_triggercapacity[i] = 50000;
device.SetCapacity(stg_triggercapacity);
```

Before the STG can start, the trigger has to be configured. This is done by the Mcs.Usb.CStg200xStreaming↩ Net.SetupTrigger call. Its arguments are a list of channelmaps, syncoutmaps, digoutmap, autostart and callback↩ _threshold, with one entry for each of the available triggers. channelmap is a bitmap, each bit representing one of the available channels. To assign channel 1 and 3 and syncout 1 to trigger 1 use:

```
uint32_t ntrigger = device.GetNumberOfTriggerInputs();  // obtain number of triggers in this STG
uint[] channelmap = new uint[ntrigger];
uint[] syncoutmap = new uint[ntrigger];
uint[] digoutmap = new uint[ntrigger];
uint[] autostart = new uint[ntrigger];
uint[] callback_threshold = new uint[ntrigger];
for (int i = 0; i < ntrigger; i++)
{
    channelmap[i] = 0;
```

```
    syncoutmap[i] = 0;
    digoutmap[i] = 0;
    autostart[i] = 0;
    callback_threshold[i] = 0;
}
channelmap[0] = 0x1 + 0x4; // Channel 1 und Channel 3 to Trigger 1
syncoutmap[0] = 0x1; // Syncout 1 to Trigger 1
autostart[0] = 1;
callback_threshold[0] = 50; // 50% of buffer size
device.SetupTrigger(channelmap, syncoutmap, digoutmap, autostart, callback_threshold);
device.StartLoop();
System.Threading.Thread.Sleep(1000); // Give StartLoop some time
```

Start Trigger by pushing the front button or by Software

```
device.SendStart(1);
```

see the StgStreamingExampleNet in the example directory.

7 Namespace Index

7.1 Namespace List

Here is a list of all namespaces with brief descriptions:

Mcs 22

Mcs::Usb 22

8 Hierarchical Index

8.1 Class Hierarchy

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

CW2100_FunctionNet::AudioChannelsNet 93

BatteryState 93

CCreateFilterNet 111

- **BesselFilterHighPassNet** 94
- **BesselFilterLowPassNet** 94
- **ButterworthFilterHighPassNet** 95
- **ButterworthFilterLowPassNet** 96

CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet > 121

CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumNet > 121

- **CDeviceGroupChannelInfoNet** 120

CDeviceGroupChannelInfoTemplateNet< int > 121

- **CDeviceGroupChannelInfoGenericNet** 119

CDeviceGroupChannelInfoTemplateNet< MEA2100_256DacqGroupChannelEnumNet > 121

CDeviceGroupChannelInfoMEA2100_256Net 120

CDeviceGroupChannelInfoTemplateNet< SCUDacqGroupChannelEnumNet > 121

CDeviceGroupChannelInfoSCUNet 121

CDeviceGroupChannelInfoTemplateNet< W2100DacqGroupChannelEnumNet > 121

CDeviceGroupChannelInfoW2100Net 122

CFilterCoefficientsNet 130

CFilterPropertyNet 136

CMcsUsbDacqNet::CHWInfo 181

CMcsUsbFunctionNet 300

CDacqGroupChannelSelectionTemplateNet< W2100DacqGroupChannelEnumNet, W2100↩ DacqGroupChannelEnum, CDeviceGroupChannelInfoW2100Net > 116

CW2100DacqGroupChannelSelectionNet 617

CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumNet, DacqGroup↩ ChannelEnum, CDeviceGroupChannelInfoNet > 116

CDacqGroupChannelSelectionNet 116

CDacqGroupChannelSelectionTemplateNet< int, int, CDeviceGroupChannelInfoGenericNet > 116

CDacqGroupChannelGenericSelectionNet 115

CDacqGroupChannelSelectionTemplateNet< SCUDacqGroupChannelEnumNet, SCUDacq↩ GroupChannelEnum, CDeviceGroupChannelInfoSCUNet > 116

CSCUDacqGroupChannelSelectionNet 492

CDacqGroupChannelSelectionTemplateNet< MEA2100_256DacqGroupChannelEnumNet, MEA2100_256DacqGroupChannelEnum, CDeviceGroupChannelInfoMEA2100_256Net > 116

CMEA2100_256DacqGroupChannelSelectionNet 331

CCMOSMea_FunctionNet 97

CDacCalibrationFunctionNet 113

CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, Dacq↩ GroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet > 116

CDigOutStimulatorFunctionNet 123

CFilterConfigurationNet 132

CFilterConfigurationRegisterNet 134

CGrapheneFunctionNet 167

CIntanMea_FunctionNet 184

CInterfaceboardFunctionNet 188

CInterfaceboard2FunctionNet 186
CMEA2100x256FunctionNet 331
CMcsBusNet 238
CMcsBus_AxisParametersNet 199
CMcsBus_ExtensionNet 201
CMcsBus_FYIExtensionNet 202
CMcsBus_MotorControlNet 204
CMcsBus_SensorNet 221
CMcsBus_TempSensorNet 231
CMcsBus_VoltageModeNet 233
CMcsUsbDeviceStatePushFunctionNet 289
CMultiwellCallbackFunctionNet 373
CSCUFunctionNet 493
CMeFunctionNet 365
CMeaAudioFunctionNet 333
CMeaDigitalDataFunctionNet 353
CMeaFeedbackFunctionNet 355
CMultiwellOptoStimFunctionNet 383
CPPCFunctionNet 415
CPPS_FunctionNet 425
CProgramPressureCurveNet 430
CPulseGeneratorFunctionNet 431
CRFFunctionNet 439
CRobo_FYIProgram_FunctionNet 444
CRobo_FYITemp_FunctionNet 445
CStimulusFunctionNet 562
CTEERFunctionNet 588
CUsbDeviceConfigurationFunctionNet 600
CW2100_StimulatorFunctionNet 611
CWarnerUssingFunctionNet 619
CWarnerValveControllerDeviceTesterFunctionNet 660
CWirelessBaseFunctionNet 668

CW2100_FunctionNet 603
CWClassicFunctionNet 663
CMcsUsbFunctionPointerContainer 301
CMcsUsbListEntryNet 301
CMcsUsbListNet 307
CMcsUsbNet 310
CExternDTesterDeviceNet 128
CFluidControlDeviceNet 137
CGenericDevelopDeviceNet 146
CGilsonDeviceNet 164
CMcsUsbDacqNet 242
CMeaDeviceNet 345
CMeaUSBDeviceNet 363
CCMOSMeaDeviceNet 108
CGrapheneASICDeviceNet 166
CHLADacqNet 179
CLIH3DeviceNet 190
CMultiwellDeviceNet 375
CWarnerUssingDeviceNet 618
COctoPotDeviceNet 388
CRoboDacqNet 447
CMcsUsbDeviceStatePushNet 290
CWarnerValveControllerDeviceNet 635
CMcsUsbFactoryNet 291
CMeaCleanDeviceNet 336
CMeaCoatDeviceNet 340
CMeaImpedanceDeviceNet 359
CMeaSwitchDeviceNet 362
CChannelTestDeviceNet 96
CMultiBatteryChargerDeviceNet 366
CNF_GenDeviceNet 387
COkuvisionStimulatorDeviceNet 392

CPPCDeviceNet 414
CPPS_DeviceNet 424
CPathIdentDeviceNet 397
CPedoterDeviceNet 398
CPeristalticPumpDeviceNet 399
CPgaDeviceNet 400
CPositionIIDeviceNet 402
CPositionImpDeviceNet 411
CRadioControledDevicesNet 434
CRetinaLedDeviceNet 437
CRoboDeviceNet 462
CEncapsulatorDeviceNet 127
CFYIDeviceNet 144
CHLADeviceNet 180
CHiClampDeviceNet 178
CMeasureTableDeviceNet 361
CPPSDeviceNet 429
CPatchServerDeviceNet 396
CRoboStatorDeviceNet 483
CRoboInjectDeviceNet 481
CRoboocyte2DeviceNet 482
CTEERMachineDeviceNet 599
CRoboFluidDeviceNet 478
CSafeISDeviceNet 489
CSerialPortNet 510
CStg200xBasicNet 511
CStg200xDownloadBasicNet 548
CStg200xDownloadNet 555
CSw2to64DeviceNet 573
CTcxDeviceNet 575
CMcsUsbPointerContainer 331
CCMOSMeaDeviceNet::CRegionOfInterestRect 436

CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet 602

DeviceIdNet 669

DigitalSource< digitalsourceenum > 671

DigitalSourceGeneral 672

DriverVersionNet 673
Exception

  CUsbExceptionNet 601

FirmwareDestinationNames 679

HeadstageIDTypeObject 685

HeadStageIDTypeState 687
IComparable

  HeadStageIDType 682

mkfilterNet 688

CRoboDeviceNet::RoboMainLowLevelCommands 691

CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands 698

CFilterCoefficientsNet::s_FilterAttributesNet 698

CMeaAudioFunctionNet::s_setaudionet 699

CStimulusFunctionNet::SidebandData 700

StgStatusNet 701
stgstreaming

  CStg200xBasicNet 511

CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData 701

CMcsUsbFactoryNet::TargetSelectionInfoNet 703

usbSetupPacket_t 703

W2100_StimulusParametersNet 704

9 Class Index

9.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

CW2100_FunctionNet::AudioChannelsNet 93

BatteryState 93

BesselFilterHighPassNet 94

BesselFilterLowPassNet 94

ButterworthFilterHighPassNet 95

ButterworthFilterLowPassNet 96

CChannelTestDeviceNet 96

CCMOSMea_FunctionNet 97

CCMOSMeaDeviceNet 108

CCreateFilterNet 111

CDacCalibrationFunctionNet
113

CDacqGroupChannelGenericSelectionNet 115

CDacqGroupChannelSelectionNet 116

CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate,
116

CDeviceGroupChannelInfoGenericNet 119

CDeviceGroupChannelInfoMEA2100_256Net 120

CDeviceGroupChannelInfoNet 120

CDeviceGroupChannelInfoSCUNet 121

CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet > 121

CDeviceGroupChannelInfoW2100Net 122

CDigOutStimulatorFunctionNet
CDigOutStimulatorFunctionNet is the class of the DigOut stimulator function class 123

CEncapsulatorDeviceNet
CEncapsulatorDeviceNet is the to control the MCS HiClamp device 127

CExternDTesterDeviceNet
CExternDTesterDeviceNet is the class to access the ExternD Tester (Handheld Device Tester D) 128

CFilterCoefficientsNet 130

CFilterConfigurationNet 132

CFilterConfigurationRegisterNet 134

CFilterPropertyNet 136

CFluidControlDeviceNet
CFluidControlDeviceNet is the class to control MCS FluidControl (FCB and FCX) device 137

CFYIDeviceNet
CFYIDeviceNet is the class to control the MCS FYI device 144

CGenericDevelopDeviceNet
CGenericDevelopDeviceNet is the class to use during development of a new device 146

CGilsonDeviceNet
CGilsonDeviceNet is the class to control a Gilson device 164

CGrapheneASICDeviceNet 166

CGrapheneFunctionNet
CGrapheneFunctionNet is the class to control Graphene device functions 167

CHiClampDeviceNet
CHiClampDeviceNet is the to control the MCS HiClamp device 178

CHLADacqNet 179

CHLADeviceNet
CHLADeviceNet is the to control the MCS HLA device 180

CMcsUsbDacqNet::CHWInfo
Class to provide hardware information about the device 181

CIntanMea_FunctionNet 184

CInterfaceboard2FunctionNet
CInterfaceboard2FunctionNet is the class to control the Interfaceboard 186

CInterfaceboardFunctionNet
CInterfaceboardFunctionNet is the class to control the Interfaceboard 188

CLIH3DeviceNet
CLIH3DeviceNet is the class to access the HEKA LIH3 device 190

CMcsBus_AxisParametersNet 199

CMcsBus_ExtensionNet 201

CMcsBus_FYIExtensionNet 202

CMcsBus_MotorControlNet 204

CMcsBus_SensorNet 221

CMcsBus_TempSensorNet 231

CMcsBus_VoltageModeNet 233

CMcsBusNet 238

CMcsUsbDacqNet
Base class for data acquisition devices 242

CMcsUsbDeviceStatePushFunctionNet 289

CMcsUsbDeviceStatePushNet 290

CMcsUsbFactoryNet 291

CMcsUsbFunctionNet 300

CMcsUsbFunctionPointerContainer 301

CMcsUsbListEntryNet
McsUsbListEntryNet identifies a connected device 301

CMcsUsbListNet
Class to handle a list of connected MCS USB devices 307

CMcsUsbNet
Base class to handle MCS USB devices. All device classes are derived from this class. Functionality that is provided by all MCS devices is handled by this class 310

CMcsUsbPointerContainer 331

CMEA2100_256DacqGroupChannelSelectionNet 331

CMEA2100x256FunctionNet
CMEA2100x256FunctionNet is the class to control the MEA2100-256 device needs #include "↩ Stg200xNet.h" to resolve documentation reference 331

CMeaAudioFunctionNet 333

CMeaCleanDeviceNet
CMeaCleanDeviceNet is the class to access the MEA Clean device 336

CMeaCoatDeviceNet
CMeaCoatDeviceNet is the class to access the MEA Coat device 340

CMeaDeviceNet
Base class for MEA data acquisition devices 345

CMeaDigitalDataFunctionNet 353

CMeaFeedbackFunctionNet 355

CMeaImpedanceDeviceNet 359

CMeasureTableDeviceNet
CMeasureTableDeviceNet is the to control the MCS HLA device 361

CMeaSwitchDeviceNet
The class to control the USB-MEA-Switch 362

CMeaUSBDeviceNet
Class for data acquisition via ME and MEA USB amplifiers 363

CMeFunctionNet
365

CMultiBatteryChargerDeviceNet
CMultiBatteryChargerDeviceNet is the class to access the MBC-08 device 366

CMultiwellCallbackFunctionNet
CMultiwellCallbackFunctionNet is the class to access the Multiwell-Mini-Stimulator 373

CMultiwellDeviceNet
CMultiwellDeviceNet is the class to access the Multiwell device 375

CMultiwellOptoStimFunctionNet
CMultiwellOptoStimFunctionNet is the class to access the optical properties of the Multiwell Optostim device 383

CNF_GenDeviceNet 387

COctoPotDeviceNet 388

COkuvisionStimulatorDeviceNet 392

CPatchServerDeviceNet
CPatchServerDeviceNet is the class to control the MCS PatchServer device 396

CPathIdentDeviceNet 397

CPedoterDeviceNet
398

CPeristalticPumpDeviceNet
CPeristalticPumpDeviceNet is the class to control a Persistaltic Pump 399

CPgaDeviceNet 400

CPositionIIDeviceNet
CPositionIIDeviceNet is the class to control PositionII devices 402

CPositionImpDeviceNet
CPositionImpDeviceNet is the class to access the Position/Imp devices 411

CPPCDeviceNet 414

CPPCFunctionNet
CPPCFunctionNet is the class to access the PPC (high precision Patch Peristalic patch Pump 415

CPPS_DeviceNet 424

CPPS_FunctionNet 425

CPPSDeviceNet
CPPS4plus1DeviceNet is the to control the MCS HLA device 429

CProgramPressureCurveNet
CProgramPressureCurveNet is the class to program pressure curves 430

CPulseGeneratorFunctionNet
CPulseGeneratorFunctionNet is the class to control the pulse generator for video tracking 431

CRadioControledDevicesNet 434

CCMOSMeaDeviceNet::CRegionOfInterestRect 436

CRetinaLedDeviceNet 437

CRFFunctionNet
CRFFunctionNet is the class to control RF devices 439

CRobo_FYIProgram_FunctionNet 444

CRobo_FYITemp_FunctionNet 445

CRoboDacqNet 447

CRoboDeviceNet
CRoboDeviceNet is the base class for all Robo platform based devices 462

CRoboFluidDeviceNet 478

CRoboInjectDeviceNet
CRoboInjectDeviceNet is the to control the MCS RoboInject device 481

CRoboocyte2DeviceNet
CRoboocyte2DeviceNet is the class to control the MCS Roboocyte2 device 482

CRoboStatorDeviceNet 483

CSafeISDeviceNet
489

CSCUDacqGroupChannelSelectionNet 492

CSCUFunctionNet
CSCUFunctionNet is the class to control the SCU device 493

CSerialPortNet 510

CStg200xBasicNet
Base class for the Stg200x 511

CStg200xDownloadBasicNet
CStg200xDownloadBasicNet is the base class to control the download mode of the MCS STG device 548

CStg200xDownloadNet
Main class for the STG download mode This class implements the STG download mode interface. 555

CStimulusFunctionNet 562

CSw2to64DeviceNet
The class to control the MCS-USB-Sw2to64 device 573

CTcxDeviceNet
Class to control a Temperature Controller (TCX) 575

CTEERFunctionNet
CTEERFunctionNet is the class to control the TEER device 588

CTEERMachineDeviceNet 599

CUsbDeviceConfigurationFunctionNet
CUsbDeviceConfigurationFunctionNet is the class to configure the USB firmware 600

CUsbExceptionNet
Exception class that is thrown in case of an USB error 601

CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet 602

CW2100_FunctionNet 603

CW2100_StimulatorFunctionNet 611

CW2100DacqGroupChannelSelectionNet 617

CWarnerUssingDeviceNet
CWarnerUssingDeviceNet is the class to control the Ussing device 618

CWarnerUssingFunctionNet
CWarnerUssingFunctionNet is the class to control the Ussing device 619

CWarnerValveControllerDeviceNet
CWarnerValveControllerDeviceNet is the class to access the Warner Valve Controller 635

CWarnerValveControllerDeviceTesterFunctionNet
CWarnerValveControllerDeviceTesterFunctionNet is the class to access the functions for the Warner Valve Controller Device Tester 660

CWClassicFunctionNet 663

CWirelessBaseFunctionNet 668

DeviceIdNet
Device Id 669

DigitalSource< digitalsourceenum > 671

DigitalSourceGeneral 672

DriverVersionNet
Class gives firmware versions of the device's firmware destinations 673

FirmwareDestinationNames 679

HeadStageIDType 682

HeadstageIDTypeObject 685

HeadStageIDTypeState 687

mkfilterNet 688

CRoboDeviceNet::RoboMainLowLevelCommands 691

CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands 698

CFilterCoefficientsNet::s_FilterAttributesNet 698

CMeaAudioFunctionNet::s_setaudionet 699

CStimulusFunctionNet::SidebandData 700

StgStatusNet 701

CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData 701

CMcsUsbFactoryNet::TargetSelectionInfoNet 703

usbSetupPacket_t 703

W2100_StimulusParametersNet 704

10 Namespace Documentation

10.1 Mcs Namespace Reference

Namespaces

- Usb

10.2 Mcs::Usb Namespace Reference

Classes

- class CChannelTestDeviceNet

- class CCMOSMea_FunctionNet
- class CCMOSMeaDeviceNet
- class CCreateFilterNet
- class ButterworthFilterLowPassNet
- class ButterworthFilterHighPassNet
- class BesselFilterLowPassNet
- class BesselFilterHighPassNet
- class CDeviceGroupChannelInfoTemplateNet
- class CDeviceGroupChannelInfoGenericNet
- class CDeviceGroupChannelInfoNet
- class CDeviceGroupChannelInfoW2100Net
- class CDeviceGroupChannelInfoSCUNet
- class CDeviceGroupChannelInfoMEA2100_256Net
- class CDacqGroupChannelSelectionTemplateNet
- class CDacqGroupChannelGenericSelectionNet
- class CDacqGroupChannelSelectionNet
- class CW2100DacqGroupChannelSelectionNet
- class CSCUDacqGroupChannelSelectionNet
- class CMEA2100_256DacqGroupChannelSelectionNet
- class CDacCalibrationFunctionNet
- class CDigOutStimulatorFunctionNet

  CDigOutStimulatorFunctionNet is the class of the DigOut stimulator function class.
- class CExternDTesterDeviceNet

  CExternDTesterDeviceNet is the class to access the ExternD Tester (Handheld Device Tester D)
- class CGrapheneFunctionNet

  CGrapheneFunctionNet is the class to control Graphene device functions
- class CInterfaceboard2FunctionNet

  CInterfaceboard2FunctionNet is the class to control the Interfaceboard
- class CInterfaceboardFunctionNet

  CInterfaceboardFunctionNet is the class to control the Interfaceboard
- class CLIH3DeviceNet

  CLIH3DeviceNet is the class to access the HEKA LIH3 device.
- class CMEA2100x256FunctionNet

  CMEA2100x256FunctionNet is the class to control the MEA2100-256 device needs #include "Stg200xNet.h" to resolve documentation reference
- class CMeaCleanDeviceNet

  CMeaCleanDeviceNet is the class to access the MEA Clean device.
- class CMeaCoatDeviceNet

  CMeaCoatDeviceNet is the class to access the MEA Coat device.
- class CMultiBatteryChargerDeviceNet

  CMultiBatteryChargerDeviceNet is the class to access the MBC-08 device.
- class CMultiwellCallbackFunctionNet

  CMultiwellCallbackFunctionNet is the class to access the Multiwell-Mini-Stimulator
- class CMultiwellDeviceNet

  CMultiwellDeviceNet is the class to access the Multiwell device.
- class CMultiwellOptoStimFunctionNet

  CMultiwellOptoStimFunctionNet is the class to access the optical properties of the Multiwell Optostim device
- class CPedoterDeviceNet
- class CPositionIIDeviceNet

  CPositionIIDeviceNet is the class to control PositionII devices
- class CPositionImpDeviceNet

  CPositionImpDeviceNet is the class to access the Position/Imp devices

- class CPPCFunctionNet

  CPPCFunctionNet is the class to access the PPC (high precision Patch Peristalic patch Pump
- class CPulseGeneratorFunctionNet

  CPulseGeneratorFunctionNet is the class to control the pulse generator for video tracking
- class CRFFunctionNet

  CRFFunctionNet is the class to control RF devices
- class CSCUFunctionNet

  CSCUFunctionNet is the class to control the SCU device
- class CTEERFunctionNet

  CTEERFunctionNet is the class to control the TEER device
- class CUsbDeviceConfigurationFunctionNet

  CUsbDeviceConfigurationFunctionNet is the class to configure the USB firmware
- class CWarnerUssingDeviceNet

  CWarnerUssingDeviceNet is the class to control the Ussing device
- class CWarnerUssingFunctionNet

  CWarnerUssingFunctionNet is the class to control the Ussing device
- class CWarnerValveControllerDeviceNet

  CWarnerValveControllerDeviceNet is the class to access the Warner Valve Controller
- class CWarnerValveControllerDeviceTesterFunctionNet

  CWarnerValveControllerDeviceTesterFunctionNet is the class to access the functions for the Warner Valve Controller Device Tester
- struct DeviceIdNet

  Device Id.
- class CFilterCoefficientsNet
- class CFilterConfigurationNet
- class CFilterConfigurationRegisterNet
- class CFilterPropertyNet
- class CFluidControlDeviceNet

  CFluidControlDeviceNet is the class to control MCS FluidControl (FCB and FCX) device.
- class CGenericDevelopDeviceNet

  CGenericDevelopDeviceNet is the class to use during development of a new device.
- class CGilsonDeviceNet

  CGilsonDeviceNet is the class to control a Gilson device.
- class CGrapheneASICDeviceNet
- class CIntanMea_FunctionNet
- class CMcsBusNet
- class CMcsBus_MotorControlNet
- class CMcsBus_VoltageModeNet
- class CMcsBus_AxisParametersNet
- class CMcsBus_SensorNet
- class CMcsBus_TempSensorNet
- class CMcsBus_ExtensionNet
- class CMcsBus_FYIExtensionNet
- class CSerialPortNet
- class usbSetupPacket_t
- class CMcsUsbDeviceStatePushFunctionNet
- class CMcsUsbDeviceStatePushNet
- class CMcsUsbFactoryNet
- class CMcsUsbFunctionPointerContainer
- class CMcsUsbFunctionNet
- class CMcsUsbListEntryNet

  McsUsbListEntryNet identifies a connected device.

- class CMcsUsbListNet

  Class to handle a list of connected MCS USB devices.
- class CUsbExceptionNet

  Exception class that is thrown in case of an USB error.
- class FirmwareDestinationNames
- class DriverVersionNet

  Class gives firmware versions of the device's firmware destinations.
- class CMcsUsbPointerContainer
- class CMcsUsbNet

  Base class to handle MCS USB devices. All device classes are derived from this class. Functionality that is provided by all MCS devices is handled by this class.
- class DigitalSourceGeneral
- class DigitalSource
- class StgStatusNet
- class CMeaAudioFunctionNet
- class CMeaDeviceNet

  Base class for MEA data acquisition devices.
- class CMeaUSBDeviceNet

  Class for data acquisition via ME and MEA USB amplifiers
- class CMeaDigitalDataFunctionNet
- class CMeaFeedbackFunctionNet
- class CMeaImpedanceDeviceNet
- class CMeaSwitchDeviceNet

  The class to control the USB-MEA-Switch.
- class CMeFunctionNet
- class mkfilterNet
- class CNF_GenDeviceNet
- class COctoPotDeviceNet
- class COkuvisionStimulatorDeviceNet
- class CPathIdentDeviceNet
- class CPeristalticPumpDeviceNet

  CPeristalticPumpDeviceNet is the class to control a Persistaltic Pump.
- class CPgaDeviceNet
- class CPPCDeviceNet
- class CPPS_DeviceNet
- class CPPS_FunctionNet
- class CProgramPressureCurveNet

  CProgramPressureCurveNet is the class to program pressure curves
- class CRadioControledDevicesNet
- class CRetinaLedDeviceNet
- class CRobo_FYITemp_FunctionNet
- class CRobo_FYIProgram_FunctionNet
- class CRoboDacqNet
- class CHLADacqNet
- class CRoboDeviceNet

  CRoboDeviceNet is the base class for all Robo platform based devices
- class CRoboStatorDeviceNet
- class CRoboocyte2DeviceNet

  CRoboocyte2DeviceNet is the class to control the MCS Roboocyte2 device
- class CRoboInjectDeviceNet

  CRoboInjectDeviceNet is the to control the MCS RoboInject device
- class CHiClampDeviceNet

  CHiClampDeviceNet is the to control the MCS HiClamp device

- class CEncapsulatorDeviceNet

  CEncapsulatorDeviceNet is the to control the MCS HiClamp device
- class CHLADeviceNet

  CHLADeviceNet is the to control the MCS HLA device
- class CPPSDeviceNet

  CPPS4plus1DeviceNet is the to control the MCS HLA device
- class CMeasureTableDeviceNet

  CMeasureTableDeviceNet is the to control the MCS HLA device
- class CFYIDeviceNet

  CFYIDeviceNet is the class to control the MCS FYI device
- class CPatchServerDeviceNet

  CPatchServerDeviceNet is the class to control the MCS PatchServer device
- class CTEERMachineDeviceNet
- class CRoboFluidDeviceNet
- class CSafeISDeviceNet
- class CStg200xDownloadNet

  Main class for the STG download mode This class implements the STG download mode interface.
- class CStg200xBasicNet

  Base class for the Stg200x.
- class CStg200xDownloadBasicNet

  CStg200xDownloadBasicNet is the base class to control the download mode of the MCS STG device.
- class CStimulusFunctionNet
- class CSw2to64DeviceNet

  The class to control the MCS-USB-Sw2to64 device.
- class CTcxDeviceNet

  Class to control a Temperature Controller (TCX)
- class CMcsUsbDacqNet

  Base class for data acquisition devices.
- struct W2100_StimulusParametersNet
- class HeadStageIDType
- class HeadStageIDTypeState
- class HeadstageIDTypeObject
- class BatteryState
- class CW2100_StimulatorFunctionNet
- class CW2100_FunctionNet
- class CWClassicFunctionNet
- class CWirelessBaseFunctionNet

Enumerations

- enum class enCMosMeaChipType {
  unknown = 0 ,
  nMos16LV = 1 ,
  nMos32LV = 3 ,
  nMos36LN = 6 ,
  nMos64LN = 7 }
- enum class DeviceEnumNet {
  MCS_DEVICE_ANY ,
  MCS_GENERIC_DEVELOPMENT_DEVICE ,
  MCS_DEVICE_USB ,
  MCS_MCCARD_DEVICE ,
  MCS_STG_DEVICE ,
  MCS_MC_STIMULUS_DEVICE ,

MCS_MEAUSB_DEVICE ,
MCS_MEA_DEVICE ,
MCS_OCTOPOT_DEVICE ,
MCS_TERSENS_DEVICE ,
MCS_PGA_DEVICE ,
MCS_PCX_DEVICE ,
MCS_TCX_DEVICE ,
MCS_FCX_DEVICE ,
MCS_RETINA_LED_DEVICE ,
MCS_MEA_SWITCH_DEVICE ,
MCS_MEA_IMPEDANCE_DEVICE ,
MCS_CHANNELTEST_DEVICE ,
MCS_SW2TO64_DEVICE ,
MCS_RETINA_AMS_DONGLE ,
MCS_PATHIDENT_DEVICE ,
MCS_ROBO_DEVICE ,
MCS_ROBOOCYTE2_DEVICE ,
MCS_ROBOINJECT_DEVICE ,
MCS_HICLAMP_DEVICE ,
MCS_PATCHSERVER_DEVICE ,
MCS_ENCAPSULATOR_DEVICE ,
MCS_MEASURETABLE_DEVICE ,
MCS_FYI_DEVICE ,
MCS_HLA_DEVICE ,
MCS_PPS_DEVICE ,
MCS_PPS5_DEVICE ,
MCS_OKUVISION_STIMULATOR_DEVICE ,
MCS_NF_GEN_DEVICE ,
MCS_SAFEIS_DEVICE ,
MCS_PERISTALTIC_PUMP_DEVICE ,
MCS_EXTERN_BC_TESTER_DEVICE ,
MCS_EXTERN_D_TESTER_DEVICE ,
MCS_SOFTWARE_DONGLE_DEVICE ,
MCS_MEA_CLEAN_DEVICE ,
MCS_MEA_COAT_DEVICE ,
MCS_SMARTIMPLANT_DEVICE ,
MCS_MBC08_DEVICE ,
MCS_PEDOTER_DEVICE ,
MCS_PPC_DEVICE ,
WARNER_VALVE_CONTROL_DEVICE = 7000 ,
WARNER_USSING_DEVICE ,
HEKA_LIH3_DEVICE = 8000 ,
ALA_VC3_DEVICE = 9990 ,
MCS_DEVICE_USB_CYPRESS = 9991 }

Enumerates the group of MCS devices to connect to.

- enum class VendorIdEnumNet {
  Any = -1 ,
  None = 0 ,
  MCS = MCS_VENDOR_ID ,
  PCI = 0x10E8 ,
  Cypress = CYPRESS_VENDOR_ID ,
  ALA_VC3 = ALA_VC3_VENDOR_ID }

  Enumerates the group of MCS devices to connect to.
- enum class ProductIdEnumNet {
  Any = -1 ,
  None = 0 ,
  LegacyMeaUsb = MCS_PRODUCT_ID_MEAUSB ,
  ALA_VC3 = ALA_VC3_VENDOR_ID ,

Cypress_FX1 = CY_FX1_PRODUCT_ID ,
Cypress_FX2 = CY_FX2_PRODUCT_ID ,
Cypress_FX3 = CY_FX3_PRODUCT_ID ,
MC_Card = MCS_PRODUCT_ID_MC_CARD ,
Campden_Ci4600EphysVideoDataIntegrator = MCS_PRODUCT_ID_CAMPDEN_CI4600EPHYS_VIDEO↩
_DATA_INTEGRATOR ,
HekaLIH30 = MCS_PRODUCT_ID_HEKA_LIH30 ,
HekaEPC10Single = MCS_PRODUCT_ID_HEKA_EPC10_SINGLE ,
HekaEPC10Double = MCS_PRODUCT_ID_HEKA_EPC10_DOUBLE ,
HekaEPC10Triple = MCS_PRODUCT_ID_HEKA_EPC10_TRIPLE ,
HekaEPC10Quadro = MCS_PRODUCT_ID_HEKA_EPC10_QUADRO ,
HekaLIH406 = MCS_PRODUCT_ID_HEKA_LIH_406 ,
HekaLIH816 = MCS_PRODUCT_ID_HEKA_LIH_816 ,
HekaITEV100 = MCS_PRODUCT_ID_HEKA_ITEV_100 ,
HekaPG610 = MCS_PRODUCT_ID_HEKA_PG_610 ,
HekaPG611 = MCS_PRODUCT_ID_HEKA_PG_611 ,
HekaPG612 = MCS_PRODUCT_ID_HEKA_PG_612 ,
HekaPG618 = MCS_PRODUCT_ID_HEKA_PG_618 ,
HekaPG690 = MCS_PRODUCT_ID_HEKA_PG_690 ,
HekaEPCLite = MCS_PRODUCT_ID_HEKA_EPC_Lite ,
STG = MCS_PRODUCT_ID_STG ,
Octopot = MCS_PRODUCT_ID_OCTOPOT ,
Tersens = MCS_PRODUCT_ID_TERSENS ,
Dotriapot = MCS_PRODUCT_ID_DOTRIAPOT ,
HLA = MCS_PRODUCT_ID_HLA ,
STG400x = MCS_PRODUCT_ID_STG400x ,
STG4002 = MCS_PRODUCT_ID_STG4002 ,
STG4004 = MCS_PRODUCT_ID_STG4004 ,
STG4008 = MCS_PRODUCT_ID_STG4008 ,
STG400x_opto = MCS_PRODUCT_ID_STG400x_OPTO ,
STG4002_opto = MCS_PRODUCT_ID_STG4002_OPTO ,
STG4004_opto = MCS_PRODUCT_ID_STG4004_OPTO ,
STG4008_opto = MCS_PRODUCT_ID_STG4008_OPTO ,
STG5 = MCS_PRODUCT_ID_STG5 ,
STG3008_FA = MCS_PRODUCT_ID_STG3008_FA ,
MultiwellOptoStim = MCS_PRODUCT_ID_MULTIWELLOPTOSTIM ,
Generic = MCS_PRODUCT_ID_GENERIC ,
PGA = MCS_PRODUCT_ID_PGA ,
PCX = MCS_PRODUCT_ID_PCX ,
TCX = MCS_PRODUCT_ID_TCX ,
FCX = MCS_PRODUCT_ID_FCX ,
FCB = MCS_PRODUCT_ID_FCB ,
TC01 = MCS_PRODUCT_ID_TC01 ,
TC02 = MCS_PRODUCT_ID_TC02 ,
Retina_LED = MCS_PRODUCT_ID_RETINA_LED ,
AMS_Dongle = MCS_PRODUCT_ID_RETINA_AMS_DONGLE ,
Okuvision_Stimulator = MCS_PRODUCT_ID_OKUVISION_STIMULATOR ,
ExternBCTester = MCS_PRODUCT_ID_RETINAIMPLANT_EXTERNBCTESTER ,
Triggerbox_IMS = MCS_PRODUCT_ID_RIAG_TRIGGERBOX_IMS ,
Triggerbox_AMS = MCS_PRODUCT_ID_RIAG_TRIGGERBOX_AMS ,
Triggerbox_AMS3 = MCS_PRODUCT_ID_RIAG_TRIGGERBOX_AMS3 ,
ExternDTester = MCS_PRODUCT_ID_RETINAIMPLANT_EXTERNDTESTER ,
FunkDongleS = MCS_PRODUCT_ID_RIAG_FUNKDONGLES ,
ExternSTester = MCS_PRODUCT_ID_RIAG_EXTERNSTESTER ,
DongleS = MCS_PRODUCT_ID_RIAG_DONGLES ,
Triggerbox_R5 = MCS_PRODUCT_ID_RIAG_TRIGGERBOX_R5 ,
MEA_Switch = MCS_PRODUCT_ID_MEA_SWITCH ,
MEA_Impedance = MCS_PRODUCT_ID_MEA_IMPEDANCE ,

ChannelTest = MCS_PRODUCT_ID_CHANNELTEST ,
Sw2to64 = MCS_PRODUCT_ID_SW2TO64 ,
PeristalticPump = MCS_PRODUCT_ID_PERISTALTIC_PUMP ,
MEA_Switch_2_1 = MCS_PRODUCT_ID_MEA_SWITCH_2_1 ,
MEA_Switch_4_2 = MCS_PRODUCT_ID_MEA_SWITCH_4_2 ,
PPS4plus1 = MCS_PRODUCT_ID_PPS4plus1 ,
PPS5 = MCS_PRODUCT_ID_PPS5 ,
PPS2 = MCS_PRODUCT_ID_PPS2 ,
PPS5_DIG = MCS_PRODUCT_ID_PPS5_DIG ,
MEA_Clean = MCS_PRODUCT_ID_MEA_CLEAN ,
MEA_Coat = MCS_PRODUCT_ID_MEA_COAT ,
Multiwell_ICC = MCS_PRODUCT_ID_MULTIWELL_ICC ,
MBC08 = MCS_PRODUCT_ID_MBC08 ,
PPC = MCS_PRODUCT_ID_PPC ,
MEA1060 = MCS_PRODUCT_ID_MEA1060 ,
MEA_Sanofi = MCS_PRODUCT_ID_MEA_SANOFI ,
ME256 = MCS_PRODUCT_ID_ME256 ,
ME128 = MCS_PRODUCT_ID_ME128 ,
ME64 = MCS_PRODUCT_ID_ME64 ,
ME32 = MCS_PRODUCT_ID_ME32 ,
ME16 = MCS_PRODUCT_ID_ME16 ,
MEA2100_Mini_Usb_develop = MCS_PRODUCT_ID_MEA2100_MINI_USB_DEVELOP ,
MEA256 = MCS_PRODUCT_ID_MEA256 ,
MEA2100 = MCS_PRODUCT_ID_MEA2100 ,
MEA2100_32 = MCS_PRODUCT_ID_MEA2100_32 ,
MEA2100_Lite = MCS_PRODUCT_ID_MEA21_LITE ,
Multiwell = MCS_PRODUCT_ID_MULTIWELL ,
MEA2100_256 = MCS_PRODUCT_ID_MEA2100_256 ,
ME2100 = MCS_PRODUCT_ID_ME2100 ,
MEA2100BetaScreen = MCS_PRODUCT_ID_MEA2100_BETA_SCREEN ,
MEA2100_Mini = MCS_PRODUCT_ID_MEA2100_MINI ,
TBSI_Dacq = MCS_PRODUCT_ID_TBSI_DACQ ,
Multiwell_MEA_Mini = MCS_PRODUCT_ID_MULTIWELL_MEA_MINI ,
Whole_Cell_Patch = MCS_PRODUCT_ID_WHOLE_CELL_PATCH ,
eCube = MCS_PRODUCT_ID_ECUBE ,
Graphene_ASIC = MCS_PRODUCT_ID_GRAPHENE_ASIC ,
GE2100 = MCS_PRODUCT_ID_GE2100 ,
Multiboot = MCS_PRODUCT_ID_MULTIBOOT ,
WPA8 = MCS_PRODUCT_ID_WPA8 ,
WPA4 = MCS_PRODUCT_ID_WPA4 ,
WPA16 = MCS_PRODUCT_ID_WPA16 ,
WPA32 = MCS_PRODUCT_ID_WPA32 ,
W2100 = MCS_PRODUCT_ID_W2100 ,
NeuroChip = MCS_PRODUCT_ID_NEUROCHIP ,
UsbTest = MCS_PRODUCT_ID_USB_TEST ,
SoftwareDongle = MCS_PRODUCT_ID_SOFTWAREDONGLE ,
PathIdent = MCS_PRODUCT_ID_PATHIDENT ,
NF_Gen = MCS_PRODUCT_ID_NF_GEN ,
SafeIS = MCS_PRODUCT_ID_SAFEIS ,
Encapsulator = MCS_PRODUCT_ID_ENCAPSULATOR ,
NeurochipConfig = MCS_PRODUCT_ID_NEUROCHIP_CONFIG ,
MeasureTable = MCS_PRODUCT_ID_MEASURETABLE ,
Robooycte2 = MCS_PRODUCT_ID_ROBOOCYTE2 ,
RoboInject = MCS_PRODUCT_ID_ROBOINJECT ,
HiClamp = MCS_PRODUCT_ID_HICLAMP ,
PatchServer = MCS_PRODUCT_ID_PATCHSERVER ,
Dilutor = MCS_PRODUCT_ID_DILUTOR ,
HiClamp4Uart = MCS_PRODUCT_ID_HICLAMP4UART ,

IM16S16KRA = MCS_PRODUCT_ID_IM16S16KRA ,
IM64KRB = MCS_PRODUCT_ID_IM64KRB ,
IS32KRA = MCS_PRODUCT_ID_IS32KRA ,
IM64KRC = MCS_PRODUCT_ID_IM64KRC ,
IM16S8KRA = MCS_PRODUCT_ID_IM16S8KRA ,
IM16KRC = MCS_PRODUCT_ID_IM16KRC ,
SmartImplant = MCS_PRODUCT_ID_SMARTIMPLANT ,
PositionImp = MCS_PRODUCT_ID_POSITION_IMP ,
PositionBase = MCS_PRODUCT_ID_POSITION_BASE ,
PositionIICentralUnit = MCS_PRODUCT_ID_POSITIONII_CENTRAL_UNIT ,
PositionIIBase = MCS_PRODUCT_ID_POSITIONII_BASE ,
GrapheneProjectTestDevice = MCS_PRODUCT_ID_GRAPHENE_PROJECT_TEST_DEVICE ,
Pos900 = MCS_PRODUCT_ID_POS900 ,
Neptun = MCS_PRODUCT_ID_NEPTUN ,
Warner_Valve_Control = MCS_PRODUCT_ID_WARNER_VALVE_CONTROL ,
Warner_TEER_Machine = MCS_PRODUCT_ID_WARNER_TEER_MACHINE ,
Warner_Ussing = MCS_PRODUCT_ID_WARNER_USSING }

Enumerates the group of MCS devices to connect to.

- enum class McsBusTypeEnumNet {
MCS_ANY_BUS = -1 ,
MCS_UNDEFINED_BUS = 0 ,
MCS_USB_BUS ,
MCS_PCI_BUS }

  Enumerates the bus to use, either USB, PCI or any

- enum class McsUsbSpeedEnumNet {
LowSpeed = 0 ,
FullSpeed = 1 ,
HighSpeed = 2 ,
SuperSpeed = 3 ,
UnknownSpeed = 0xff }

  Enumerates the current connection speed of the device

- enum class CFirmwareDestinationNet {
FPGA_NORMAL = 0 ,
DSP = MCSUSB_DEST_DSP ,
USB = MCSUSB_DEST_USB ,
MCU1 = MCSUSB_DEST_MCU1 ,
MCSBUS1 = MCSUSB_DEST_MCSBUS1 ,
MCSBUS2 = MCSUSB_DEST_MCSBUS2 ,
MCSBUS3 = MCSUSB_DEST_MCSBUS3 ,
MCSBUS4 = MCSUSB_DEST_MCSBUS4 ,
MCSBUS5 = MCSUSB_DEST_MCSBUS5 ,
MCSBUS6 = MCSUSB_DEST_MCSBUS6 ,
MCSBUS7 = MCSUSB_DEST_MCSBUS7 ,
MCSBUS8 = MCSUSB_DEST_MCSBUS8 ,
MCSBUS9 = MCSUSB_DEST_MCSBUS9 ,
MCSBUS10 = MCSUSB_DEST_MCSBUS10 ,
MCSBUS11 = MCSUSB_DEST_MCSBUS11 ,
MCSBUS12 = MCSUSB_DEST_MCSBUS12 ,
MCSBUS13 = MCSUSB_DEST_MCSBUS13 ,
MCSBUS14 = MCSUSB_DEST_MCSBUS14 ,
MCSBUS15 = MCSUSB_DEST_MCSBUS15 ,
MCSBUS0 = MCSUSB_DEST_MCSBUS0 ,
BUSNUMBER0 = MCSUSB_DEST_BUSNUMBER0 ,
BUS0MCSBUS1 = MCSUSB_DEST_BUS0_MCSBUS1 ,
BUS0MCSBUS2 = MCSUSB_DEST_BUS0_MCSBUS2 ,
BUS0MCSBUS3 = MCSUSB_DEST_BUS0_MCSBUS3 ,
BUS0MCSBUS4 = MCSUSB_DEST_BUS0_MCSBUS4 ,
BUS0MCSBUS5 = MCSUSB_DEST_BUS0_MCSBUS5 ,

BUS0MCSBUS6 = MCSUSB_DEST_BUS0_MCSBUS6 ,
BUS0MCSBUS7 = MCSUSB_DEST_BUS0_MCSBUS7 ,
BUS0MCSBUS8 = MCSUSB_DEST_BUS0_MCSBUS8 ,
BUS0MCSBUS9 = MCSUSB_DEST_BUS0_MCSBUS9 ,
BUS0MCSBUS10 = MCSUSB_DEST_BUS0_MCSBUS10 ,
BUS0MCSBUS11 = MCSUSB_DEST_BUS0_MCSBUS11 ,
BUS0MCSBUS12 = MCSUSB_DEST_BUS0_MCSBUS12 ,
BUS0MCSBUS13 = MCSUSB_DEST_BUS0_MCSBUS13 ,
BUS0MCSBUS14 = MCSUSB_DEST_BUS0_MCSBUS14 ,
BUS0MCSBUS15 = MCSUSB_DEST_BUS0_MCSBUS15 ,
BUS0MCSBUS0 = MCSUSB_DEST_BUS0_MCSBUS0 ,
BUSNUMBER1 = MCSUSB_DEST_BUSNUMBER1 ,
BUS1MCSBUS1 = MCSUSB_DEST_BUS1_MCSBUS1 ,
BUS1MCSBUS2 = MCSUSB_DEST_BUS1_MCSBUS2 ,
BUS1MCSBUS3 = MCSUSB_DEST_BUS1_MCSBUS3 ,
BUS1MCSBUS4 = MCSUSB_DEST_BUS1_MCSBUS4 ,
BUS1MCSBUS5 = MCSUSB_DEST_BUS1_MCSBUS5 ,
BUS1MCSBUS6 = MCSUSB_DEST_BUS1_MCSBUS6 ,
BUS1MCSBUS7 = MCSUSB_DEST_BUS1_MCSBUS7 ,
BUS1MCSBUS8 = MCSUSB_DEST_BUS1_MCSBUS8 ,
BUS1MCSBUS9 = MCSUSB_DEST_BUS1_MCSBUS9 ,
BUS1MCSBUS10 = MCSUSB_DEST_BUS1_MCSBUS10 ,
BUS1MCSBUS11 = MCSUSB_DEST_BUS1_MCSBUS11 ,
BUS1MCSBUS12 = MCSUSB_DEST_BUS1_MCSBUS12 ,
BUS1MCSBUS13 = MCSUSB_DEST_BUS1_MCSBUS13 ,
BUS1MCSBUS14 = MCSUSB_DEST_BUS1_MCSBUS14 ,
BUS1MCSBUS15 = MCSUSB_DEST_BUS1_MCSBUS15 ,
BUS1MCSBUS0 = MCSUSB_DEST_BUS1_MCSBUS0 ,
BUSNUMBER2 = MCSUSB_DEST_BUSNUMBER2 ,
BUS2MCSBUS1 = MCSUSB_DEST_BUS2_MCSBUS1 ,
BUS2MCSBUS2 = MCSUSB_DEST_BUS2_MCSBUS2 ,
BUS2MCSBUS3 = MCSUSB_DEST_BUS2_MCSBUS3 ,
BUS2MCSBUS4 = MCSUSB_DEST_BUS2_MCSBUS4 ,
BUS2MCSBUS5 = MCSUSB_DEST_BUS2_MCSBUS5 ,
BUS2MCSBUS6 = MCSUSB_DEST_BUS2_MCSBUS6 ,
BUS2MCSBUS7 = MCSUSB_DEST_BUS2_MCSBUS7 ,
BUS2MCSBUS8 = MCSUSB_DEST_BUS2_MCSBUS8 ,
BUS2MCSBUS9 = MCSUSB_DEST_BUS2_MCSBUS9 ,
BUS2MCSBUS10 = MCSUSB_DEST_BUS2_MCSBUS10 ,
BUS2MCSBUS11 = MCSUSB_DEST_BUS2_MCSBUS11 ,
BUS2MCSBUS12 = MCSUSB_DEST_BUS2_MCSBUS12 ,
BUS2MCSBUS13 = MCSUSB_DEST_BUS2_MCSBUS13 ,
BUS2MCSBUS14 = MCSUSB_DEST_BUS2_MCSBUS14 ,
BUS2MCSBUS15 = MCSUSB_DEST_BUS2_MCSBUS15 ,
BUS2MCSBUS0 = MCSUSB_DEST_BUS2_MCSBUS0 ,
PIC = MCSUSB_DEST_PIC ,
PIC2 = MCSUSB_DEST_PIC2 ,
PIC3 = MCSUSB_DEST_PIC3 ,
PIC4 = MCSUSB_DEST_PIC4 ,
PIC5 = MCSUSB_DEST_PIC5 ,
PIC6 = MCSUSB_DEST_PIC6 ,
PIC7 = MCSUSB_DEST_PIC7 ,
PIC8 = MCSUSB_DEST_PIC8 ,
PIC9 = MCSUSB_DEST_PIC9 ,
PIC10 = MCSUSB_DEST_PIC10 ,
PIC11 = MCSUSB_DEST_PIC11 ,
PIC12 = MCSUSB_DEST_PIC12 ,
ChannelPIC = MCSUSB_DEST_CHANNELPIC ,

Bootstrap = MCSUSB_DEST_BOOTSTRAP ,
BootstrapOtherCypress = MCSUSB_DEST_BOOTSTAP_OTHER_CYPRESS ,
ALTERA = MCSUSB_DEST_ALTERA ,
FPGA2 = MCSUSB_DEST_FPGA2 ,
FPGA3 = MCSUSB_DEST_FPGA3 ,
FPGA4 = MCSUSB_DEST_FPGA4 ,
FPGA5 = MCSUSB_DEST_FPGA5 ,
FPGA6 = MCSUSB_DEST_FPGA6 ,
FPGA7 = MCSUSB_DEST_FPGA7 ,
FPGA8 = MCSUSB_DEST_FPGA8 ,
FPGA9 = MCSUSB_DEST_FPGA9 ,
FPGA10 = MCSUSB_DEST_FPGA10 ,
FPGA11 = MCSUSB_DEST_FPGA11 ,
FPGA12 = MCSUSB_DEST_FPGA12 ,
FPGA13 = MCSUSB_DEST_FPGA13 ,
FPGA14 = MCSUSB_DEST_FPGA14 ,
FPGA15 = MCSUSB_DEST_FPGA15 ,
FPGA16 = MCSUSB_DEST_FPGA16 ,
FPGA_GOLD = XILINX_DEST_GOLDEN ,
ALTERA_GOLD = (MCSUSB_DEST_ALTERA | XILINX_DEST_GOLDEN) ,
FPGA2_GOLD = (MCSUSB_DEST_FPGA2 | XILINX_DEST_GOLDEN) ,
FPGA3_GOLD = (MCSUSB_DEST_FPGA3 | XILINX_DEST_GOLDEN) ,
FPGA4_GOLD = (MCSUSB_DEST_FPGA4 | XILINX_DEST_GOLDEN) ,
FPGA5_GOLD = (MCSUSB_DEST_FPGA5 | XILINX_DEST_GOLDEN) ,
FPGA6_GOLD = (MCSUSB_DEST_FPGA6 | XILINX_DEST_GOLDEN) ,
FPGA7_GOLD = (MCSUSB_DEST_FPGA7 | XILINX_DEST_GOLDEN) ,
FPGA8_GOLD = (MCSUSB_DEST_FPGA8 | XILINX_DEST_GOLDEN) ,
FPGA9_GOLD = (MCSUSB_DEST_FPGA9 | XILINX_DEST_GOLDEN) ,
FPGA10_GOLD = (MCSUSB_DEST_FPGA10 | XILINX_DEST_GOLDEN) ,
FPGA11_GOLD = (MCSUSB_DEST_FPGA11 | XILINX_DEST_GOLDEN) ,
FPGA12_GOLD = (MCSUSB_DEST_FPGA12 | XILINX_DEST_GOLDEN) ,
FPGA13_GOLD = (MCSUSB_DEST_FPGA13 | XILINX_DEST_GOLDEN) ,
FPGA14_GOLD = (MCSUSB_DEST_FPGA14 | XILINX_DEST_GOLDEN) ,
FPGA15_GOLD = (MCSUSB_DEST_FPGA15 | XILINX_DEST_GOLDEN) ,
FPGA16_GOLD = (MCSUSB_DEST_FPGA16 | XILINX_DEST_GOLDEN) ,
FPGA_BASE = XILINX_DEST_BASEIMAGE ,
ALTERA_BASE = (MCSUSB_DEST_ALTERA | XILINX_DEST_BASEIMAGE) ,
FPGA2_BASE = (MCSUSB_DEST_FPGA2 | XILINX_DEST_BASEIMAGE) ,
FPGA3_BASE = (MCSUSB_DEST_FPGA3 | XILINX_DEST_BASEIMAGE) ,
FPGA4_BASE = (MCSUSB_DEST_FPGA4 | XILINX_DEST_BASEIMAGE) ,
FPGA5_BASE = (MCSUSB_DEST_FPGA5 | XILINX_DEST_BASEIMAGE) ,
FPGA6_BASE = (MCSUSB_DEST_FPGA6 | XILINX_DEST_BASEIMAGE) ,
FPGA7_BASE = (MCSUSB_DEST_FPGA7 | XILINX_DEST_BASEIMAGE) ,
FPGA8_BASE = (MCSUSB_DEST_FPGA8 | XILINX_DEST_BASEIMAGE) ,
FPGA9_BASE = (MCSUSB_DEST_FPGA9 | XILINX_DEST_BASEIMAGE) ,
FPGA10_BASE = (MCSUSB_DEST_FPGA10 | XILINX_DEST_BASEIMAGE) ,
FPGA11_BASE = (MCSUSB_DEST_FPGA11 | XILINX_DEST_BASEIMAGE) ,
FPGA12_BASE = (MCSUSB_DEST_FPGA12 | XILINX_DEST_BASEIMAGE) ,
FPGA13_BASE = (MCSUSB_DEST_FPGA13 | XILINX_DEST_BASEIMAGE) ,
FPGA14_BASE = (MCSUSB_DEST_FPGA14 | XILINX_DEST_BASEIMAGE) ,
FPGA15_BASE = (MCSUSB_DEST_FPGA15 | XILINX_DEST_BASEIMAGE) ,
FPGA16_BASE = (MCSUSB_DEST_FPGA16 | XILINX_DEST_BASEIMAGE) ,
FPGA_BOOTSTRAP = XILINX_DEST_BOOTSTRAP ,
ALTERA_BOOTSTRAP = (MCSUSB_DEST_ALTERA | XILINX_DEST_BOOTSTRAP) ,
DEST_TARGET1 = FLASH_DEST_TARGET1 ,
DEST_TARGET2 = FLASH_DEST_TARGET2 ,
DEST_TARGET3 = FLASH_DEST_TARGET3 ,
DEST_TARGET4 = FLASH_DEST_TARGET4 ,

DEST_TARGET5 = FLASH_DEST_TARGET5 ,
DEST_TARGET6 = FLASH_DEST_TARGET6 ,
DEST_TARGET7 = FLASH_DEST_TARGET7 ,
DEST_TARGET8 = FLASH_DEST_TARGET8 ,
DEST_TARGET9 = FLASH_DEST_TARGET9 ,
DEST_TARGET10 = FLASH_DEST_TARGET10 ,
DEST_TARGET11 = FLASH_DEST_TARGET11 ,
DEST_TARGET12 = FLASH_DEST_TARGET12 ,
DEST_TARGET13 = FLASH_DEST_TARGET13 ,
DEST_TARGET14 = FLASH_DEST_TARGET14 ,
DEST_TARGET15 = FLASH_DEST_TARGET15 ,
DEST_TARGET_MASK = FPGA_DEST_TARGET_MASK ,
DEST_FX3_TARGET_MASK = FX3_DEST_TARGET_MASK ,
ALTERA_TARGET1 = (MCSUSB_DEST_ALTERA | FLASH_DEST_TARGET1) ,
ALTERA_TARGET2 = (MCSUSB_DEST_ALTERA | FLASH_DEST_TARGET2) ,
ALTERA_TARGET3 = (MCSUSB_DEST_ALTERA | FLASH_DEST_TARGET3) ,
USB_TARGET1 = (MCSUSB_DEST_USB | FLASH_DEST_TARGET1) ,
USB_TARGET2 = (MCSUSB_DEST_USB | FLASH_DEST_TARGET2) ,
USB_TARGET3 = (MCSUSB_DEST_USB | FLASH_DEST_TARGET3) ,
UnknownDest = MCSUSB_DEST_UNKNOWN }

Enumerates the destination processor for the firmware.

- enum class DigitalTargetEnumNet {
Digout = (MEA_COMMAND << 16) + MEA_MEA21_DIGOUT_SOURCE ,
Digstream = (MEA_COMMAND << 16) + MEA_MEA21_DIGSTREAM_SOURCE ,
DacqTrigger = (MEA_COMMAND << 16) + MEA_MEA21_DACQTRIGGER_SOURCE ,
StgTrigger = (STG200x_COMMAND << 16) + STG200x_TRIGGER_SOURCE ,
StgListModeTrigger = (STG200x_COMMAND << 16) + STG200x_MEA21_LISTMODE_TRIGGERSOURCE ,
DigOutStimulatorStartTrigger = (MEA_COMMAND << 16) + MEA_DIGOUT_STG_START_TRIGGER_↩SOURCE ,
DigOutStimulatorStopTrigger = (MEA_COMMAND << 16) + MEA_DIGOUT_STG_STOP_TRIGGER_↩SOURCE ,
DigStreamToReceiver = (MEA_COMMAND << 16) + MEA_DIGSTREAMTORECEIVER_SOURCE }

Enumerates the Digital Targets for Digital Sources

- enum class DigitalSourceEnumNet {
DigitalInOfOutPort = 0 ,
DigitalIn = 16 ,
DigitalPulse = 32 ,
Feedback = 64 ,
AuxIn = 96 ,
Zero = 98 ,
One = 99 ,
HS1Trigger1Status = 100 ,
HS1Trigger2Status = 102 ,
HS1Trigger3Status = 104 ,
HS1Trigger4Status = 106 ,
HS1Trigger5Status = 108 ,
HS1Trigger6Status = 110 ,
HS1Sideband1 = 112 ,
HS1Sideband2 = 128 ,
HS1Sideband3 = 144 ,
HS1Sideband4 = 160 ,
HS1Sideband5 = 176 ,
HS1Sideband6 = 192 ,
HS2Trigger1Status = 208 ,
HS2Trigger2Status = 210 ,
HS2Trigger3Status = 212 ,
HS2Trigger4Status = 214 ,

HS2Trigger5Status = 216 ,
HS2Trigger6Status = 218 ,
HS2Sideband1 = 220 ,
HS2Sideband2 = 236 ,
HS2Sideband3 = 252 ,
HS2Sideband4 = 268 ,
HS2Sideband5 = 284 ,
HS2Sideband6 = 300 ,
PulseGenerator = 316 ,
DigitalOutStimulator = 320 ,
DigitalData = 336 ,
DeviceRunStatus = 368 ,
LastPosition = 372 }

Enumerates the digital source of the MEA2100 device.

- enum class W2100DigitalSourceEnumNet {
DigitalInOfOutPort = 0 ,
DigitalIn = 16 ,
DigitalPulse = 32 ,
Feedback = 64 ,
AuxIn = 96 ,
Zero = 98 ,
One = 99 ,
PulseGenerator = 100 ,
DigDataFromReceiver = 128 ,
DigitalOutStimulator = 192 ,
DigitalData = 208 ,
DeviceRunStatus = 240 ,
DigStreamFromReceiver = 256 ,
LastPosition = 320 }

Enumerates the digital source of the W2100 device.

- enum class SCUDigitalSourceEnumNet {
DigitalInOfOutPort = (0x00 << 8) + 0 ,
DigitalIn = (0x00 << 8) + 16 ,
DigitalPulse = (0x01 << 8) ,
Feedback = (0x02 << 8) ,
AuxIn = (0x03 << 8) + 0 ,
Zero = (0x03 << 8) + 2 ,
One = (0x03 << 8) + 3 ,
PulseGenerator = (0x03 << 8) + 8 ,
DigitalOutStimulator = (0x03 << 8) + 16 ,
DigitalData = (0x04 << 8) ,
DeviceRunStatus = (0x05 << 8) + 0 ,
HS1Trigger1Status = (0x40 << 8) + 0 ,
HS1Trigger2Status = (0x40 << 8) + 2 ,
HS1Trigger3Status = (0x40 << 8) + 4 ,
HS1Trigger4Status = (0x40 << 8) + 6 ,
HS1Trigger5Status = (0x40 << 8) + 8 ,
HS1Trigger6Status = (0x40 << 8) + 10 ,
HS1Trigger7Status = (0x40 << 8) + 12 ,
HS1Trigger8Status = (0x40 << 8) + 14 ,
HS1Trigger9Status = (0x40 << 8) + 16 ,
HS1Trigger10Status = (0x40 << 8) + 18 ,
HS1Trigger11Status = (0x40 << 8) + 20 ,
HS1Trigger12Status = (0x40 << 8) + 22 ,
HS1Sideband1 = (0x42 << 8) ,
HS1Sideband2 = (0x43 << 8) ,
HS1Sideband3 = (0x44 << 8) ,
HS1Sideband4 = (0x45 << 8) ,

HS1Sideband5 = (0x46 << 8) ,
HS1Sideband6 = (0x47 << 8) ,
HS1Sideband7 = (0x48 << 8) ,
HS1Sideband8 = (0x49 << 8) ,
HS1Sideband9 = (0x4A << 8) ,
HS1Sideband10 = (0x4B << 8) ,
HS1Sideband11 = (0x4C << 8) ,
HS1Sideband12 = (0x4D << 8) ,
HS2Trigger1Status = (0x80 << 8) + 0 ,
HS2Trigger2Status = (0x80 << 8) + 2 ,
HS2Trigger3Status = (0x80 << 8) + 4 ,
HS2Trigger4Status = (0x80 << 8) + 6 ,
HS2Trigger5Status = (0x80 << 8) + 8 ,
HS2Trigger6Status = (0x80 << 8) + 10 ,
HS2Trigger7Status = (0x80 << 8) + 12 ,
HS2Trigger8Status = (0x80 << 8) + 14 ,
HS2Trigger9Status = (0x80 << 8) + 16 ,
HS2Trigger10Status = (0x80 << 8) + 18 ,
HS2Trigger11Status = (0x80 << 8) + 20 ,
HS2Trigger12Status = (0x80 << 8) + 22 ,
HS2Sideband1 = (0x82 << 8) ,
HS2Sideband2 = (0x83 << 8) ,
HS2Sideband3 = (0x84 << 8) ,
HS2Sideband4 = (0x85 << 8) ,
HS2Sideband5 = (0x86 << 8) ,
HS2Sideband6 = (0x87 << 8) ,
HS2Sideband7 = (0x88 << 8) ,
HS2Sideband8 = (0x89 << 8) ,
HS2Sideband9 = (0x8A << 8) ,
HS2Sideband10 = (0x8B << 8) ,
HS2Sideband11 = (0x8C << 8) ,
HS2Sideband12 = (0x8D << 8) ,
LastPosition = (0xFF << 8) }

Enumerates the digital source of the SCU device.

- enum class MEA2100_256DigitalSourceEnumNet {
DigitalInOfOutPort = (0x00 << 8) + 0 ,
DigitalIn = (0x00 << 8) + 16 ,
DigitalPulse = (0x01 << 8) ,
Feedback = (0x02 << 8) ,
AuxIn = (0x03 << 8) + 0 ,
Zero = (0x03 << 8) + 2 ,
One = (0x03 << 8) + 3 ,
DeviceRunStatus = (0x03 << 8) + 4 ,
PulseGenerator = (0x03 << 8) + 8 ,
DigitalOutStimulator = (0x03 << 8) + 16 ,
DigitalData = (0x04 << 8) ,
HS1Trigger1Status = (0x40 << 8) + 0 ,
HS1Trigger2Status = (0x40 << 8) + 2 ,
HS1Trigger3Status = (0x40 << 8) + 4 ,
HS1Trigger4Status = (0x40 << 8) + 6 ,
HS1Trigger5Status = (0x40 << 8) + 8 ,
HS1Trigger6Status = (0x40 << 8) + 10 ,
HS1Trigger7Status = (0x40 << 8) + 12 ,
HS1Trigger8Status = (0x40 << 8) + 14 ,
HS1Trigger9Status = (0x40 << 8) + 16 ,
HS1Trigger10Status = (0x40 << 8) + 18 ,
HS1Trigger11Status = (0x40 << 8) + 20 ,
HS1Trigger12Status = (0x40 << 8) + 22 ,

HS1Trigger13Status = (0x40 << 8) + 24 ,
HS1Trigger14Status = (0x40 << 8) + 26 ,
HS1Trigger15Status = (0x40 << 8) + 28 ,
HS1Trigger16Status = (0x40 << 8) + 30 ,
HS1Trigger17Status = (0x41 << 8) + 0 ,
HS1Trigger18Status = (0x41 << 8) + 2 ,
HS1Sideband1 = (0x42 << 8) ,
HS1Sideband2 = (0x43 << 8) ,
HS1Sideband3 = (0x44 << 8) ,
HS1Sideband4 = (0x45 << 8) ,
HS1Sideband5 = (0x46 << 8) ,
HS1Sideband6 = (0x47 << 8) ,
HS1Sideband7 = (0x48 << 8) ,
HS1Sideband8 = (0x49 << 8) ,
HS1Sideband9 = (0x4A << 8) ,
HS1Sideband10 = (0x4B << 8) ,
HS1Sideband11 = (0x4C << 8) ,
HS1Sideband12 = (0x4D << 8) ,
HS1Sideband13 = (0x4E << 8) ,
HS1Sideband14 = (0x4F << 8) ,
HS1Sideband15 = (0x50 << 8) ,
HS1Sideband16 = (0x51 << 8) ,
HS1Sideband17 = (0x52 << 8) ,
HS1Sideband18 = (0x53 << 8) ,
HS2Trigger1Status = (0x80 << 8) + 0 ,
HS2Trigger2Status = (0x80 << 8) + 2 ,
HS2Trigger3Status = (0x80 << 8) + 4 ,
HS2Trigger4Status = (0x80 << 8) + 6 ,
HS2Trigger5Status = (0x80 << 8) + 8 ,
HS2Trigger6Status = (0x80 << 8) + 10 ,
HS2Trigger7Status = (0x80 << 8) + 12 ,
HS2Trigger8Status = (0x80 << 8) + 14 ,
HS2Trigger9Status = (0x80 << 8) + 16 ,
HS2Trigger10Status = (0x80 << 8) + 18 ,
HS2Trigger11Status = (0x80 << 8) + 20 ,
HS2Trigger12Status = (0x80 << 8) + 22 ,
HS2Trigger13Status = (0x80 << 8) + 24 ,
HS2Trigger14Status = (0x80 << 8) + 26 ,
HS2Trigger15Status = (0x80 << 8) + 28 ,
HS2Trigger16Status = (0x80 << 8) + 30 ,
HS2Trigger17Status = (0x81 << 8) + 0 ,
HS2Trigger18Status = (0x81 << 8) + 2 ,
HS2Sideband1 = (0x82 << 8) ,
HS2Sideband2 = (0x83 << 8) ,
HS2Sideband3 = (0x84 << 8) ,
HS2Sideband4 = (0x85 << 8) ,
HS2Sideband5 = (0x86 << 8) ,
HS2Sideband6 = (0x87 << 8) ,
HS2Sideband7 = (0x88 << 8) ,
HS2Sideband8 = (0x89 << 8) ,
HS2Sideband9 = (0x8A << 8) ,
HS2Sideband10 = (0x8B << 8) ,
HS2Sideband11 = (0x8C << 8) ,
HS2Sideband12 = (0x8D << 8) ,
HS2Sideband13 = (0x8E << 8) ,
HS2Sideband14 = (0x8F << 8) ,
HS2Sideband15 = (0x90 << 8) ,
HS2Sideband16 = (0x91 << 8) ,

HS2Sideband17 = (0x92 << 8) ,
HS2Sideband18 = (0x93 << 8) ,
LastPosition = (0xFF << 8) }

Enumerates the digital source of the MEA2100-256 device.

- enum class TBSI_DACQDigitalSourceEnumNet {
DigitalInOfOutPort = (0x00 << 8) + 0 ,
DigitalIn = (0x00 << 8) + 16 ,
DigitalPulse = (0x01 << 8) ,
Feedback = (0x02 << 8) ,
AuxIn = (0x03 << 8) + 0 ,
Zero = (0x03 << 8) + 2 ,
One = (0x03 << 8) + 3 ,
DeviceRunStatus = (0x03 << 8) + 4 ,
PulseGenerator = (0x03 << 8) + 8 ,
DigitalOutStimulator = (0x03 << 8) + 16 ,
DigitalData = (0x04 << 8) ,
HS1DigitalData1 = (0x30 << 8) ,
HS2DigitalData1 = (0x70 << 8) ,
LastPosition = (0xFF << 8) }

Enumerates the digital source of the TBSI-DACQ device.

- enum class TriggerSourceEnumNet {
tsNone = 0 ,
tsDigitalIn1 = 1 ,
tsDigitalIn2 = 2 ,
tsDigitalIn3 = 3 ,
tsDigitalIn4 = 4 ,
tsDigitalIn5 = 5 ,
tsDigitalIn6 = 6 ,
tsDigitalIn7 = 7 ,
tsDigitalIn8 = 8 ,
tsDigitalIn9 = 9 ,
tsDigitalIn10 = 10 ,
tsDigitalIn11 = 11 ,
tsDigitalIn12 = 12 ,
tsDigitalIn13 = 13 ,
tsDigitalIn14 = 14 ,
tsDigitalIn15 = 15 ,
tsDigitalIn16 = 16 ,
tsDigitalIn17 = 17 ,
tsDigitalIn18 = 18 ,
tsDigitalIn19 = 19 ,
tsDigitalIn20 = 20 ,
tsDigitalIn21 = 21 ,
tsDigitalIn22 = 22 ,
tsDigitalIn23 = 23 ,
tsDigitalIn24 = 24 ,
tsDigitalIn25 = 25 ,
tsDigitalIn26 = 26 ,
tsDigitalIn27 = 27 ,
tsDigitalIn28 = 28 ,
tsDigitalIn29 = 29 ,
tsDigitalIn30 = 30 ,
tsDigitalIn31 = 31 ,
tsDigitalIn32 = 32 ,
tsFeedback1 = 33 ,
tsFeedback2 = 34 ,
tsFeedback3 = 35 ,
tsFeedback4 = 36 ,

tsFeedback5 = 37 ,
tsFeedback6 = 38 ,
tsFeedback7 = 39 ,
tsFeedback8 = 40 ,
tsFeedback9 = 41 ,
tsFeedback10 = 42 ,
tsFeedback11 = 43 ,
tsFeedback12 = 44 ,
tsFeedback13 = 45 ,
tsFeedback14 = 46 ,
tsFeedback15 = 47 ,
tsFeedback16 = 48 ,
tsFeedback17 = 49 ,
tsFeedback18 = 50 ,
tsFeedback19 = 51 ,
tsFeedback20 = 52 ,
tsFeedback21 = 53 ,
tsFeedback22 = 54 ,
tsFeedback23 = 55 ,
tsFeedback24 = 56 ,
tsFeedback25 = 57 ,
tsFeedback26 = 58 ,
tsFeedback27 = 59 ,
tsFeedback28 = 60 ,
tsFeedback29 = 61 ,
tsFeedback30 = 62 ,
tsFeedback31 = 63 ,
tsFeedback32 = 64 ,
tsAuxIn1 = 65 ,
tsAuxIn2 = 66 ,
tsDigitalPuse0 = 67 ,
tsDigitalPuse1 = 68 ,
tsDigitalPuse2 = 69 ,
tsDigitalPuse3 = 70 ,
tsDigitalPuse4 = 71 ,
tsDigitalPuse5 = 72 ,
tsDigitalPuse6 = 73 ,
tsDigitalPuse7 = 74 ,
tsDigitalPuse8 = 75 ,
tsDigitalPuse9 = 76 ,
tsDigitalPuse10 = 77 ,
tsDigitalPuse11 = 78 ,
tsDigitalPuse12 = 79 ,
tsDigitalPuse13 = 80 ,
tsDigitalPuse14 = 81 ,
tsDigitalPuse15 = 82 ,
tsDigitalPuse16 = 83 ,
tsDigitalPuse17 = 84 ,
tsDigitalPuse18 = 85 ,
tsDigitalPuse19 = 86 ,
tsDigitalPuse20 = 87 ,
tsDigitalPuse21 = 88 ,
tsDigitalPuse22 = 89 ,
tsDigitalPuse23 = 90 ,
tsDigitalPuse24 = 91 ,
tsDigitalPuse25 = 92 ,
tsDigitalPuse26 = 93 ,
tsDigitalPuse27 = 94 ,

tsDigitalPuse28 = 95 ,
tsDigitalPuse29 = 96 ,
tsDigitalPuse30 = 97 ,
tsDigitalPuse31 = 98 ,
tsTriggered = 99 ,
tsSidebandBit8 = 100 ,
tsDACQCy1Dev1Runs = 101 ,
tsDACQCy1Dev2Runs = 102 ,
tsDACQCy2Dev1Runs = 103 ,
tsDACQCy2Dev2Runs = 104 }

Enumerates the trigger source of the MEA2100 device.

- enum class AnalogSourceEnumNet {
AnalogSource_HS1 ,
AnalogSource_HS2 ,
AnalogSource_IF }

Enumerates the analog source of the MEA2100 device.

- enum class Stg200xTriggerStatusEnumNet {
Idle = 0 ,
Running = 1 ,
Finished = 2 ,
Armed = 3 }

Enumerates the STG download mode trigger status

- enum class RetriggerActionEnumNet {
raStop = STG200x_RETRIGGER_STOP ,
raRestart = STG200x_RETRIGGER_RESTART ,
raIgnore = STG200x_RETRIGGER_IGNORE ,
raGate = STG200x_RETRIGGER_GATEMODE ,
raSingle = STG200x_RETRIGGER_SINGLE }

Enumerates possible retrigger actions for STG200x devices.

- enum class Stg200xSegmentFlagsEnumNet {
None = 0 ,
UpdateTrigger = SEGMENTFLAGS_UPDATETRIGGER ,
DownloadOnly = SEGMENTFLAGS_DOWNLOADONLY ,
TriggerOnly = SEGMENTFLAGS_TRIGGERONLY ,
SyncStart = SEGMENTFLAGS_SYNCSTART }

Enumerates Segmentflag options for STG400x devices.

- enum class Stg200xDigoutModeEnumNet {
Monitor = STG200x_DIGOUTMODE_MONITOR ,
Manual = STG200x_DIGOUTMODE_MANUAL ,
SYNCOUT1 = STG200x_DIGOUTMODE_SYNCOUT1 ,
SYNCOUT2 = STG200x_DIGOUTMODE_SYNCOUT2 ,
SYNCOUT3 = STG200x_DIGOUTMODE_SYNCOUT3 ,
SYNCOUT4 = STG200x_DIGOUTMODE_SYNCOUT4 ,
SYNCOUT5 = STG200x_DIGOUTMODE_SYNCOUT5 ,
SYNCOUT6 = STG200x_DIGOUTMODE_SYNCOUT6 ,
SYNCOUT7 = STG200x_DIGOUTMODE_SYNCOUT7 ,
SYNCOUT8 = STG200x_DIGOUTMODE_SYNCOUT8 }

Enumerates the DigoutMode on STG400x devices.

- enum class DigitalStimulatorTriggerSlopeEnumNet {
Falling = 0 ,
Rising = 1 }

Enumerates start/stop conditions for DigOut/DigStim trigger. /summary>

- enum class DigitalStimulatorTriggerEventEnumNet {
Start = 0 ,
Stop = 1 }

Enumerates start/stop event for DigOut/DigStim trigger. /summary>

- enum class AdapterTypeEnumNet {
  None = 0 ,
  MEA60 = 1 ,
  MEA2x60 = 2 ,
  MEA120 = 3 ,
  MEA32 = 4 ,
  MEA2x32 = 5 ,
  Multiwell96 = 6 ,
  WirelessTestAdapter = 7 ,
  MEA252 = 8 ,
  MEA_2_252_2 = 9 ,
  MEA_2_252_2_6Well = 10 ,
  MEA_2_252_2_9Well = 11 ,
  MEA_2_252_2_Test = 12 ,
  TBSI_5 = 13 ,
  TBSI_15 = 14 ,
  TBSI_31 = 15 ,
  TBSI_63 = 16 ,
  TBSI_127 = 17 ,
  TBSI_Reserved = 18 ,
  Ci4600Intan = 20 ,
  Unknown = ADAPTER_TYPE_UNKOWN ,
  NotApplicable = ADAPTER_TYPE_ENUM_NOT_APPLICABLE }

  Enumerates the adapter type of the MEA2100 device.
- enum class MeaLayoutEnumNet {
  mlUnknown = 0 ,
  mlMEA60 = 1 }

  Enumerates the MEA layout of the MEA2100 device.
- enum class DataModeEnumNet {
  Unsigned_16bit = 0 ,
  Unsigned_24bit = 2 ,
  Unsigned_32bit = 3 ,
  Signed_16bit = 8 ,
  Signed_24bit = 10 ,
  Signed_32bit = 11 }

  Enumerates the data mode of the device, either 16, 24 or 32 bit, can be signed or unsigned.
- enum class SampleSizeNet {
  SampleSize16Unsigned = 2 ,
  SampleSize16Signed = 2 + 0x100 ,
  SampleSize24Unsigned = 3 ,
  SampleSize24Signed = 3 + 0x100 ,
  SampleSize32Unsigned = 4 ,
  SampleSize32Signed = 4 + 0x100 ,
  SampleSize64Unsigned = 8 ,
  SampleSize64Signed = 8 + 0x100 }

  Enumerates the data format for ChannelBlock functions.
- enum class SampleDstSizeNet {
  SampleDstSize16 = 2 ,
  SampleDstSize32 = 4 }

  Enumerates the destination data format for ChannelBlock functions.
- enum class TcxDeviceTypeEnumNet {
  Unknown = 0 ,
  Regular = 1 ,
  BMI = 2 ,
  Nanion = 3 ,
  Warner = 4 }

  Enumerates the type of TCX devices.

- enum class TcxSensorTypeEnumNet {
  Reserved5 = 0 ,
  Reserved4 = 1 ,
  Reserved3 = 2 ,
  Reserved2 = 3 ,
  Reserved1 = 4 ,
  NTC10K = 5 ,
  PT1000 = 6 ,
  PT100 = 7 }

  Enumerates the sensor types for TCX devices
- enum class STG_DestinationEnumNet {
  channeldata_voltage ,
  channeldata_current ,
  syncoutdata ,
  channeldata_positive_voltage ,
  channeldata_positive_current ,
  rawdata ,
  channeldata_current_own_sync ,
  channeldata_positive_current_own_sync ,
  channeldata_current_own_boost_gnd_sync ,
  channeldata_positive_current_own_boost_gnd_sync ,
  channeldata_current_always_boost ,
  channeldata_current_always_boost_own_sync }

  Enumerates the destination for STG downloads.
- enum class ElectrodeModeEnumNet {
  emAutomatic = 0 ,
  emManual = 3 }

  Enumerates the mode of each electrode, can be automatic or manual. In automatic mode, the blanking of the electrode is controlled by the sideband signal, in manual mode, the stimulation configuration is independant of the sideband signal.
- enum class ElectrodeDacMuxEnumNet {
  Ground = 0 ,
  Stg1 = 1 ,
  Stg2 = 2 ,
  Stg3 = 3 }

  Enumerates the setting of the Stimulation DAC Multiplexer.
- enum class DacqGroupChannelEnumNet {
  HeadstageElectrodeGroup = 0x00 ,
  InterfaceADCGroup = INTERFACEANALOGCHANNELSGROUP ,
  DSPDataGroup = DSPDATACHANNELSGROUP ,
  Headstage1NCBathCurrentGroup = 0x30 ,
  Headstage1NCCol2CurrentGroup = 0x31 ,
  Headstage1NChipTempGroup = 0x32 ,
  STG1DACSignalGroup = 0x38 ,
  LIH30UserADCGroup = 0x50 ,
  LIH30TestADCGroup = 0x51 ,
  LIH30ADCModulesGroup = 0x52 ,
  IFDigChannelsGroup = INTERFACEDIGITALCHANNELSGROUP ,
  STG1SidebandsGroup = 0x90 ,
  STG1TriggerStatusGroup = 0x91 ,
  DACQ1DigitalGroup = 0xA0 ,
  AudioTestChannelGroup = AUDIOTESTCHANNELGROUP ,
  PacketFrameContextGroup = PACKETFRAMECONTEXTGROUP }

  Enumerates the Channel Groups of Datastream
- enum class W2100DacqGroupChannelEnumNet {
  InterfaceADCGroup = INTERFACEANALOGCHANNELSGROUP ,
  DSPDataGroup = DSPDATACHANNELSGROUP ,

WirelessHeadStageAnalogRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 0 ,
WirelessHeadStageStatusRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 1 ,
WirelessHeadStageAnalogRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 0 ,
WirelessHeadStageStatusRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 1 ,
WirelessHeadStageAnalogRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 0 ,
WirelessHeadStageStatusRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 1 ,
WirelessHeadStageAnalogRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 0 ,
WirelessHeadStageStatusRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 1 ,
WirelessHeadStageAnalogRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 0 ,
WirelessHeadStageStatusRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 1 ,
WirelessHeadStageAnalogRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 0 ,
WirelessHeadStageStatusRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 1 ,
WirelessHeadStageAnalogRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 0 ,
WirelessHeadStageStatusRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 1 ,
WirelessHeadStageAnalogRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 0 ,
WirelessHeadStageStatusRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 1 ,
WirelessHeadStageGyroDataRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 0 + 16 ,
WirelessHeadStageAccDataRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 1 + 16 ,
WirelessHeadStageGyroDataRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 0 + 16 ,
WirelessHeadStageAccDataRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 1 + 16 ,
WirelessHeadStageGyroDataRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 0 + 16 ,
WirelessHeadStageAccDataRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 1 + 16 ,
WirelessHeadStageGyroDataRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 0 + 16 ,
WirelessHeadStageAccDataRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 1 + 16 ,
WirelessHeadStageGyroDataRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 0 + 16 ,
WirelessHeadStageAccDataRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 1 + 16 ,
WirelessHeadStageGyroDataRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 0 + 16 ,
WirelessHeadStageAccDataRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 1 + 16 ,
WirelessHeadStageGyroDataRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 0 + 16 ,
WirelessHeadStageAccDataRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 1 + 16 ,
WirelessHeadStageGyroDataRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 0 + 16 ,
WirelessHeadStageAccDataRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 1 + 16 ,
WirelessHeadStageOptoStimCurrentRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 0 + 32 ,
WirelessHeadStageReservedARE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 0 + 32 ,
WirelessHeadStageReservedARE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 0 + 32 ,
WirelessHeadStageReservedARE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 0 + 32 ,
WirelessHeadStageReservedARE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 0 + 32 ,
WirelessHeadStageReservedARE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 0 + 32 ,
WirelessHeadStageReservedARE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 0 + 32 ,

WirelessHeadStageReservedARE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 1 + 32 ,
WirelessHeadStageOptoStimCurrentRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 0 + 32 ,
WirelessHeadStageReservedARE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 1 + 32 ,
WirelessHeadStageReservedBRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 0 + 48 ,
WirelessHeadStageReservedCRE1HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 0 + 1 + 48 ,
WirelessHeadStageReservedBRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 0 + 48 ,
WirelessHeadStageReservedCRE1HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 2 + 1 + 48 ,
WirelessHeadStageReservedBRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 0 + 48 ,
WirelessHeadStageReservedCRE1HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 4 + 1 + 48 ,
WirelessHeadStageReservedBRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 0 + 48 ,
WirelessHeadStageReservedCRE1HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 0 + 6 + 1 + 48 ,
WirelessHeadStageReservedBRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 0 + 48 ,
WirelessHeadStageReservedCRE2HS1 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 0 + 1 + 48 ,
WirelessHeadStageReservedBRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 0 + 48 ,
WirelessHeadStageReservedCRE2HS2 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 2 + 1 + 48 ,
WirelessHeadStageReservedBRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 0 + 48 ,
WirelessHeadStageReservedCRE2HS3 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 4 + 1 + 48 ,
WirelessHeadStageReservedBRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 0 + 48 ,
WirelessHeadStageReservedCRE2HS4 = WIRELESSHEADSTAGEANALOGGROUPBASE + 8 + 6 + 1 + 48 ,
IFDigChannelsGroup = INTERFACEDIGITALCHANNELSGROUP ,
AudioTestChannelGroup = AUDIOTESTCHANNELGROUP ,
PacketFrameContextGroup = PACKETFRAMECONTEXTGROUP }

Enumerates the W2100 Channel Groups of Datastream

- enum class SCUDacqGroupChannelEnumNet {
SCU1ElectrodeGroupHS1 = 0x00 ,
SCU1ElectrodeGroupHS2 = 0x01 ,
SCU1ElectrodeGroupHS3 = 0x02 ,
SCU1ElectrodeGroupHS4 = 0x03 ,
SCU2ElectrodeGroupHS1 = 0x08 ,
SCU2ElectrodeGroupHS2 = 0x09 ,
SCU2ElectrodeGroupHS3 = 0x0A ,
SCU2ElectrodeGroupHS4 = 0x0B ,
InterfaceADCGroup = INTERFACEANALOGCHANNELSGROUP ,
STG1DACSignalGroup = 0x40 ,
STG2DACSignalGroup = 0x41 ,
DSPAnalogGroup = DSPDATACHANNELSGROUP ,
DSPDigitalGroup = 0xA0 ,
IFDigChannelsGroup = INTERFACEDIGITALCHANNELSGROUP ,
STG1TriggerStatusGroup = 0x90 ,

STG1SidebandsGroup = 0x91 ,
STG2TriggerStatusGroup = 0x98 ,
STG2SidebandsGroup = 0x99 ,
AudioTestChannelGroup = AUDIOTESTCHANNELGROUP ,
PacketFrameContextGroup = PACKETFRAMECONTEXTGROUP }

Enumerates the SCU Channel Groups of Datastream

- enum class MEA2100_256DacqGroupChannelEnumNet {
HS1ElectrodeGroup = 0x00 ,
HS2ElectrodeGroup = 0x08 ,
InterfaceADCGroup = INTERFACEANALOGCHANNELSGROUP ,
STG1DACSignalGroup = 0x40 ,
STG2DACSignalGroup = 0x41 ,
DSPAnalogGroup = DSPDATACHANNELSGROUP ,
DSPDigitalGroup = 0xA0 ,
IFDigChannelsGroup = INTERFACEDIGITALCHANNELSGROUP ,
STG1TriggerStatusGroup = 0x90 ,
STG1SidebandsGroup = 0x91 ,
STG2TriggerStatusGroup = 0x98 ,
STG2SidebandsGroup = 0x99 ,
AudioTestChannelGroup = AUDIOTESTCHANNELGROUP ,
PacketFrameContextGroup = PACKETFRAMECONTEXTGROUP }

Enumerates the MEA2100-256 Channel Groups of Datastream

- enum class DacqMeaGroupTypeEnumNet {
AnalogGroup = ANALOG_GROUP ,
DigitalGroup = DIGITAL_GROUP ,
FrameContextGroup = FRAME_CONTEXT_GROUP }

Enumerations of CMOS MEA Groups to detect wether it is an Analog, Digital or Frame Context Group

- enum class CMOSMeaValueUnitEnumNet {
NoUnit = 0x00 ,
NanoVolt = 0x11 ,
PicoAmpere = 0x21 ,
NanoAmpere = 0x22 ,
MicroAmpere = 0x23 ,
MilliDegreeCelsius = 0x31 }

Enumerations of CMOS MEA Units of Values in Data stream

- enum class CMOSMeaInterfaceADCEnumNet {
IFChannel1 = 0x01 ,
IFChannel2 = 0x02 ,
IFChannel3 = 0x04 ,
IFChannel4 = 0x08 ,
IFChannel5 = 0x10 ,
IFChannel6 = 0x20 ,
IFChannel7 = 0x40 ,
IFChannel8 = 0x80 }

Enumerations of CMOS MEA IF Analog Channels Group Bitmask

- enum class CMOSMeaHeadstage1NCBathCurrentEnumNet { NCBathCurrent = 0x01 }

Enumerations of CMOS MEA HS Current Monitoring Channels Group Bitmask

- enum class CMOSMeaHeadstage1NCCol2CurrentEnumNet { NCCol2Current = 0x01 }

Enumerations of CMOS MEA HS Current Monitoring Channels Group Bitmask

- enum class CMOSMeaHeadstage1NChipTempEnumNet { NChipTemperature = 0x01 }

Enumerations of CMOS MEA HS Temperature Monitoring Channels Group Bitmask

- enum class CMOSMeaSTG1DACSignalEnumNet {
DAC1Channel = 0x01 ,
DAC2Channel = 0x02 ,
DAC3Channel = 0x04 ,
DAC4Channel = 0x08 }

Enumerations of CMOS MEA DAC Stimulation Channels Group Bitmask

- enum class CMOSMeaIFDigChannelEnumNet {
  DigitalMux = 0x01 ,
  DigitalInPort = 0x02 ,
  DigitalOutReg = 0x04 ,
  FeedbackReg = 0x08 ,
  DigitalReg = 0x10 ,
  AuxPort = 0x20 }

Enumerations of CMOS MEA IF Digital Channels Group Bitmask

- enum class CMOSMeaHS1SidebandEnumNet {
  SBSVector1 = 0x01 ,
  SBSVector2 = 0x02 ,
  SBSVector3 = 0x04 ,
  SBSVector4 = 0x08 }

Enumerations of CMOS MEA HS STG Sideband Channels Group Bitmask

- enum class CMOSMeaHS1TriggerStatusEnumNet {
  TriggerStatus1 = 0x01 ,
  TriggerStatus2 = 0x02 ,
  TriggerStatus3 = 0x04 ,
  TriggerStatus4 = 0x08 }

Enumerations of CMOS MEA HS STG Trigger Status Channels Group Bitmask

- enum class AnalogUnitEnumNet {
  Unknown ,
  Volt ,
  Ampere ,
  Kelvin }
- enum class CMOSMeaPacketFrameContextGroupEnumNet {
  SOFAndCTRLword = 0x01 ,
  ChecksumAndPacketCounter = 0x02 ,
  Timestamp = 0x04 ,
  EOFAndCRC = 0x08 }

Enumerations of CMOS MEA HS STG Trigger Status Channels Group Bitmask

- enum class CMOSMeaBathModeEnumNet {
  Ground = 0x02 ,
  Stimulation = 0x01 ,
  CurrentMeasure = 0x00 }

Enumerations of CMOS MEA Bath Mode

- enum class PatchServAdcModeEnumNet {
  Normal = 0 ,
  CatchAmp = 1 }
- enum class RoboCurrentModeEnumNet {
  Off = ROBO_CURRENT_OFFMODE ,
  Break = ROBO_CURRENT_BREAKMODE ,
  Standby = ROBO_CURRENT_STANDBYMODE ,
  Reference = ROBO_CURRENT_REFERENCEMODE ,
  Movement = ROBO_CURRENT_MOVEMENTMODE }
- enum class TeerClampModeEnumNet {
  ClampModeVoltage = 0 ,
  ClampModeCurrent = 1 ,
  ClampModeOpen = 2 ,
  ClampModeInternalCalibration = 3 }
- enum class TeerWaveformEnumNet {
  Rectangle = 0 ,
  Sine = 1 }
- enum class UssingClampModeEnumNet {
  VoltageClamp = 1 ,

CurrentClamp = 2 ,
OpenClamp = 3 ,
Standby = 4 ,
ElectrodeOffset = 5 }

- enum class UssingUnitEnumNet {
  Volt = 0 ,
  Ampere = 1 ,
  State = 2 }
- enum class PlateClampEnumNet {
  Close = 0 ,
  Open = 1 ,
  Stop = 2 }
- enum class PlateClampLockEnumNet {
  Lock = 0 ,
  Unlock = 1 }
- enum class MultiwellPlateTypeEnumNet {
  Plate_Dummy = HS_PLATETYPE_0 ,
  Plate_24W700_100FMA = 1 ,
  Plate_24W030MGA = 2 ,
  Plate_72W500_100PMA = 3 ,
  Plate_72W500_100FMA = 5 ,
  Plate_24W700_100FMB = HS_PLATETYPE_6 ,
  Plate_96W700_100FMA = HS_PLATETYPE_7 ,
  Plate_96W300_80_1152FMA = HS_PLATETYPE_33 ,
  Plate_96W400_80_1152FMB = HS_PLATETYPE_36 ,
  Plate_24W300_30_1152GBA = HS_PLATETYPE_40 ,
  Plate_24W700_100FMC = HS_PLATETYPE_44 ,
  Plate_96W700_100FMB = HS_PLATETYPE_48 ,
  Plate_96W700_100GBC = HS_PLATETYPE_49 ,
  Plate_96W700_100GBD = HS_PLATETYPE_51 ,
  Plate_24W700_100PBA = HS_PLATETYPE_60 ,
  Plate_Dummy_126 = HS_PLATETYPE_126 ,
  Plate_24W300_30GMA = HS_PLATETYPE_193 ,
  Plate_96W700_100GMA = 194 ,
  Plate_24W300_30GBA = HS_PLATETYPE_195 ,
  Plate_96W700_100GBA = HS_PLATETYPE_224 ,
  Plate_24W300_30GBB = HS_PLATETYPE_232 ,
  Plate_96W700_100GBB = HS_PLATETYPE_244 ,
  No_Plate = 255 }
- enum class FpgaIdEnumNet {
  DeviceNotConnected = FPGA_ID_NOT_CONNECTED ,
  Mea2100Interfaceboard = FPGA_ID_MEA2100_IF ,
  Mea2100Headstage = FPGA_ID_MEA2100_HS ,
  Mea2100STG = FPGA_ID_MEA2100_STG ,
  MultiwellHeadstage = FPGA_ID_HS_MULTIWELL ,
  MultiwellInterfaceboard = FPGA_ID_IF_MULTIWELL ,
  TbsiDacqInterfaceboard = FPGA_ID_TBSI_DACQ_IF ,
  TbsiDacqHeadstage = FPGA_ID_TBSI_DACQ_HS ,
  CmosMeaInterfaceboard = FPGA_ID_CMOS_MEA_IF ,
  CmosMeaHeadstage = FPGA_ID_CMOS_MEA_HS ,
  Mea2100MultiwellIFB2 = FPGA_ID_MEA2100_MW_IFB2 ,
  Me2100Interfaceboard = FPGA_ID_ME2100_IFB ,
  Me2100InvivoSignalCollectorUnit = FPGA_ID_ME2100_InvivoSCU ,
  Me2100InvitroSignalCollectorUnit = FPGA_ID_ME2100_InvitroSCU ,
  Me2100_32XilinxHeadstage = FPGA_ID_ME2100_32_XILINX_HS ,
  Me2100_32PICiCE40Headstage = FPGA_ID_ME2100_32_PIC_ICE40_HS ,
  Mea2100_256Interfaceboard = FPGA_ID_MEA2100_256_IF ,
  Mea2100_256Headstage = FPGA_ID_MEA2100_256_HS ,

W2100Interfaceboard = FPGA_ID_W2100_IF ,
W2100WirelessReceiver = FPGA_ID_W2100_REC ,
W2100WirelessReceiverAnalog = FPGA_ID_W2100_REC_ANALOG ,
Mea2100Mini60PICiCE40Headstage = FPGA_ID_MEA2100MINI60_PIC_ICE40_HS ,
Mea2100BetaScreenHeadstage = FPGA_ID_MEA2100BETASCREEN_HS ,
Me2100UPA32Headstage = FPGA_ID_ME2100UPA32_HS ,
MultiwellMiniHeadstage = FPGA_ID_MULTIWELL_MINI_HS ,
Mea2100Mini120Headstage = FPGA_ID_MEA2100MINI120_HS ,
Mea2100Mini60ECP5Headstage = FPGA_ID_MEA2100MINI60_ECP5_HS ,
eCubeHeadstage = FPGA_ID_ECUBE_HS ,
Me2100Graphene16_32Headstage = FPGA_ID_ME2100_GRAPHENE_16_32_HS ,
GrapheneASICHeadstage = FPGA_ID_GRAPHENE_ASIC_HS ,
WholeCellPatchHeadstage = FPGA_ID_WHOLE_CELL_PATCH_HS ,
InterfaceBoard2 = FPGA_ID_INTERFACEBOARD2 ,
W2100IFB2 = FPGA_ID_W2100_IFB2 ,
CmosmeaIFB2 = FPGA_ID_CMOS_MEA_IFB2 ,
M4M_Dock = FPGA_ID_M4M_DOCK ,
M4M_ReUse = FPGA_ID_M4M_REUSE ,
Mea2100LiteHeadstage = FPGA_ID_MEA2100_LITE_HS ,
LIH30Interfaceboard = FPGA_ID_LIH30_USB_IF ,
LIH30ADCCtrl = FPGA_ID_LIH30_ADC_CTRL ,
UssingRail = FPGA_ID_USSING_RAIL ,
UssingChamber = FPGA_ID_USSING_CHAMBER ,
IFB2GoldenInterfaceboard = FPGA_ID_IFB2_GOLDEN ,
IFB30GoldenInterfaceboard = FPGA_ID_IFB30_GOLDEN ,
DeviceHasNoHeadstage = FPGA_ID_HAS_NO_HS }

- enum class HeadstageIdEnumNet {
  DeviceNotConnected = FPGA_ID_NOT_CONNECTED ,
  Mea2100 = FPGA_ID_MEA2100_HS ,
  Multiwell = FPGA_ID_HS_MULTIWELL ,
  TbsiDacq = FPGA_ID_TBSI_DACQ_HS ,
  CmosMea = FPGA_ID_CMOS_MEA_HS ,
  InvivoSignalCollectorUnit = FPGA_ID_ME2100_InvivoSCU ,
  InvitroSignalCollectorUnit = FPGA_ID_ME2100_InvitroSCU ,
  Mea2100_256 = FPGA_ID_MEA2100_256_HS ,
  W2100WirelessReceiver = FPGA_ID_W2100_REC ,
  W2100WirelessReceiverAnalog = FPGA_ID_W2100_REC_ANALOG ,
  Mea2100_Lite = FPGA_ID_MEA2100_LITE_HS ,
  LIH30ADCCtrl = FPGA_ID_LIH30_ADC_CTRL ,
  DeviceHasNoHeadstage = FPGA_ID_HAS_NO_HS }
- enum class SCU_HeadstageIdEnumNet {
  DeviceNotConnected = FPGA_ID_NOT_CONNECTED ,
  Me2100_32Xilinx = FPGA_ID_ME2100_32_XILINX_HS ,
  Me2100_32PICiCE40 = FPGA_ID_ME2100_32_PIC_ICE40_HS ,
  Mea2100Mini60PICiCE40 = FPGA_ID_MEA2100MINI60_PIC_ICE40_HS ,
  Mea2100BetaScreen = FPGA_ID_MEA2100BETASCREEN_HS ,
  Me2100UPA32 = FPGA_ID_ME2100UPA32_HS ,
  MultiwellMini = FPGA_ID_MULTIWELL_MINI_HS ,
  Mea2100Mini120 = FPGA_ID_MEA2100MINI120_HS ,
  Mea2100Mini60ECP5 = FPGA_ID_MEA2100MINI60_ECP5_HS ,
  eCube = FPGA_ID_ECUBE_HS ,
  Me2100Graphene16_32 = FPGA_ID_ME2100_GRAPHENE_16_32_HS ,
  GrapheneASIC = FPGA_ID_GRAPHENE_ASIC_HS ,
  WholeCellPatch = FPGA_ID_WHOLE_CELL_PATCH_HS ,
  DeviceHasNoHeadstage = FPGA_ID_HAS_NO_HS }
- enum class UsbVendorIdEnumNet {
  Unknown = -1 ,
  None = 0 ,

Renesas = 0x1912 ,
ASMedia = 0x1b21 ,
Intel = 0x8086 }

- enum class FilterCalculationDirectionEnumNet {
  DoubleToInt = 0 ,
  IntToDouble = 1 }
- enum class FilterBandEnumNet {
  Unknown = 0 ,
  Lowpass = 1 ,
  Highpass = 2 }
- enum class FilterFamilyEnumNet {
  Unknown = 0 ,
  Bessel = 1 ,
  Butterworth = 2 ,
  RC = 3 }
- enum class FilterTypeEnumNet {
  Hardware = 0 ,
  Software = 1 }
- enum class FilterAttributeEnumNet {
  PreCommaB = 0 ,
  PostCommaB = 1 ,
  CommaPositionB = 2 ,
  PreCommaA = 3 ,
  PostCommaA = 4 ,
  CommaPositionA = 5 }
- enum class AnalogOut_DAC_Range_EnumNet {
  PlusMinus2Comma5Volts = 0 ,
  PlusMinus5Volts = 1 ,
  PlusMinus10Volts = 2 }
- enum class PP_Pump_Mode_Type_EnumNet {
  Manual = 1 ,
  Digital = 2 ,
  Analog = 3 }
- enum class MbcChargingModeEnumNet {
  StorageCharge = 0 ,
  FullCharge = 1 }
- enum class MbcRatedCapacityEnumNet {
  rc30mAh = 0 ,
  rc100mAh = 1 ,
  rc200mAh = 2 ,
  rc300mAh = 3 ,
  rcGreater300mAh = 4 }
- enum class MbcChannelStateEnumNet {
  csIdleNoBattery = 0 ,
  csIdleChargeFinished = 1 ,
  csCapacityTestPrecharge = 2 ,
  csCapacityTestDischarge = 3 ,
  csRefreshBattery = 4 ,
  csCharge = 5 ,
  csDischarge = 6 ,
  csError = 7 }
- enum class PulseGenerator_Mode_EnumNet {
  Off = 0 ,
  AlwaysOn = 1 ,
  Gated_Low_Active = 2 ,
  Gated_High_Active = 3 }
- enum class LIH30_ADC_Channel_EnumNet {
  User_ADC_0 = 0 ,

User_ADC_1 = 1 ,
User_ADC_2 = 2 ,
User_ADC_3 = 3 ,
User_ADC_4 = 4 ,
Test_ADC_EPC10 = 5 ,
ModulA_ADC0 = 6 ,
ModulA_ADC1 = 7 ,
ModulA_ADC2 = 8 ,
ModulA_ADC3 = 9 ,
ModulB_ADC0 = 10 ,
ModulB_ADC1 = 11 ,
ModulB_ADC2 = 12 ,
ModulB_ADC3 = 13 ,
ModulC_ADC0 = 14 ,
ModulC_ADC1 = 15 ,
ModulC_ADC2 = 16 ,
ModulC_ADC3 = 17 ,
ModulD_ADC0 = 18 ,
ModulD_ADC1 = 19 ,
ModulD_ADC2 = 20 ,
ModulD_ADC3 = 21 }

- enum class LIH30_DAC_Channel_EnumNet {
  User_DAC_0 = 0 ,
  User_DAC_1 = 1 ,
  User_DAC_2 = 2 ,
  Test_DAC_EPC10 = 3 ,
  ModulA_DAC0 = 4 ,
  ModulA_DAC1 = 5 ,
  ModulB_DAC0 = 6 ,
  ModulB_DAC1 = 7 ,
  ModulC_DAC0 = 8 ,
  ModulC_DAC1 = 9 ,
  ModulD_DAC0 = 10 ,
  ModulD_DAC1 = 11 }
- enum class LIH30_EPC10_Bus_EnumNet {
  A = 0 ,
  B = 1 }
- enum class W2100_Accel_Gyro_Select_EnumNet {
  Off = 0 ,
  GyroOnly = 1 ,
  AccelOnly = 2 ,
  Both = 3 }

  enumerates the accelerometer configuration on the W2100 device
- enum class WvcValveModeEnumNet {
  Manual = WVC_VALVE_MODE_MANUAL ,
  Digital = WVC_VALVE_MODE_DIGITAL ,
  Analog = WVC_VALVE_MODE_ANALOG ,
  Table = WVC_VALVE_MODE_TABLE }

  enumerates Wvc valve mode
- enum class WvcDisplayModeEnumNet {
  Work = WVC_DISPLAY_MODE_WORK ,
  PC = WVC_DISPLAY_MODE_PC ,
  Settings = WVC_DISPLAY_MODE_SETTINGS ,
  TouchTest = WVC_DISPLAY_MODE_TOUCH_TEST }

  enumerates Wvc display mode
- enum class PortDirectionEnumNet {
  Output = 0 ,
  Input = 1 }

enumerates a port direction

- enum class StimulationLayoutConfigurationEnumNet {
  SingleWell = 1 ,
  SixWell = 2 ,
  NineWell = 3 }

  enumerates the layout configuration for the MEA2100-256 device
- enum class ReferenceElectrodeSwitchPositionEnumNet {
  off = 0 ,
  Ref8 = 1 ,
  Ref16 = 2 ,
  Ref24 = 3 ,
  Ref32 = 4 }

  enumerates the possible positions of the referemce electrode switch of the ME2100 device
- enum class ReferenceElectrodeModeEnumNet {
  SubtractionOff = 0 ,
  SubtractFromAllOther = 1 ,
  SubtractFromReferenceElectrodeOnly = 2 ,
  SubtractFromAll = 3 }

  enumerates the electrode subtraction modes
- enum class DigitalDatastreamEnableEnumNet {
  None = 0x0000 ,
  Mux = 0x0001 ,
  MuxOtherDevice = 0x0002 ,
  DigitalInReserverd = 0x0004 ,
  DigitalIn = 0x0008 ,
  DigitalOut = 0x0010 ,
  DigitalOutReserved = 0x0020 ,
  RegisterLow = 0x0040 ,
  RegisterHigh = 0x0080 ,
  FeedbackLow = 0x0100 ,
  FeedbackHigh = 0x0200 ,
  Aux = 0x0400 ,
  PeriodicPulse = 0x0800 ,
  DigOutStim = 0x1000 ,
  Hs1Digital = 0x00008000 ,
  Hs1Trigger = 0x00010000 ,
  Hs1SidebandLow = 0x00020000 ,
  Hs1SidebandHigh = 0x00040000 ,
  Hs2Digital = 0x00800000 ,
  Hs2Trigger = 0x01000000 ,
  Hs2SidebandLow = 0x02000000 ,
  Hs2SidebandHigh = 0x04000000 }

  enumerates the streams available as digital datastream
- enum class IoVoltageEnumNet {
  Voltage_3V3 = IFB2_IO_VOLTAGE_3V3 ,
  Voltage_5V0 = IFB2_IO_VOLTAGE_5V0 }

  enumerates the I/O Voltages available on the IFB2
- enum class EnSTG200x_STATUS {
  OK ,
  NOT_CONNECTED ,
  DEVICE_NOT_FOUND }

Functions

- public delegate void OnMcsUsbDeviceState (usbSetupPacket_t^ request)

- private delegate void OnMcsUsbDeviceStateCallback (IntPtr pThis, uint32_t size, IntPtr buffer)
- public delegate void OnUpdateFirmwareStatusChange (String^)
- public delegate void OnUpdateFirmwareProgress (int)
- public delegate void OnDeviceArrivalRemoval (CMcsUsbListEntryNet^ entry)

  Delegate to show a device arrival or removal.
- public delegate void OnStgPollStatus (unsigned int status, StgStatusNet^ stgStatusNet, array< int >^ index_list)
- public delegate void OnMwPollStatus (unsigned int CurrentTemp, unsigned int PlateState, unsigned int SwitchState)
- public delegate void RoboStatusEventDelegate (array< unsigned char >^ buffer)
- public delegate void OnStg200xDataHandler (uint32_t trigger)
- public delegate void OnStg200xErrorHandler ()
- public delegate void OnChannelData (CMcsUsbDacqNet^ dacq, int CbHandle, int numFrames)
- public delegate void OnError (String^ msg, int action)

10.2.1 Enumeration Type Documentation

10.2.1.1 AdapterTypeEnumNet `enum AdapterTypeEnumNet [strong]`

Enumerates the adapter type of the MEA2100 device.

Enumerator

None	
MEA60	
MEA2x60	
MEA120	
MEA32	
MEA2x32	
Multiwell96	
WirelessTestAdapter	
MEA252	
MEA_2_252_2	
MEA_2_252_2_6Well	
MEA_2_252_2_9Well	
MEA_2_252_2_Test	
TBSI_5	
TBSI_15	
TBSI_31	
TBSI_63	
TBSI_127	
TBSI_Reserved	
Ci4600Intan	
Unknown	
NotApplicable	

10.2.1.2 AnalogOut_DAC_Range_EnumNet enum AnalogOut_DAC_Range_EnumNet [strong]

Enumerator

PlusMinus2Comma5Volts	
PlusMinus5Volts	
PlusMinus10Volts	

10.2.1.3 AnalogSourceEnumNet enum AnalogSourceEnumNet [strong]

Enumerates the analog source of the MEA2100 device.

Enumerator

AnalogSource_HS1	
AnalogSource_HS2	
AnalogSource_IF	

10.2.1.4 AnalogUnitEnumNet enum AnalogUnitEnumNet [strong]

Enumerator

Unknown	
Volt	
Ampere	
Kelvin	

10.2.1.5 CFirmwareDestinationNet enum CFirmwareDestinationNet [strong]

Enumerates the destination processor for the firmware.

Enumerator

FPGA_NORMAL	
DSP	The DSP.
USB	The USB controller.
MCU1	The DSP on the MEA2100 system.
MCSBUS1	
MCSBUS2	
MCSBUS3	
MCSBUS4	
MCSBUS5	

Enumerator

MCSBUS6	
MCSBUS7	
MCSBUS8	
MCSBUS9	
MCSBUS10	
MCSBUS11	
MCSBUS12	
MCSBUS13	
MCSBUS14	
MCSBUS15	
MCSBUS0	
BUSNUMBER0	
BUS0MCSBUS1	
BUS0MCSBUS2	
BUS0MCSBUS3	
BUS0MCSBUS4	
BUS0MCSBUS5	
BUS0MCSBUS6	
BUS0MCSBUS7	
BUS0MCSBUS8	
BUS0MCSBUS9	
BUS0MCSBUS10	
BUS0MCSBUS11	
BUS0MCSBUS12	
BUS0MCSBUS13	
BUS0MCSBUS14	
BUS0MCSBUS15	
BUS0MCSBUS0	
BUSNUMBER1	
BUS1MCSBUS1	
BUS1MCSBUS2	
BUS1MCSBUS3	
BUS1MCSBUS4	
BUS1MCSBUS5	
BUS1MCSBUS6	
BUS1MCSBUS7	
BUS1MCSBUS8	
BUS1MCSBUS9	
BUS1MCSBUS10	
BUS1MCSBUS11	
BUS1MCSBUS12	
BUS1MCSBUS13	
BUS1MCSBUS14	
BUS1MCSBUS15	
BUS1MCSBUS0	
BUSNUMBER2	
BUS2MCSBUS1	
BUS2MCSBUS2	
BUS2MCSBUS3	
BUS2MCSBUS4	

Enumerator

BUS2MCSBUS5	
BUS2MCSBUS6	
BUS2MCSBUS7	
BUS2MCSBUS8	
BUS2MCSBUS9	
BUS2MCSBUS10	
BUS2MCSBUS11	
BUS2MCSBUS12	
BUS2MCSBUS13	
BUS2MCSBUS14	
BUS2MCSBUS15	
BUS2MCSBUS0	
PIC	
PIC2	
PIC3	
PIC4	
PIC5	
PIC6	
PIC7	
PIC8	
PIC9	
PIC10	
PIC11	
PIC12	
ChannelPIC	
Bootstrap	
BootstrapOtherCypress	
ALTERA	
FPGA2	
FPGA3	
FPGA4	
FPGA5	
FPGA6	
FPGA7	
FPGA8	
FPGA9	
FPGA10	
FPGA11	
FPGA12	
FPGA13	
FPGA14	
FPGA15	
FPGA16	
FPGA_GOLD	
ALTERA_GOLD	
FPGA2_GOLD	
FPGA3_GOLD	
FPGA4_GOLD	
FPGA5_GOLD	
FPGA6_GOLD	

Enumerator

FPGA7_GOLD	
FPGA8_GOLD	
FPGA9_GOLD	
FPGA10_GOLD	
FPGA11_GOLD	
FPGA12_GOLD	
FPGA13_GOLD	
FPGA14_GOLD	
FPGA15_GOLD	
FPGA16_GOLD	
FPGA_BASE	
ALTERA_BASE	
FPGA2_BASE	
FPGA3_BASE	
FPGA4_BASE	
FPGA5_BASE	
FPGA6_BASE	
FPGA7_BASE	
FPGA8_BASE	
FPGA9_BASE	
FPGA10_BASE	
FPGA11_BASE	
FPGA12_BASE	
FPGA13_BASE	
FPGA14_BASE	
FPGA15_BASE	
FPGA16_BASE	
FPGA_BOOTSTRAP	
ALTERA_BOOTSTRAP	
DEST_TARGET1	
DEST_TARGET2	
DEST_TARGET3	
DEST_TARGET4	
DEST_TARGET5	
DEST_TARGET6	
DEST_TARGET7	
DEST_TARGET8	
DEST_TARGET9	
DEST_TARGET10	
DEST_TARGET11	
DEST_TARGET12	
DEST_TARGET13	
DEST_TARGET14	
DEST_TARGET15	
DEST_TARGET_MASK	
DEST_FX3_TARGET_MASK	
ALTERA_TARGET1	
ALTERA_TARGET2	
ALTERA_TARGET3	

Enumerator

USB_TARGET1	
USB_TARGET2	
USB_TARGET3	
UnknownDest	

10.2.1.6 CMOSMeaBathModeEnumNet `enum CMOSMeaBathModeEnumNet [strong]`

Enumerations of CMOS MEA Bath Mode

Enumerator

Ground	
Stimulation	
CurrentMeasure	

10.2.1.7 CMOSMeaHeadstage1NCBathCurrentEnumNet `enum CMOSMeaHeadstage1NCBathCurrentEnumNet [strong]`

Enumerations of CMOS MEA HS Current Monitoring Channels Group Bitmask

Enumerator

NCBathCurrent	

10.2.1.8 CMOSMeaHeadstage1NCCol2CurrentEnumNet `enum CMOSMeaHeadstage1NCCol2CurrentEnumNet [strong]`

Enumerations of CMOS MEA HS Current Monitoring Channels Group Bitmask

Enumerator

NCCol2Current	

10.2.1.9 CMOSMeaHeadstage1NChipTempEnumNet `enum CMOSMeaHeadstage1NChipTempEnumNet [strong]`

Enumerations of CMOS MEA HS Temperature Monitoring Channels Group Bitmask

Enumerator

NChipTemperature	

10.2.1.10 CMOSMeaHS1SidebandEnumNet enum CMOSMeaHS1SidebandEnumNet [strong]

Enumerations of CMOS MEA HS STG Sideband Channels Group Bitmask

Enumerator

SBSVector1	
SBSVector2	
SBSVector3	
SBSVector4	

10.2.1.11 CMOSMeaHS1TriggerStatusEnumNet enum CMOSMeaHS1TriggerStatusEnumNet [strong]

Enumerations of CMOS MEA HS STG Trigger Status Channels Group Bitmask

Enumerator

TriggerStatus1	
TriggerStatus2	
TriggerStatus3	
TriggerStatus4	

10.2.1.12 CMOSMeaIFDigChannelEnumNet enum CMOSMeaIFDigChannelEnumNet [strong]

Enumerations of CMOS MEA IF Digital Channels Group Bitmask

Enumerator

DigitalMux	
DigitalInPort	
DigitalOutReg	
FeedbackReg	
DigitalReg	
AuxPort	

10.2.1.13 CMOSMeaInterfaceADCEnumNet enum CMOSMeaInterfaceADCEnumNet [strong]

Enumerations of CMOS MEA IF Analog Channels Group Bitmask

Enumerator

IFChannel1	
IFChannel2	
IFChannel3	
IFChannel4	
IFChannel5	
IFChannel6	
IFChannel7	
IFChannel8	

10.2.1.14 CMOSMeaPacketFrameContextGroupEnumNet enum CMOSMeaPacketFrameContextGroupEnumNet [strong]

Enumerations of CMOS MEA HS STG Trigger Status Channels Group Bitmask

Enumerator

SOFAndCTRLword	
ChecksumAndPacketCounter	
Timestamp	
EOFAndCRC	

10.2.1.15 CMOSMeaSTG1DACSignalEnumNet enum CMOSMeaSTG1DACSignalEnumNet [strong]

Enumerations of CMOS MEA DAC Stimulation Channels Group Bitmask

Enumerator

DAC1Channel	
DAC2Channel	
DAC3Channel	
DAC4Channel	

10.2.1.16 CMOSMeaValueUnitEnumNet enum CMOSMeaValueUnitEnumNet [strong]

Enumerations of CMOS MEA Units of Values in Data stream

Enumerator

NoUnit	
NanoVolt	
PicoAmpere	
NanoAmpere	
MicroAmpere	
MilliDegreeCelsius	

10.2.1.17 DacqGroupChannelEnumNet `enum DacqGroupChannelEnumNet [strong]`

Enumerates the Channel Groups of Datastream

Enumerator

HeadstageElectrodeGroup	
InterfaceADCGroup	
DSPDataGroup	
Headstage1NCBathCurrentGroup	
Headstage1NCCol2CurrentGroup	
Headstage1NChipTempGroup	
STG1DACSignalGroup	
LIH30UserADCGroup	
LIH30TestADCGroup	
LIH30ADCModulesGroup	
IFDigChannelsGroup	
STG1SidebandsGroup	
STG1TriggerStatusGroup	
DACQ1DigitalGroup	
AudioTestChannelGroup	
PacketFrameContextGroup	

10.2.1.18 DacqMeaGroupTypeEnumNet `enum DacqMeaGroupTypeEnumNet [strong]`

Enumerations of CMOS MEA Groups to detect wether it is an Analog, Digital or Frame Context Group

Enumerator

AnalogGroup	
DigitalGroup	
FrameContextGroup	

10.2.1.19 DataModeEnumNet enum DataModeEnumNet [strong]

Enumerates the data mode of the device, either 16, 24 or 32 bit, can be signed or unsigned.

Enumerator

Unsigned_16bit	
Unsigned_24bit	
Unsigned_32bit	
Signed_16bit	
Signed_24bit	
Signed_32bit	

10.2.1.20 DeviceEnumNet enum DeviceEnumNet [strong]

Enumerates the group of MCS devices to connect to.

Enumerator

MCS_DEVICE_ANY	To connect to any MCS device.
MCS_GENERIC_DEVELOPMENT_DEVICE	Please use this only for MCS internal development.
MCS_DEVICE_USB	To connect to any MCS USB device.
MCS_MCCARD_DEVICE	Connect to an MC_Card.
MCS_STG_DEVICE	Connect to an MCS device with STG capability.
MCS_MC_STIMULUS_DEVICE	Devices which should be accessible from MC_Stimulus.
MCS_MEAUSB_DEVICE	Connect to an MCS MeaUsb device.
MCS_MEA_DEVICE	Connect to an MCS MeaUsb device.
MCS_OCTOPOT_DEVICE	Connect to an MCS Octopot device.
MCS_TERSENS_DEVICE	Connect to an MCS Tersens device.
MCS_PGA_DEVICE	Connect to an MCS PGA device.
MCS_PCX_DEVICE	Connect to an MCS PCX device.
MCS_TCX_DEVICE	Connect to an MCS TCX device.
MCS_FCX_DEVICE	Connect to an MCS FCX device.
MCS_RETINA_LED_DEVICE	Connect to an MCS RetineLed device.
MCS_MEA_SWITCH_DEVICE	Connect to an MCS Mea Switch device.
MCS_MEA_IMPEDANCE_DEVICE	Connect to an MCS Mea Impedance device.
MCS_CHANNELTEST_DEVICE	Connect to an MCS ChannelTest device.
MCS_SW2TO64_DEVICE	Connect to an MCS SW2TO64 device.
MCS_RETINA_AMS_DONGLE	Connect to an MCS Retina AMS Dongle (Radio device)
MCS_PATHIDENT_DEVICE	Connect to an MCS Pathident device.
MCS_ROBO_DEVICE	Connect to an MCS Robo Platform device.
MCS_ROBOOCYTE2_DEVICE	Connect to an MCS Roboocyte2 device.
MCS_ROBOINJECT_DEVICE	Connect to an MCS RoboInject device.
MCS_HICLAMP_DEVICE	Connect to an MCS HiClamp device.
MCS_PATCHSERVER_DEVICE	Connect to an MCS PatchServer device.
MCS_ENCAPSULATOR_DEVICE	Connect to an MCS Encapsulator device.
MCS_MEASURETABLE_DEVICE	Connect to an MCS Encapsulator device.
MCS_FYI_DEVICE	Connect to an MCS FYI device.

Enumerator

MCS_HLA_DEVICE	Connect to an MCS HLA device.
MCS_PPS_DEVICE	Connect to an MCS PPS device.
MCS_PPS5_DEVICE	Connect to an MCS PPS5 device.
MCS_OKUVISION_STIMULATOR_DEVICE	Connect to an Okuvision Stimulator device.
MCS_NF_GEN_DEVICE	Connect to an MCS NF-Gen device.
MCS_SAFEIS_DEVICE	Connect to an MCS SafeIS device.
MCS_PERISTALTIC_PUMP_DEVICE	Connect to an MCS PeristalticPump device.
MCS_EXTERN_BC_TESTER_DEVICE	Connect to an ExternBCTester device.
MCS_EXTERN_D_TESTER_DEVICE	Connect to an ExternDTester device.
MCS_SOFTWARE_DONGLE_DEVICE	Connect to an Software Dongle device.
MCS_MEA_CLEAN_DEVICE	Connect to a MEA Clean device.
MCS_MEA_COAT_DEVICE	Connect to a MEA Clean device.
MCS_SMARTIMPLANT_DEVICE	Connect to a SmartImplant device.
MCS_MBC08_DEVICE	Connect to a MultiBatteryCharger device.
MCS_PEDOTER_DEVICE	Connect to a Pedoter device.
MCS_PPC_DEVICE	COnnect to a PPC device.
WARNER_VALVE_CONTROL_DEVICE	COnnect to a Warner Valve Control device.
WARNER_USSING_DEVICE	COnnect to a Warner Valve Control device.
HEKA_LIH3_DEVICE	Connect to a HEKA LIH3 device.
ALA_VC3_DEVICE	Connect to an ALA VC3 Valve Commander.
MCS_DEVICE_USB_CYPRESS	Connect to a Cypress USB device.

10.2.1.21 DigitalDatastreamEnableEnumNet `enum DigitalDatastreamEnableEnumNet [strong]`

enumerates the streams available as digital datastream

Enumerator

None	No digital datastream.
Mux	16 bits from the standard MUX datastream.
MuxOtherDevice	The 16 bits of the standard MUX datastream used by the other virtual device.
DigitalInReserverd	The lower 16 bits of the Digital IN port, these ports are on the device by default used as Digital OUT, thus not available as Digital IN.
DigitalIn	The upper 16 bits of the Digital IN port, use when Digital IN datastream is needed.
DigitalOut	The lower 16 bits of the Digital OUT port, use when Digital OUT datastream is needed.
DigitalOutReserved	The upper 16 bits of the Digital OUT port, these ports are on the device by default used as Digital IN, thus not available as Digital OUT.
RegisterLow	The lower 16 bits of the digital register.
RegisterHigh	The upper 16 bits of the digital register.
FeedbackLow	The lower 16 bits of the realtime feedback register.
FeedbackHigh	The upper 16 bits of the realtime feedback register.
Aux	The 2 bits of the AUX port.
PeriodicPulse	The 8 bits of the Periodic Pulse Generator (Video-Sync).
DigOutStim	The 16 bits of the Digital Out Stimulator.
Hs1Digital	Headstage 1 digital signals.
Hs1Trigger	Headstage 1 trigger signals.

Enumerator

Hs1SidebandLow	Headstage 1 lower 16 bits of sideband data.
Hs1SidebandHigh	Headstage 1 upper 16 bits of sideband data.
Hs2Digital	Headstage 2 digital signals.
Hs2Trigger	Headstage 2 trigger signals.
Hs2SidebandLow	Headstage 2 lower 16 bits of sideband data.
Hs2SidebandHigh	Headstage 2 upper 16 bits of sideband data.

10.2.1.22 DigitalSourceEnumNet `enum DigitalSourceEnumNet [strong]`

Enumerates the digital source of the MEA2100 device.

Enumerator

DigitalInOfOutPort	
DigitalIn	
DigitalPulse	
Feedback	
AuxIn	
Zero	
One	
HS1Trigger1Status	
HS1Trigger2Status	
HS1Trigger3Status	
HS1Trigger4Status	
HS1Trigger5Status	
HS1Trigger6Status	
HS1Sideband1	
HS1Sideband2	
HS1Sideband3	
HS1Sideband4	
HS1Sideband5	
HS1Sideband6	
HS2Trigger1Status	
HS2Trigger2Status	
HS2Trigger3Status	
HS2Trigger4Status	
HS2Trigger5Status	
HS2Trigger6Status	
HS2Sideband1	
HS2Sideband2	
HS2Sideband3	
HS2Sideband4	
HS2Sideband5	
HS2Sideband6	
PulseGenerator	
DigitalOutStimulator	

Enumerator

DigitalData	
DeviceRunStatus	
LastPosition	

10.2.1.23 DigitalStimulatorTriggerEventEnumNet `enum DigitalStimulatorTriggerEventEnumNet [strong]`

Enumerates start/stop event for DigOut/DigStim trigger. /summary>

Enumerator

Start	
Stop	

10.2.1.24 DigitalStimulatorTriggerSlopeEnumNet `enum DigitalStimulatorTriggerSlopeEnumNet [strong]`

Enumerates start/stop conditions for DigOut/DigStim trigger. /summary>

Enumerator

Falling	
Rising	

10.2.1.25 DigitalTargetEnumNet `enum DigitalTargetEnumNet [strong]`

Enumerates the Digital Targets for Digital Sources

Enumerator

Digout	
Digstream	
DacqTrigger	
StgTrigger	
StgListModeTrigger	
DigOutStimulatorStartTrigger	
DigOutStimulatorStopTrigger	
DigStreamToReceiver	

10.2.1.26 ElectrodeDacMuxEnumNet enum ElectrodeDacMuxEnumNet [strong]

Enumerates the setting of the Stimulation DAC Multiplexer.

Enumerator

Ground	Connect the electrode to Ground while stimulation is active.
Stg1	Connect the electrode tp STG 1 while stimulation is active.
Stg2	Connect the electrode tp STG 2 while stimulation is active.
Stg3	Connect the electrode tp STG 3 while stimulation is active.

10.2.1.27 ElectrodeModeEnumNet enum ElectrodeModeEnumNet [strong]

Enumerates the mode of each electrode, can be automatic or manual. In automatic mode, the blanking of the electrode is controlled by the sideband signal, in manual mode, the stimulation configuration is independant of the sideband signal.

Enumerator

emAutomatic	
emManual	

10.2.1.28 enCMosMeaChipType enum enCMosMeaChipType [strong]

Enumerator

unknown	
nMos16LV	
nMos32LV	
nMos36LN	
nMos64LN	

10.2.1.29 EnSTG200x_STATUS enum EnSTG200x_STATUS [strong]

Enumerator

OK	
NOT_CONNECTED	
DEVICE_NOT_FOUND	

10.2.1.30 FilterAttributeEnumNet enum FilterAttributeEnumNet [strong]

Enumerator

PreCommaB	
PostCommaB	
CommaPositionB	
PreCommaA	
PostCommaA	
CommaPositionA	

10.2.1.31 FilterBandEnumNet enum FilterBandEnumNet [strong]

Enumerator

Unknown	
Lowpass	
Highpass	

10.2.1.32 FilterCalculationDirectionEnumNet enum FilterCalculationDirectionEnumNet [strong]

Enumerator

DoubleToInt	
IntToDouble	

10.2.1.33 FilterFamilyEnumNet enum FilterFamilyEnumNet [strong]

Enumerator

Unknown	
Bessel	
Butterworth	
RC	

10.2.1.34 FilterTypeEnumNet enum FilterTypeEnumNet [strong]

Enumerator

Hardware	
Software	

10.2.1.35 FpgaIdEnumNet `enum FpgaIdEnumNet [strong]`

Enumerator

DeviceNotConnected	
Mea2100Interfaceboard	
Mea2100Headstage	
Mea2100STG	
MultiwellHeadstage	
MultiwellInterfaceboard	
TbsiDacqInterfaceboard	
TbsiDacqHeadstage	
CmosMeaInterfaceboard	
CmosMeaHeadstage	
Mea2100MultiwellIFB2	
Me2100Interfaceboard	
Me2100InvivoSignalCollectorUnit	
Me2100InvitroSignalCollectorUnit	
Me2100_32XilinxHeadstage	
Me2100_32PICiCE40Headstage	
Mea2100_256Interfaceboard	
Mea2100_256Headstage	
W2100Interfaceboard	
W2100WirelessReceiver	
W2100WirelessReceiverAnalog	
Mea2100Mini60PICiCE40Headstage	
Mea2100BetaScreenHeadstage	
Me2100UPA32Headstage	
MultiwellMiniHeadstage	
Mea2100Mini120Headstage	
Mea2100Mini60ECP5Headstage	
eCubeHeadstage	
Me2100Graphene16_32Headstage	
GrapheneASICHeadstage	
WholeCellPatchHeadstage	
InterfaceBoard2	
W2100IFB2	
CmosmeaIFB2	
M4M_Dock	
M4M_ReUse	
Mea2100LiteHeadstage	
LIH30Interfaceboard	

Enumerator

LIH30ADCCtrl	
UssingRail	
UssingChamber	
IFB2GoldenInterfaceboard	
IFB30GoldenInterfaceboard	
DeviceHasNoHeadstage	

10.2.1.36 HeadstageIdEnumNet `enum HeadstageIdEnumNet [strong]`

Enumerator

DeviceNotConnected	
Mea2100	
Multiwell	
TbsiDacq	
CmosMea	
InvivoSignalCollectorUnit	
InvitroSignalCollectorUnit	
Mea2100_256	
W2100WirelessReceiver	
W2100WirelessReceiverAnalog	
Mea2100_Lite	
LIH30ADCCtrl	
DeviceHasNoHeadstage	

10.2.1.37 IoVoltageEnumNet `enum IoVoltageEnumNet [strong]`

enumerates the I/O Voltages available on the IFB2

Enumerator

Voltage_3V3	
Voltage_5V0	

10.2.1.38 LIH30_ADC_Channel_EnumNet `enum LIH30_ADC_Channel_EnumNet [strong]`

Enumerator

User_ADC_0	
User_ADC_1	

Enumerator

User_ADC_2	
User_ADC_3	
User_ADC_4	
Test_ADC_EPC10	
ModulA_ADC0	
ModulA_ADC1	
ModulA_ADC2	
ModulA_ADC3	
ModulB_ADC0	
ModulB_ADC1	
ModulB_ADC2	
ModulB_ADC3	
ModulC_ADC0	
ModulC_ADC1	
ModulC_ADC2	
ModulC_ADC3	
ModulD_ADC0	
ModulD_ADC1	
ModulD_ADC2	
ModulD_ADC3	

10.2.1.39 LIH30_DAC_Channel_EnumNet `enum LIH30_DAC_Channel_EnumNet [strong]`

Enumerator

User_DAC_0	
User_DAC_1	
User_DAC_2	
Test_DAC_EPC10	
ModulA_DAC0	
ModulA_DAC1	
ModulB_DAC0	
ModulB_DAC1	
ModulC_DAC0	
ModulC_DAC1	
ModulD_DAC0	
ModulD_DAC1	

10.2.1.40 LIH30_EPC10_Bus_EnumNet `enum LIH30_EPC10_Bus_EnumNet [strong]`

Enumerator

A	
B	

10.2.1.41 MbcChannelStateEnumNet enum MbcChannelStateEnumNet [strong]

Enumerator

csIdleNoBattery	
csIdleChargeFinished	
csCapacityTestPrecharge	
csCapacityTestDischarge	
csRefreshBattery	
csCharge	
csDischarge	
csError	

10.2.1.42 MbcChargingModeEnumNet enum MbcChargingModeEnumNet [strong]

Enumerator

StorageCharge	
FullCharge	

10.2.1.43 MbcRatedCapacityEnumNet enum MbcRatedCapacityEnumNet [strong]

Enumerator

rc30mAh	
rc100mAh	
rc200mAh	
rc300mAh	
rcGreater300mAh	

10.2.1.44 McsBusTypeEnumNet enum McsBusTypeEnumNet [strong]

Enumerates the bus to use, either USB, PCI or any

Enumerator

MCS_ANY_BUS	
MCS_UNDEFINED_BUS	
MCS_USB_BUS	
MCS_PCI_BUS	

10.2.1.45 McsUsbSpeedEnumNet enum McsUsbSpeedEnumNet [strong]

Enumerates the current connection speed of the device

Enumerator

LowSpeed	
FullSpeed	
HighSpeed	
SuperSpeed	
UnknownSpeed	

10.2.1.46 MEA2100_256DacqGroupChannelEnumNet enum MEA2100_256DacqGroupChannelEnumNet [strong]

Enumerates the MEA2100-256 Channel Groups of Datastream

Enumerator

HS1ElectrodeGroup	
HS2ElectrodeGroup	
InterfaceADCGroup	
STG1DACSignalGroup	
STG2DACSignalGroup	
DSPAnalogGroup	
DSPDigitalGroup	
IFDigChannelsGroup	
STG1TriggerStatusGroup	
STG1SidebandsGroup	
STG2TriggerStatusGroup	
STG2SidebandsGroup	
AudioTestChannelGroup	
PacketFrameContextGroup	

10.2.1.47 MEA2100_256DigitalSourceEnumNet enum MEA2100_256DigitalSourceEnumNet [strong]

Enumerates the digital source of the MEA2100-256 device.

Enumerator

DigitalInOfOutPort	
DigitalIn	
DigitalPulse	

Enumerator

Feedback	
AuxIn	
Zero	
One	
DeviceRunStatus	
PulseGenerator	
DigitalOutStimulator	
DigitalData	
HS1Trigger1Status	
HS1Trigger2Status	
HS1Trigger3Status	
HS1Trigger4Status	
HS1Trigger5Status	
HS1Trigger6Status	
HS1Trigger7Status	
HS1Trigger8Status	
HS1Trigger9Status	
HS1Trigger10Status	
HS1Trigger11Status	
HS1Trigger12Status	
HS1Trigger13Status	
HS1Trigger14Status	
HS1Trigger15Status	
HS1Trigger16Status	
HS1Trigger17Status	
HS1Trigger18Status	
HS1Sideband1	
HS1Sideband2	
HS1Sideband3	
HS1Sideband4	
HS1Sideband5	
HS1Sideband6	
HS1Sideband7	
HS1Sideband8	
HS1Sideband9	
HS1Sideband10	
HS1Sideband11	
HS1Sideband12	
HS1Sideband13	
HS1Sideband14	
HS1Sideband15	
HS1Sideband16	
HS1Sideband17	
HS1Sideband18	
HS2Trigger1Status	
HS2Trigger2Status	
HS2Trigger3Status	
HS2Trigger4Status	

Enumerator

HS2Trigger5Status	
HS2Trigger6Status	
HS2Trigger7Status	
HS2Trigger8Status	
HS2Trigger9Status	
HS2Trigger10Status	
HS2Trigger11Status	
HS2Trigger12Status	
HS2Trigger13Status	
HS2Trigger14Status	
HS2Trigger15Status	
HS2Trigger16Status	
HS2Trigger17Status	
HS2Trigger18Status	
HS2Sideband1	
HS2Sideband2	
HS2Sideband3	
HS2Sideband4	
HS2Sideband5	
HS2Sideband6	
HS2Sideband7	
HS2Sideband8	
HS2Sideband9	
HS2Sideband10	
HS2Sideband11	
HS2Sideband12	
HS2Sideband13	
HS2Sideband14	
HS2Sideband15	
HS2Sideband16	
HS2Sideband17	
HS2Sideband18	
LastPosition	

10.2.1.48 MeaLayoutEnumNet `enum MeaLayoutEnumNet [strong]`

Enumerates the MEA layout of the MEA2100 device.

Enumerator

mlUnknown	
mlMEA60	

10.2.1.49 MultiwellPlateTypeEnumNet enum MultiwellPlateTypeEnumNet [strong]

Enumerator

Plate_Dummy	
Plate_24W700_100FMA	
Plate_24W030MGA	
Plate_72W500_100PMA	
Plate_72W500_100FMA	
Plate_24W700_100FMB	
Plate_96W700_100FMA	
Plate_96W300_80_1152FMA	
Plate_96W400_80_1152FMB	
Plate_24W300_30_1152GBA	
Plate_24W700_100FMC	
Plate_96W700_100FMB	
Plate_96W700_100GBC	
Plate_96W700_100GBD	
Plate_24W700_100PBA	
Plate_Dummy_126	
Plate_24W300_30GMA	
Plate_96W700_100GMA	
Plate_24W300_30GBA	
Plate_96W700_100GBA	
Plate_24W300_30GBB	
Plate_96W700_100GBB	
No_Plate	

10.2.1.50 PatchServAdcModeEnumNet enum PatchServAdcModeEnumNet [strong]

Enumerator

Normal	
CatchAmp	

10.2.1.51 PlateClampEnumNet enum PlateClampEnumNet [strong]

Enumerator

Close	
Open	
Stop	

10.2.1.52 PlateClampLockEnumNet enum PlateClampLockEnumNet [strong]

Enumerator

Lock	
Unlock	

10.2.1.53 PortDirectionEnumNet enum PortDirectionEnumNet [strong]

enumerates a port direction

Enumerator

Output	
Input	

10.2.1.54 PP_Pump_Mode_Type_EnumNet enum PP_Pump_Mode_Type_EnumNet [strong]

Enumerator

Manual	
Digital	
Analog	

10.2.1.55 ProductIdEnumNet enum ProductIdEnumNet [strong]

Enumerates the group of MCS devices to connect to.

Enumerator

Any	
None	
LegacyMeaUsb	
ALA_VC3	
Cypress_FX1	
Cypress_FX2	
Cypress_FX3	
MC_Card	
Campden_Ci4600EphysVideoDataIntegrator	
HekaLIH30	
HekaEPC10Single	
HekaEPC10Double	

Enumerator

HekaEPC10Triple	
HekaEPC10Quadro	
HekaLIH406	
HekaLIH816	
HekaITEV100	
HekaPG610	
HekaPG611	
HekaPG612	
HekaPG618	
HekaPG690	
HekaEPCLite	
STG	
Octopot	
Tersens	
Dotriapot	
HLA	
STG400x	
STG4002	
STG4004	
STG4008	
STG400x_opto	
STG4002_opto	
STG4004_opto	
STG4008_opto	
STG5	
STG3008_FA	
MultiwellOptoStim	
Generic	
PGA	
PCX	
TCX	
FCX	
FCB	
TC01	
TC02	
Retina_LED	
AMS_Dongle	
Okuvision_Stimulator	
ExternBCTester	
Triggerbox_IMS	
Triggerbox_AMS	
Triggerbox_AMS3	
ExternDTester	
FunkDongleS	
ExternSTester	
DongleS	
Triggerbox_R5	
MEA_Switch	
MEA_Impedance	

Enumerator

ChannelTest	
Sw2to64	
PeristalticPump	
MEA_Switch_2_1	
MEA_Switch_4_2	
PPS4plus1	
PPS5	
PPS2	
PPS5_DIG	
MEA_Clean	
MEA_Coat	
Multiwell_ICC	
MBC08	
PPC	
MEA1060	
MEA_Sanofi	
ME256	
ME128	
ME64	
ME32	
ME16	
MEA2100_Mini_Usb_develop	
MEA256	
MEA2100	
MEA2100_32	
MEA2100_Lite	
Multiwell	
MEA2100_256	
ME2100	
MEA2100BetaScreen	
MEA2100_Mini	
TBSI_Dacq	
Multiwell_MEA_Mini	
Whole_Cell_Patch	
eCube	
Graphene_ASIC	
GE2100	
Multiboot	
WPA8	
WPA4	
WPA16	
WPA32	
W2100	
NeuroChip	
UsbTest	
SoftwareDongle	
PathIdent	
NF_Gen	
SafeIS	
Encapsulator	

Enumerator

NeurochipConfig	
MeasureTable	
Robooycte2	
RoboInject	
HiClamp	
PatchServer	
Dilutor	
HiClamp4Uart	
IM16S16KRA	
IM64KRB	
IS32KRA	
IM64KRC	
IM16S8KRA	
IM16KRC	
SmartImplant	
PositionImp	
PositionBase	
PositionIICentralUnit	
PositionIIBase	
GrapheneProjectTestDevice	
Pos900	
Neptun	
Warner_Valve_Control	
Warner_TEER_Machine	
Warner_Ussing	

10.2.1.56 PulseGenerator_Mode_EnumNet `enum PulseGenerator_Mode_EnumNet [strong]`

Enumerator

Off	
AlwaysOn	
Gated_Low_Active	
Gated_High_Active	

10.2.1.57 ReferenceElectrodeModeEnumNet `enum ReferenceElectrodeModeEnumNet [strong]`

enumerates the electrode subtraction modes

Enumerator

SubtractionOff	
SubtractFromAllOther	
SubtractFromReferenceElectrodeOnly	
SubtractFromAll	

10.2.1.58 ReferenceElectrodeSwitchPositionEnumNet enum ReferenceElectrodeSwitchPositionEnumNet [strong]

enumerates the possible positions of the referemce electrode switch of the ME2100 device

Enumerator

off	
Ref8	
Ref16	
Ref24	
Ref32	

10.2.1.59 RetriggerActionEnumNet enum RetriggerActionEnumNet [strong]

Enumerates possible retrigger actions for STG200x devices.

Enumerator

raStop	
raRestart	
raIgnore	
raGate	
raSingle	

10.2.1.60 RoboCurrentModeEnumNet enum RoboCurrentModeEnumNet [strong]

Enumerator

Off	
Break	
Standby	
Reference	
Movement	

10.2.1.61 SampleDstSizeNet enum SampleDstSizeNet [strong]

Enumerates the destination data format for ChannelBlock functions.

Enumerator

SampleDstSize16	
SampleDstSize32	

10.2.1.62 SampleSizeNet `enum SampleSizeNet [strong]`

Enumerates the data format for ChannelBlock functions.

Enumerator

SampleSize16Unsigned	
SampleSize16Signed	
SampleSize24Unsigned	
SampleSize24Signed	
SampleSize32Unsigned	
SampleSize32Signed	
SampleSize64Unsigned	
SampleSize64Signed	

10.2.1.63 SCU_HeadstageIdEnumNet `enum SCU_HeadstageIdEnumNet [strong]`

Enumerator

DeviceNotConnected	
Me2100_32Xilinx	
Me2100_32PICiCE40	
Mea2100Mini60PICiCE40	
Mea2100BetaScreen	
Me2100UPA32	
MultiwellMini	
Mea2100Mini120	
Mea2100Mini60ECP5	
eCube	
Me2100Graphene16_32	
GrapheneASIC	
WholeCellPatch	
DeviceHasNoHeadstage	

10.2.1.64 SCUDacqGroupChannelEnumNet `enum SCUDacqGroupChannelEnumNet [strong]`

Enumerates the SCU Channel Groups of Datastream

Enumerator

SCU1ElectrodeGroupHS1	
SCU1ElectrodeGroupHS2	
SCU1ElectrodeGroupHS3	
SCU1ElectrodeGroupHS4	
SCU2ElectrodeGroupHS1	
SCU2ElectrodeGroupHS2	
SCU2ElectrodeGroupHS3	
SCU2ElectrodeGroupHS4	
InterfaceADCGroup	
STG1DACSignalGroup	
STG2DACSignalGroup	
DSPAnalogGroup	
DSPDigitalGroup	
IFDigChannelsGroup	
STG1TriggerStatusGroup	
STG1SidebandsGroup	
STG2TriggerStatusGroup	
STG2SidebandsGroup	
AudioTestChannelGroup	
PacketFrameContextGroup	

10.2.1.65 SCUDigitalSourceEnumNet `enum SCUDigitalSourceEnumNet [strong]`

Enumerates the digital source of the SCU device.

Enumerator

DigitalInOfOutPort	
DigitalIn	
DigitalPulse	
Feedback	
AuxIn	
Zero	
One	
PulseGenerator	
DigitalOutStimulator	
DigitalData	
DeviceRunStatus	
HS1Trigger1Status	
HS1Trigger2Status	
HS1Trigger3Status	
HS1Trigger4Status	
HS1Trigger5Status	
HS1Trigger6Status	
HS1Trigger7Status	

Enumerator

HS1Trigger8Status	
HS1Trigger9Status	
HS1Trigger10Status	
HS1Trigger11Status	
HS1Trigger12Status	
HS1Sideband1	
HS1Sideband2	
HS1Sideband3	
HS1Sideband4	
HS1Sideband5	
HS1Sideband6	
HS1Sideband7	
HS1Sideband8	
HS1Sideband9	
HS1Sideband10	
HS1Sideband11	
HS1Sideband12	
HS2Trigger1Status	
HS2Trigger2Status	
HS2Trigger3Status	
HS2Trigger4Status	
HS2Trigger5Status	
HS2Trigger6Status	
HS2Trigger7Status	
HS2Trigger8Status	
HS2Trigger9Status	
HS2Trigger10Status	
HS2Trigger11Status	
HS2Trigger12Status	
HS2Sideband1	
HS2Sideband2	
HS2Sideband3	
HS2Sideband4	
HS2Sideband5	
HS2Sideband6	
HS2Sideband7	
HS2Sideband8	
HS2Sideband9	
HS2Sideband10	
HS2Sideband11	
HS2Sideband12	
LastPosition	

10.2.1.66 Stg200xDigoutModeEnumNet `enum Stg200xDigoutModeEnumNet [strong]`

Enumerates the DigoutMode on STG400x devices.

Enumerator

Monitor	Monitor digital input pins. Digital out is a mirror of the digital input pins.
Manual	Manually set the value on the digital out pins with SetDigoutValue.
SYNCOUT1	show bit 7 to 15 of syncout channel 1 on the digital outputs
SYNCOUT2	show bit 7 to 15 of syncout channel 2 on the digital outputs
SYNCOUT3	show bit 7 to 15 of syncout channel 3 on the digital outputs
SYNCOUT4	show bit 7 to 15 of syncout channel 4 on the digital outputs
SYNCOUT5	show bit 7 to 15 of syncout channel 5 on the digital outputs
SYNCOUT6	show bit 7 to 15 of syncout channel 6 on the digital outputs
SYNCOUT7	show bit 7 to 15 of syncout channel 7 on the digital outputs
SYNCOUT8	show bit 7 to 15 of syncout channel 8 on the digital outputs

10.2.1.67 Stg200xSegmentFlagsEnumNet `enum Stg200xSegmentFlagsEnumNet [strong]`

Enumerates Segmentflag options for STG400x devices.

Enumerator

None	No Flags.
UpdateTrigger	Assign all channels to the trigger which number is the given segment number.
DownloadOnly	Only switch the segment for the next download, keep current segment running.
TriggerOnly	Only switch the segment for the next sweep, keep current downlaod segment.
SyncStart	Delay the start the new segment with SendSegmentStart() until the next sweep has finished.

10.2.1.68 Stg200xTriggerStatusEnumNet `enum Stg200xTriggerStatusEnumNet [strong]`

Enumerates the STG download mode trigger status

The STG maintains the status for each of the STG200x_NUM_TRIGGER triggers

Enumerator

Idle	
Running	
Finished	
Armed	

10.2.1.69 STG_DestinationEnumNet `enum STG_DestinationEnumNet [strong]`

Enumerates the destination for STG downloads.

Enumerator

channeldata_voltage	
channeldata_current	
syncoutdata	
channeldata_positive_voltage	
channeldata_positive_current	
rawdata	
channeldata_current_own_sync	
channeldata_positive_current_own_sync	
channeldata_current_own_boost_gnd_sync	
channeldata_positive_current_own_boost_gnd_sync	
channeldata_current_always_boost	
channeldata_current_always_boost_own_sync	

10.2.1.70 StimulationLayoutConfigurationEnumNet `enum StimulationLayoutConfigurationEnumNet [strong]`

enumerates the layout configuration for the MEA2100-256 device

Enumerator

SingleWell	
SixWell	
NineWell	

10.2.1.71 TBSI_DACQDigitalSourceEnumNet `enum TBSI_DACQDigitalSourceEnumNet [strong]`

Enumerates the digital source of the TBSI-DACQ device.

Enumerator

DigitalInOfOutPort	
DigitalIn	
DigitalPulse	
Feedback	
AuxIn	
Zero	
One	
DeviceRunStatus	
PulseGenerator	
DigitalOutStimulator	
DigitalData	
HS1DigitalData1	
HS2DigitalData1	
LastPosition	

10.2.1.72 TcxDeviceTypeEnumNet enum TcxDeviceTypeEnumNet [strong]

Enumerates the type of TCX devices.

Enumerator

Unknown	
Regular	
BMI	
Nanion	
Warner	

10.2.1.73 TcxSensorTypeEnumNet enum TcxSensorTypeEnumNet [strong]

Enumerates the sensor types for TCX devices

Enumerator

Reserved5	
Reserved4	
Reserved3	
Reserved2	
Reserved1	
NTC10K	
PT1000	
PT100	

10.2.1.74 TeerClampModeEnumNet enum TeerClampModeEnumNet [strong]

Enumerator

ClampModeVoltage	
ClampModeCurrent	
ClampModeOpen	
ClampModeInternalCalibration	

10.2.1.75 TeerWaveformEnumNet enum TeerWaveformEnumNet [strong]

Enumerator

Rectangle	
Sine	

10.2.1.76 TriggerSourceEnumNet `enum TriggerSourceEnumNet [strong]`

Enumerates the trigger source of the MEA2100 device.

Enumerator

tsNone	
tsDigitalIn1	
tsDigitalIn2	
tsDigitalIn3	
tsDigitalIn4	
tsDigitalIn5	
tsDigitalIn6	
tsDigitalIn7	
tsDigitalIn8	
tsDigitalIn9	
tsDigitalIn10	
tsDigitalIn11	
tsDigitalIn12	
tsDigitalIn13	
tsDigitalIn14	
tsDigitalIn15	
tsDigitalIn16	
tsDigitalIn17	
tsDigitalIn18	
tsDigitalIn19	
tsDigitalIn20	
tsDigitalIn21	
tsDigitalIn22	
tsDigitalIn23	
tsDigitalIn24	
tsDigitalIn25	
tsDigitalIn26	
tsDigitalIn27	
tsDigitalIn28	
tsDigitalIn29	
tsDigitalIn30	
tsDigitalIn31	
tsDigitalIn32	
tsFeedback1	
tsFeedback2	
tsFeedback3	

Enumerator

tsFeedback4	
tsFeedback5	
tsFeedback6	
tsFeedback7	
tsFeedback8	
tsFeedback9	
tsFeedback10	
tsFeedback11	
tsFeedback12	
tsFeedback13	
tsFeedback14	
tsFeedback15	
tsFeedback16	
tsFeedback17	
tsFeedback18	
tsFeedback19	
tsFeedback20	
tsFeedback21	
tsFeedback22	
tsFeedback23	
tsFeedback24	
tsFeedback25	
tsFeedback26	
tsFeedback27	
tsFeedback28	
tsFeedback29	
tsFeedback30	
tsFeedback31	
tsFeedback32	
tsAuxIn1	
tsAuxIn2	
tsDigitalPuse0	
tsDigitalPuse1	
tsDigitalPuse2	
tsDigitalPuse3	
tsDigitalPuse4	
tsDigitalPuse5	
tsDigitalPuse6	
tsDigitalPuse7	
tsDigitalPuse8	
tsDigitalPuse9	
tsDigitalPuse10	
tsDigitalPuse11	
tsDigitalPuse12	
tsDigitalPuse13	
tsDigitalPuse14	
tsDigitalPuse15	
tsDigitalPuse16	
tsDigitalPuse17	

Enumerator

tsDigitalPuse18	
tsDigitalPuse19	
tsDigitalPuse20	
tsDigitalPuse21	
tsDigitalPuse22	
tsDigitalPuse23	
tsDigitalPuse24	
tsDigitalPuse25	
tsDigitalPuse26	
tsDigitalPuse27	
tsDigitalPuse28	
tsDigitalPuse29	
tsDigitalPuse30	
tsDigitalPuse31	
tsTriggered	
tsSidebandBit8	
tsDACQCy1Dev1Runs	
tsDACQCy1Dev2Runs	
tsDACQCy2Dev1Runs	
tsDACQCy2Dev2Runs	

10.2.1.77 UsbVendorIdEnumNet `enum UsbVendorIdEnumNet [strong]`

Enumerator

Unknown	
None	
Renesas	
ASMedia	
Intel	

10.2.1.78 UssingClampModeEnumNet `enum UssingClampModeEnumNet [strong]`

Enumerator

VoltageClamp	
CurrentClamp	
OpenClamp	
Standby	
ElectrodeOffset	

10.2.1.79 UssingUnitEnumNet enum UssingUnitEnumNet [strong]

Enumerator

Volt	
Ampere	
State	

10.2.1.80 VendorIdEnumNet enum VendorIdEnumNet [strong]

Enumerates the group of MCS devices to connect to.

Enumerator

Any	
None	
MCS	
PCI	
Cypress	
ALA_VC3	

10.2.1.81 W2100_Accel_Gyro_Select_EnumNet enum W2100_Accel_Gyro_Select_EnumNet [strong]

enumerates the accelerometer configuration on the W2100 device

Enumerator

Off	
GyroOnly	
AccelOnly	
Both	

10.2.1.82 W2100DacqGroupChannelEnumNet enum W2100DacqGroupChannelEnumNet [strong]

Enumerates the W2100 Channel Groups of Datastream

Enumerator

InterfaceADCGroup	

Enumerator

DSPDataGroup	
WirelessHeadStageAnalogRE1HS1	
WirelessHeadStageStatusRE1HS1	
WirelessHeadStageAnalogRE1HS2	
WirelessHeadStageStatusRE1HS2	
WirelessHeadStageAnalogRE1HS3	
WirelessHeadStageStatusRE1HS3	
WirelessHeadStageAnalogRE1HS4	
WirelessHeadStageStatusRE1HS4	
WirelessHeadStageAnalogRE2HS1	
WirelessHeadStageStatusRE2HS1	
WirelessHeadStageAnalogRE2HS2	
WirelessHeadStageStatusRE2HS2	
WirelessHeadStageAnalogRE2HS3	
WirelessHeadStageStatusRE2HS3	
WirelessHeadStageAnalogRE2HS4	
WirelessHeadStageStatusRE2HS4	
WirelessHeadStageGyroDataRE1HS1	
WirelessHeadStageAccDataRE1HS1	
WirelessHeadStageGyroDataRE1HS2	
WirelessHeadStageAccDataRE1HS2	
WirelessHeadStageGyroDataRE1HS3	
WirelessHeadStageAccDataRE1HS3	
WirelessHeadStageGyroDataRE1HS4	
WirelessHeadStageAccDataRE1HS4	
WirelessHeadStageGyroDataRE2HS1	
WirelessHeadStageAccDataRE2HS1	
WirelessHeadStageGyroDataRE2HS2	
WirelessHeadStageAccDataRE2HS2	
WirelessHeadStageGyroDataRE2HS3	
WirelessHeadStageAccDataRE2HS3	
WirelessHeadStageGyroDataRE2HS4	
WirelessHeadStageAccDataRE2HS4	
WirelessHeadStageOptoStimCurrentRE1HS1	
WirelessHeadStageReservedARE1HS1	
WirelessHeadStageOptoStimCurrentRE1HS2	
WirelessHeadStageReservedARE1HS2	
WirelessHeadStageOptoStimCurrentRE1HS3	
WirelessHeadStageReservedARE1HS3	
WirelessHeadStageOptoStimCurrentRE1HS4	
WirelessHeadStageReservedARE1HS4	
WirelessHeadStageOptoStimCurrentRE2HS1	
WirelessHeadStageReservedARE2HS1	
WirelessHeadStageOptoStimCurrentRE2HS2	
WirelessHeadStageReservedARE2HS2	
WirelessHeadStageOptoStimCurrentRE2HS3	

Enumerator

WirelessHeadStageReservedARE2HS3	
WirelessHeadStageOptoStimCurrentRE2HS4	
WirelessHeadStageReservedARE2HS4	
WirelessHeadStageReservedBRE1HS1	
WirelessHeadStageReservedCRE1HS1	
WirelessHeadStageReservedBRE1HS2	
WirelessHeadStageReservedCRE1HS2	
WirelessHeadStageReservedBRE1HS3	
WirelessHeadStageReservedCRE1HS3	
WirelessHeadStageReservedBRE1HS4	
WirelessHeadStageReservedCRE1HS4	
WirelessHeadStageReservedBRE2HS1	
WirelessHeadStageReservedCRE2HS1	
WirelessHeadStageReservedBRE2HS2	
WirelessHeadStageReservedCRE2HS2	
WirelessHeadStageReservedBRE2HS3	
WirelessHeadStageReservedCRE2HS3	
WirelessHeadStageReservedBRE2HS4	
WirelessHeadStageReservedCRE2HS4	
IFDigChannelsGroup	
AudioTestChannelGroup	
PacketFrameContextGroup	

10.2.1.83 W2100DigitalSourceEnumNet `enum W2100DigitalSourceEnumNet [strong]`

Enumerates the digital source of the W2100 device.

Enumerator

DigitalInOfOutPort	
DigitalIn	
DigitalPulse	
Feedback	
AuxIn	
Zero	
One	
PulseGenerator	
DigDataFromReceiver	
DigitalOutStimulator	
DigitalData	
DeviceRunStatus	
DigStreamFromReceiver	
LastPosition	

10.2.1.84 WvcDisplayModeEnumNet enum WvcDisplayModeEnumNet [strong]

enumerates Wvc display mode

Enumerator

Work	
PC	
Settings	
TouchTest	

10.2.1.85 WvcValveModeEnumNet enum WvcValveModeEnumNet [strong]

enumerates Wvc valve mode

Enumerator

Manual	
Digital	
Analog	
Table	

10.2.2 Function Documentation

10.2.2.1 OnChannelData() public delegate void Mcs::Usb::OnChannelData (

```
CMcsUsbDacqNet^ dacq,
int CbHandle,
int numFrames )
```

10.2.2.2 OnDeviceArrivalRemoval() public delegate void Mcs::Usb::OnDeviceArrivalRemoval (

```
CMcsUsbListEntryNet^ entry )
```

Delegate to show a device arrival or removal.

10.2.2.3 OnError() public delegate void Mcs::Usb::OnError (

```
String^ msg,
int action )
```

10.2.2.4 OnMcsUsbDeviceState()

```
public delegate void OnMcsUsbDeviceState (
        usbSetupPacket_t^ request )
```

10.2.2.5 OnMcsUsbDeviceStateCallback()

```
private delegate void OnMcsUsbDeviceStateCallback (
        IntPtr pThis,
        uint32_t size,
        IntPtr buffer )
```

10.2.2.6 OnMwPollStatus()

```
public delegate void Mcs::Usb::OnMwPollStatus (
        unsigned int CurrentTemp,
        unsigned int PlateState,
        unsigned int SwitchState )
```

10.2.2.7 OnStg200xDataHandler()

```
public delegate void Mcs::Usb::OnStg200xDataHandler (
        uint32_t trigger )
```

10.2.2.8 OnStg200xErrorHandler()

```
public delegate void Mcs::Usb::OnStg200xErrorHandler ( )
```

10.2.2.9 OnStgPollStatus()

```
public delegate void Mcs::Usb::OnStgPollStatus (
        unsigned int status,
        StgStatusNet^ stgStatusNet,
        array< int >^ index_list )
```

10.2.2.10 OnUpdateFirmwareProgress()

```
public delegate void Mcs::Usb::OnUpdateFirmwareProgress
(
        int  )
```

10.2.2.11 OnUpdateFirmwareStatusChange()

```
public delegate void Mcs::Usb::OnUpdateFirmware↩
StatusChange (
        String^  )
```

10.2.2.12 RoboStatusEventDelegate()

```
public delegate void Mcs::Usb::RoboStatusEventDelegate (
        array< unsigned char >^ buffer )
```

11 Class Documentation

11.1 CW2100_FunctionNet::AudioChannelsNet Struct Reference

Public Attributes

- W2100DacqGroupChannelEnumNet dacqgroup
- int channel
- int amplification

11.1.1 Member Data Documentation

11.1.1.1 amplification `int amplification`

11.1.1.2 channel `int channel`

11.1.1.3 dacqgroup `W2100DacqGroupChannelEnumNet dacqgroup`

11.2 BatteryState Class Reference

Properties

- unsigned int Charge `[get]`
- unsigned int Voltage `[get]`
- System::String^ ChargeString `[get]`
- System::String^ ChargeRegionString `[get]`
- System::String^ VoltageString `[get]`

11.2.1 Property Documentation

11.2.1.1 Charge `unsigned int Charge [get]`

11.2.1.2 ChargeRegionString `System:: String^ ChargeRegionString [get]`

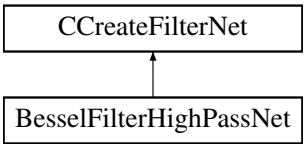
11.2.1.3 ChargeString `System:: String^ ChargeString [get]`

11.2.1.4 Voltage `unsigned int Voltage [get]`

11.2.1.5 VoltageString `System:: String^ VoltageString [get]`

11.3 BesselFilterHighPassNet Class Reference

Inheritance diagram for BesselFilterHighPassNet:



Public Member Functions

- BesselFilterHighPassNet (int numCoefSets, int order, double sampleRate, double cutoffFrequency, double scale)

Additional Inherited Members

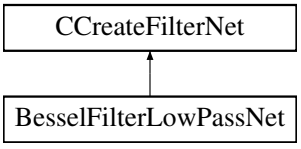
11.3.1 Constructor & Destructor Documentation

11.3.1.1 BesselFilterHighPassNet() `BesselFilterHighPassNet (`

```
int numCoefSets,
int order,
double sampleRate,
double cutoffFrequency,
double scale )
```

11.4 BesselFilterLowPassNet Class Reference

Inheritance diagram for BesselFilterLowPassNet:



Public Member Functions

- BesselFilterLowPassNet (int numCoefSets, int order, double sampleRate, double cutoffFrequency, double scale)

Additional Inherited Members

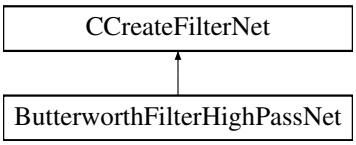
11.4.1 Constructor & Destructor Documentation

11.4.1.1 BesselFilterLowPassNet() `BesselFilterLowPassNet (`

```
int numCoefSets,
int order,
double sampleRate,
double cutoffFrequency,
double scale )
```

11.5 ButterworthFilterHighPassNet Class Reference

Inheritance diagram for ButterworthFilterHighPassNet:



Public Member Functions

- ButterworthFilterHighPassNet (int numCoefSets, int order, double sampleRate, double cutoffFrequency, double scale)

Additional Inherited Members

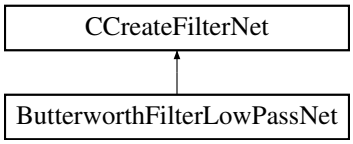
11.5.1 Constructor & Destructor Documentation

11.5.1.1 ButterworthFilterHighPassNet() `ButterworthFilterHighPassNet (`

```
int numCoefSets,
int order,
double sampleRate,
double cutoffFrequency,
double scale )
```

11.6 ButterworthFilterLowPassNet Class Reference

Inheritance diagram for ButterworthFilterLowPassNet:



Public Member Functions

- ButterworthFilterLowPassNet (int numCoefSets, int order, double sampleRate, double cutoffFrequency, double scale)

Additional Inherited Members

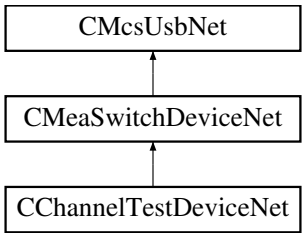
11.6.1 Constructor & Destructor Documentation

11.6.1.1 ButterworthFilterLowPassNet()

```
ButterworthFilterLowPassNet (
        int numCoefSets,
        int order,
        double sampleRate,
        double cutoffFrequency,
        double scale )
```

11.7 CChannelTestDeviceNet Class Reference

Inheritance diagram for CChannelTestDeviceNet:



Public Member Functions

- CChannelTestDeviceNet ()
- ~CChannelTestDeviceNet ()
- void SetWaveform (unsigned int Waveform)
- void SetAmplitude (unsigned int Amplitude)
- void SetFrequency (unsigned int Frequency)
- void SetAttenuation (unsigned int Attenuation)

Additional Inherited Members

11.7.1 Constructor & Destructor Documentation

11.7.1.1 CChannelTestDeviceNet() `CChannelTestDeviceNet ( )`

11.7.1.2 ~CChannelTestDeviceNet() `~CChannelTestDeviceNet ( )`

11.7.2 Member Function Documentation

11.7.2.1 SetAmplitude() `void SetAmplitude ( unsigned int Amplitude )`

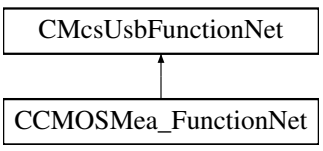
11.7.2.2 SetAttenuation() `void SetAttenuation ( unsigned int Attenuation )`

11.7.2.3 SetFrequency() `void SetFrequency ( unsigned int Frequency )`

11.7.2.4 SetWaveform() `void SetWaveform ( unsigned int Waveform )`

11.8 CCMOSMea_FunctionNet Class Reference

Inheritance diagram for CCMOSMea_FunctionNet:



Public Member Functions

- CCMOSMea_FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ cMOSMea_↩ FunctionPointerContainer)
- CCMOSMea_FunctionNet (CMcsUsbNet^ mcsusb)
- void SetADCInputOffset (int32_t offset)
- int32_t GetADCInputOffset ()
- void SetSourceDrain (int32_t voltage)
- int32_t GetSourceDrain ()
- void SetSourceGate (int32_t voltage)
- int32_t GetSourceGate ()
- void SetSourceBulk (int32_t voltage)
- int32_t GetSourceBulk ()
- void SetGate (int32_t voltage)
- int32_t GetGate ()
- void SetBath (int32_t voltage)
- int32_t GetBath ()
- int32_t GetGNDI ()
- int32_t GetVDDI ()
- int32_t GetVDD3I ()
- void UpdateTransistorVoltages ()
- bool AreTransistorVoltagesSet ()
- void PowerChip (bool on)
- bool IsChipPowered ()
- enCMosMeaChipType DetectChipType ()
- void SetGateToVOP ()
- void SetGateFloating ()
- bool IsGateFloating ()
- void VOPSTimerSetResetTimes (uint32_t ResetTime, uint32_t IntervalTime)
- void VOPSTimerSetResetTimes (uint32_t ResetTime, uint32_t IntervalTime, uint32_t HPFilterResetTime)
- void SetBathMode (CMOSMeaBathModeEnumNet Mode)
- CMOSMeaBathModeEnumNet GetBathMode ()
- void SetNeurochipMemoryData (uint16_t MemAddress, uint32_t MemData)
- void SetNeurochipMemoryData (uint16_t MemAddress, array< uint32_t >^ MemData)
- uint32_t GetNeurochipMemoryData (uint16_t MemAddress)
- array< uint32_t > ^ GetNeurochipMemoryData (uint16_t MemAddress, uint32_t ReqestLength)
- uint32_t GetNeurochipMemorySize ()
- uint32_t GetMaxNumOfColumns (uint32_t Samplerate)
- void SetStimulusSites (List< int16_t >^ SwitchPosition)
- List< int16_t > ^ GetStimulusSites ()
- void ClearSTGOutput (uint32_t Channel)
- uint32_t GetNumberOfSupportedGroups ()
- uint32_t GetNumberOfSupportedGroups (uint32_t virtualDevice)
- DacqGroupChannelEnumNet GetGroupID (uint32_t Index)
- DacqGroupChannelEnumNet GetGroupID (uint32_t Index, uint32_t virtualDevice)
- uint32_t GetGroupNumberOfChannels (DacqGroupChannelEnumNet GroupID)
- uint32_t GetGroupNumberOfChannels (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- DacqMeaGroupTypeEnumNet GetGroupType (DacqGroupChannelEnumNet GroupID)
- DacqMeaGroupTypeEnumNet GetGroupType (DacqGroupChannelEnumNet GroupID, uint32_t virtual↩ Device)
- void EnableChannelsInGroup (DacqGroupChannelEnumNet GroupID, List< bool >^ EnabledChannelsBit↩ Map)
- void EnableChannelsInGroup (DacqGroupChannelEnumNet GroupID, List< bool >^ EnabledChannelsBit↩ Map, uint32_t virtualDevice)
- List< bool > ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumNet GroupID)

- List< bool > ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- SampleSizeNet GetGroupSampleSize (DacqGroupChannelEnumNet GroupID)
- SampleSizeNet GetGroupSampleSize (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- uint32_t GetGroupResolutionPerDigit (DacqGroupChannelEnumNet GroupID)
- uint32_t GetGroupResolutionPerDigit (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- CMOSMeaValueUnitEnumNet GetGroupUnit (DacqGroupChannelEnumNet GroupID)
- CMOSMeaValueUnitEnumNet GetGroupUnit (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- int32_t GetGroupDCOffset (DacqGroupChannelEnumNet GroupID)
- int32_t GetGroupDCOffset (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- int32_t GetGroupADCBits (DacqGroupChannelEnumNet GroupID)
- int32_t GetGroupADCBits (DacqGroupChannelEnumNet GroupID, uint32_t virtualDevice)
- uint32_t GetGroupChannelBitmaskBySelect (DacqGroupChannelEnumNet GroupID, uint32_t ChannelNumber)
- uint32_t GetGroupChannelBitmaskBySelect (DacqGroupChannelEnumNet GroupID, uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaInterfaceADCEnumNet GetGroupChannelBitmaskInterfaceADC (uint32_t ChannelNumber)
- CMOSMeaInterfaceADCEnumNet GetGroupChannelBitmaskInterfaceADC (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaIFDigChannelEnumNet GetGroupChannelBitmaskIFDigChannels (uint32_t ChannelNumber)
- CMOSMeaIFDigChannelEnumNet GetGroupChannelBitmaskIFDigChannels (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaHeadstage1NCBathCurrentEnumNet GetGroupChannelBitmaskHS1NCBathCurrent (uint32_t ChannelNumber)
- CMOSMeaHeadstage1NCBathCurrentEnumNet GetGroupChannelBitmaskHS1NCBathCurrent (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaHeadstage1NCCol2CurrentEnumNet GetGroupChannelBitmaskHS1NCCol2Current (uint32_t ChannelNumber)
- CMOSMeaHeadstage1NCCol2CurrentEnumNet GetGroupChannelBitmaskHS1NCCol2Current (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaHeadstage1NChipTempEnumNet GetGroupChannelBitmaskHS1NChipTemp (uint32_t ChannelNumber)
- CMOSMeaHeadstage1NChipTempEnumNet GetGroupChannelBitmaskHS1NChipTemp (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaSTG1DACSignalEnumNet GetGroupChannelBitmaskSTG1DACSignal (uint32_t ChannelNumber)
- CMOSMeaSTG1DACSignalEnumNet GetGroupChannelBitmaskSTG1DACSignal (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaHS1SidebandEnumNet GetGroupChannelBitmaskHS1Sidebands (uint32_t ChannelNumber)
- CMOSMeaHS1SidebandEnumNet GetGroupChannelBitmaskHS1Sidebands (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaHS1TriggerStatusEnumNet GetGroupChannelBitmaskHS1TriggerStatus (uint32_t ChannelNumber)
- CMOSMeaHS1TriggerStatusEnumNet GetGroupChannelBitmaskHS1TriggerStatus (uint32_t ChannelNumber, uint32_t virtualDevice)
- CMOSMeaPacketFrameContextGroupEnumNet GetGroupChannelBitmaskPacketFrameContext (uint32_t ChannelNumber)
- CMOSMeaPacketFrameContextGroupEnumNet GetGroupChannelBitmaskPacketFrameContext (uint32_t ChannelNumber, uint32_t virtualDevice)

Additional Inherited Members

11.8.1 Constructor & Destructor Documentation

11.8.1.1 CCMOSMea_FunctionNet() [1/2] CCMOSMea_FunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *cMOSMea_FunctionPointerContainer*)

11.8.1.2 CCMOSMea_FunctionNet() [2/2] CCMOSMea_FunctionNet (CMcsUsbNet^ *mcsusb*)

11.8.2 Member Function Documentation

11.8.2.1 AreTransistorVoltagesSet() bool AreTransistorVoltagesSet ( )

11.8.2.2 ClearSTGOutput() void ClearSTGOutput (uint32_t *Channel*)

11.8.2.3 DetectChipType() enCMosMeaChipType DetectChipType ( )

11.8.2.4 EnableChannelsInGroup() [1/2] void EnableChannelsInGroup (DacqGroupChannelEnumNet *GroupID*, List< bool >^ *EnabledChannelsBitMap*)

11.8.2.5 EnableChannelsInGroup() [2/2] void EnableChannelsInGroup (DacqGroupChannelEnumNet *GroupID*, List< bool >^ *EnabledChannelsBitMap*, uint32_t *virtualDevice*)

11.8.2.6 GetADCInputOffset() int32_t GetADCInputOffset ( )

11.8.2.7 GetBath() int32_t GetBath ( )

11.8.2.8 GetBathMode() CMOSMeaBathModeEnumNet GetBathMode ( )

11.8.2.9 GetEnabledChannelsInGroup() [1/2] List<bool> ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumNet *GroupID*)

11.8.2.10 GetEnabledChannelsInGroup() [2/2] List<bool> ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumNet *GroupID*, uint32_t *virtualDevice*)

11.8.2.11 GetGate() int32_t GetGate ( )

11.8.2.12 GetGNDI() int32_t GetGNDI ( )

11.8.2.13 GetGroupADCBits() [1/2] int32_t GetGroupADCBits (DacqGroupChannelEnumNet *GroupID*)

11.8.2.14 GetGroupADCBits() [2/2] int32_t GetGroupADCBits (DacqGroupChannelEnumNet *GroupID*, uint32_t *virtualDevice*)

11.8.2.15 GetGroupChannelBitmaskBySelect() [1/2] uint32_t GetGroupChannelBitmaskBySelect (DacqGroupChannelEnumNet *GroupID*, uint32_t *ChannelNumber*)

11.8.2.16 GetGroupChannelBitmaskBySelect() [2/2] uint32_t GetGroupChannelBitmaskBySelect (DacqGroupChannelEnumNet *GroupID*, uint32_t *ChannelNumber*, uint32_t *virtualDevice*)

11.8.2.17 GetGroupChannelBitmaskHS1NCBathCurrent() [1/2] CMOSMeaHeadstage1NCBathCurrentEnumNet

```
GetGroupChannelBitmaskHS1NCBathCurrent (
            uint32_t ChannelNumber )
```

11.8.2.18 GetGroupChannelBitmaskHS1NCBathCurrent() [2/2] CMOSMeaHeadstage1NCBathCurrentEnumNet

```
GetGroupChannelBitmaskHS1NCBathCurrent (
            uint32_t ChannelNumber,
            uint32_t virtualDevice )
```

11.8.2.19 GetGroupChannelBitmaskHS1NCCol2Current() [1/2] CMOSMeaHeadstage1NCCol2CurrentEnumNet

```
GetGroupChannelBitmaskHS1NCCol2Current (
            uint32_t ChannelNumber )
```

11.8.2.20 GetGroupChannelBitmaskHS1NCCol2Current() [2/2] CMOSMeaHeadstage1NCCol2CurrentEnumNet

```
GetGroupChannelBitmaskHS1NCCol2Current (
            uint32_t ChannelNumber,
            uint32_t virtualDevice )
```

11.8.2.21 GetGroupChannelBitmaskHS1NChipTemp() [1/2] CMOSMeaHeadstage1NChipTempEnumNet GetGroupChannelBitmaskHS1NChipTemp

```
GetGroupChannelBitmaskHS1NChipTemp (
            uint32_t ChannelNumber )
```

11.8.2.22 GetGroupChannelBitmaskHS1NChipTemp() [2/2] CMOSMeaHeadstage1NChipTempEnumNet GetGroupChannelBitmaskHS1NChipTemp

```
GetGroupChannelBitmaskHS1NChipTemp (
            uint32_t ChannelNumber,
            uint32_t virtualDevice )
```

11.8.2.23 GetGroupChannelBitmaskHS1Sidebands() [1/2] CMOSMeaHS1SidebandEnumNet GetGroupChannelBitmaskHS1Sidebands

```
GetGroupChannelBitmaskHS1Sidebands (
            uint32_t ChannelNumber )
```

11.8.2.24 GetGroupChannelBitmaskHS1Sidebands() [2/2] CMOSMeaHS1SidebandEnumNet GetGroupChannelBitmaskHS1Sidebands

```
GetGroupChannelBitmaskHS1Sidebands (
            uint32_t ChannelNumber,
            uint32_t virtualDevice )
```

11.8.2.25 GetGroupChannelBitmaskHS1TriggerStatus() [1/2] CMOSMeaHS1TriggerStatusEnumNet GetGroupChannelBitmaskHS1TriggerStatus (

```
uint32_t ChannelNumber )
```

11.8.2.26 GetGroupChannelBitmaskHS1TriggerStatus() [2/2] CMOSMeaHS1TriggerStatusEnumNet GetGroupChannelBitmaskHS1TriggerStatus (

```
uint32_t ChannelNumber,
uint32_t virtualDevice )
```

11.8.2.27 GetGroupChannelBitmaskIFDigChannels() [1/2] CMOSMeaIFDigChannelEnumNet GetGroupChannelBitmaskIFDigChannels (

```
uint32_t ChannelNumber )
```

11.8.2.28 GetGroupChannelBitmaskIFDigChannels() [2/2] CMOSMeaIFDigChannelEnumNet GetGroupChannelBitmaskIFDigChannels (

```
uint32_t ChannelNumber,
uint32_t virtualDevice )
```

11.8.2.29 GetGroupChannelBitmaskInterfaceADC() [1/2] CMOSMeaInterfaceADCEnumNet GetGroupChannelBitmaskInterfaceADC (

```
uint32_t ChannelNumber )
```

11.8.2.30 GetGroupChannelBitmaskInterfaceADC() [2/2] CMOSMeaInterfaceADCEnumNet GetGroupChannelBitmaskInterfaceADC (

```
uint32_t ChannelNumber,
uint32_t virtualDevice )
```

11.8.2.31 GetGroupChannelBitmaskPacketFrameContext() [1/2] CMOSMeaPacketFrameContextGroupEnumNet GetGroupChannelBitmaskPacketFrameContext (

```
uint32_t ChannelNumber )
```

11.8.2.32 GetGroupChannelBitmaskPacketFrameContext() [2/2] CMOSMeaPacketFrameContextGroupEnumNet GetGroupChannelBitmaskPacketFrameContext (

```
uint32_t ChannelNumber,
uint32_t virtualDevice )
```

11.8.2.33 GetGroupChannelBitmaskSTG1DACSignal() [1/2] CMOSMeaSTG1DACSignalEnumNet GetGroup↩ ChannelBitmaskSTG1DACSignal (

uint32_t *ChannelNumber*)

11.8.2.34 GetGroupChannelBitmaskSTG1DACSignal() [2/2] CMOSMeaSTG1DACSignalEnumNet GetGroup↩ ChannelBitmaskSTG1DACSignal (

uint32_t *ChannelNumber*,
uint32_t *virtualDevice*)

11.8.2.35 GetGroupDCOffset() [1/2] int32_t GetGroupDCOffset (

DacqGroupChannelEnumNet *GroupID*)

11.8.2.36 GetGroupDCOffset() [2/2] int32_t GetGroupDCOffset (

DacqGroupChannelEnumNet *GroupID*,
uint32_t *virtualDevice*)

11.8.2.37 GetGroupID() [1/2] DacqGroupChannelEnumNet GetGroupID (

uint32_t *Index*)

11.8.2.38 GetGroupID() [2/2] DacqGroupChannelEnumNet GetGroupID (

uint32_t *Index*,
uint32_t *virtualDevice*)

11.8.2.39 GetGroupNumberOfChannels() [1/2] uint32_t GetGroupNumberOfChannels (

DacqGroupChannelEnumNet *GroupID*)

11.8.2.40 GetGroupNumberOfChannels() [2/2] uint32_t GetGroupNumberOfChannels (

DacqGroupChannelEnumNet *GroupID*,
uint32_t *virtualDevice*)

11.8.2.41 GetGroupResolutionPerDigit() [1/2] uint32_t GetGroupResolutionPerDigit (

DacqGroupChannelEnumNet *GroupID*)

11.8.2.42 GetGroupResolutionPerDigit() [2/2] uint32_t GetGroupResolutionPerDigit (

```
DacqGroupChannelEnumNet GroupID,
uint32_t virtualDevice )
```

11.8.2.43 GetGroupSampleSize() [1/2] SampleSizeNet GetGroupSampleSize (

```
DacqGroupChannelEnumNet GroupID )
```

11.8.2.44 GetGroupSampleSize() [2/2] SampleSizeNet GetGroupSampleSize (

```
DacqGroupChannelEnumNet GroupID,
uint32_t virtualDevice )
```

11.8.2.45 GetGroupType() [1/2] DacqMeaGroupTypeEnumNet GetGroupType (

```
DacqGroupChannelEnumNet GroupID )
```

11.8.2.46 GetGroupType() [2/2] DacqMeaGroupTypeEnumNet GetGroupType (

```
DacqGroupChannelEnumNet GroupID,
uint32_t virtualDevice )
```

11.8.2.47 GetGroupUnit() [1/2] CMOSMeaValueUnitEnumNet GetGroupUnit (

```
DacqGroupChannelEnumNet GroupID )
```

11.8.2.48 GetGroupUnit() [2/2] CMOSMeaValueUnitEnumNet GetGroupUnit (

```
DacqGroupChannelEnumNet GroupID,
uint32_t virtualDevice )
```

11.8.2.49 GetMaxNumOfColumns() uint32_t GetMaxNumOfColumns (

```
uint32_t Samplerate )
```

11.8.2.50 GetNeurochipMemoryData() [1/2] uint32_t GetNeurochipMemoryData (

```
uint16_t MemAddress )
```

11.8.2.51 GetNeurochipMemoryData() [2/2]

```
array<uint32_t> ^ GetNeurochipMemoryData (
    uint16_t MemAddress,
    uint32_t ReqestLength )
```

11.8.2.52 GetNeurochipMemorySize()

```
uint32_t GetNeurochipMemorySize ( )
```

11.8.2.53 GetNumberOfSupportedGroups() [1/2]

```
uint32_t GetNumberOfSupportedGroups ( )
```

11.8.2.54 GetNumberOfSupportedGroups() [2/2]

```
uint32_t GetNumberOfSupportedGroups (
    uint32_t virtualDevice )
```

11.8.2.55 GetSourceBulk()

```
int32_t GetSourceBulk ( )
```

11.8.2.56 GetSourceDrain()

```
int32_t GetSourceDrain ( )
```

11.8.2.57 GetSourceGate()

```
int32_t GetSourceGate ( )
```

11.8.2.58 GetStimulusSites()

```
List<int16_t> ^ GetStimulusSites ( )
```

11.8.2.59 GetVDD3I()

```
int32_t GetVDD3I ( )
```

11.8.2.60 GetVDDI()

```
int32_t GetVDDI ( )
```

11.8.2.61 IsChipPowered()

```
bool IsChipPowered ( )
```

11.8.2.62 IsGateFloating() bool IsGateFloating ( )

11.8.2.63 PowerChip() void PowerChip (bool *on*)

11.8.2.64 SetADCInputOffset() void SetADCInputOffset (int32_t *offset*)

11.8.2.65 SetBath() void SetBath (int32_t *voltage*)

11.8.2.66 SetBathMode() void SetBathMode (CMOSMeaBathModeEnumNet *Mode*)

11.8.2.67 SetGate() void SetGate (int32_t *voltage*)

11.8.2.68 SetGateFloating() void SetGateFloating ( )

11.8.2.69 SetGateToVOP() void SetGateToVOP ( )

11.8.2.70 SetNeurochipMemoryData() [1/2] void SetNeurochipMemoryData (uint16_t *MemAddress*, array< uint32_t >^ *MemData*)

11.8.2.71 SetNeurochipMemoryData() [2/2] void SetNeurochipMemoryData (uint16_t *MemAddress*, uint32_t *MemData*)

11.8.2.72 SetSourceBulk()

```
void SetSourceBulk (
    int32_t voltage )
```

11.8.2.73 SetSourceDrain()

```
void SetSourceDrain (
    int32_t voltage )
```

11.8.2.74 SetSourceGate()

```
void SetSourceGate (
    int32_t voltage )
```

11.8.2.75 SetStimulusSites()

```
void SetStimulusSites (
    List< int16_t >^ SwitchPosition )
```

11.8.2.76 UpdateTransistorVoltages()

```
void UpdateTransistorVoltages ( )
```

11.8.2.77 VOPSTimerSetResetTimes() [1/2]

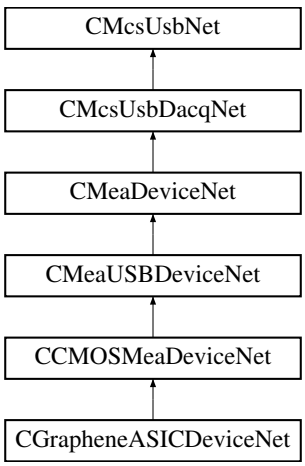
```
void VOPSTimerSetResetTimes (
    uint32_t ResetTime,
    uint32_t IntervalTime )
```

11.8.2.78 VOPSTimerSetResetTimes() [2/2]

```
void VOPSTimerSetResetTimes (
    uint32_t ResetTime,
    uint32_t IntervalTime,
    uint32_t HPFilterResetTime )
```

11.9 CCMOSMeaDeviceNet Class Reference

Inheritance diagram for CCMOSMeaDeviceNet:



Classes

- class CRegionOfInterestRect

Public Member Functions

- CCMOSMeaDeviceNet (void)
- ~CCMOSMeaDeviceNet ()
- virtual void SetBaseSamplerate (int BaseSamplerate)
- int GetBaseSamplerate ()
- virtual array< int > ^ GetAvailableBaseSamplerates ()
- int GetMaxReadableColumns ()
- virtual void SetRegionOfInterests (System::Collections::Generic::Dictionary< int, CRegionOfInterestRect^ >^ rois)
- void UpdateChannelBlock (int queuesize, int threshold, int channels_in_block)
- System::Collections::Generic::Dictionary< int, array< array< int16_t >^ >^ > ^ GetCMOSDataDictionary (int frames, [System::Runtime::InteropServices::Out]int % frames_ret)
- System::Collections::Generic::Dictionary< int, array< uint16_t >^ > ^ GetChannelDataUI16 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)
- System::Collections::Generic::Dictionary< int, array< int16_t >^ > ^ GetChannelDataI16 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)
- System::Collections::Generic::Dictionary< int, array< uint32_t >^ > ^ GetChannelDataUI32 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)
- System::Collections::Generic::Dictionary< int, array< int32_t >^ > ^ GetChannelDataI32 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

Properties

- CCMOSMea_FunctionNet^ CMosMea `[get]`
- CStimulusFunctionNet^ Stimulus `[get]`

Additional Inherited Members

11.9.1 Constructor & Destructor Documentation

11.9.1.1 CCMOSMeaDeviceNet() `CCMOSMeaDeviceNet ( void )`

11.9.1.2 ~CCMOSMeaDeviceNet() `~CCMOSMeaDeviceNet ( )`

11.9.2 Member Function Documentation

11.9.2.1 GetAvailableBaseSamplerates() virtual array<int> ^ GetAvailableBaseSamplerates ( ) [virtual]

Reimplemented in CGrapheneASICDeviceNet.

11.9.2.2 GetBaseSamplerate() int GetBaseSamplerate ( )

11.9.2.3 GetChannelDataI16() System::Collections::Generic::Dictionary<int, array<int16_t>^> ^ GetChannelDataI16 (

```
DacqGroupChannelEnumNet group,
int frames,
[System::Runtime::InteropServices::Out] int % frames_ret )
```

11.9.2.4 GetChannelDataI32() System::Collections::Generic::Dictionary<int, array<int32_t>^> ^ GetChannelDataI32 (

```
DacqGroupChannelEnumNet group,
int frames,
[System::Runtime::InteropServices::Out] int % frames_ret )
```

11.9.2.5 GetChannelDataUI16() System::Collections::Generic::Dictionary<int, array<uint16_t>^> ^ GetChannelDataUI16 (

```
DacqGroupChannelEnumNet group,
int frames,
[System::Runtime::InteropServices::Out] int % frames_ret )
```

11.9.2.6 GetChannelDataUI32() System::Collections::Generic::Dictionary<int, array<uint32_t>^> ^ GetChannelDataUI32 (

```
DacqGroupChannelEnumNet group,
int frames,
[System::Runtime::InteropServices::Out] int % frames_ret )
```

11.9.2.7 GetCMOSDataDictionary() System::Collections::Generic::Dictionary<int, array<array<int16_t>^>^> ^ GetCMOSDataDictionary (

```
int frames,
[System::Runtime::InteropServices::Out] int % frames_ret )
```

11.9.2.8 GetMaxReadableColumns() int GetMaxReadableColumns ( )

11.9.2.9 SetBaseSamplerate() virtual void SetBaseSamplerate (int *BaseSamplerate*) [virtual]

Reimplemented in CGrapheneASICDeviceNet.

11.9.2.10 SetRegionOfInterests() virtual void SetRegionOfInterests (System::Collections::Generic::Dictionary< int, CRegionOfInterestRect^>^ *rois*) [virtual]

11.9.2.11 UpdateChannelBlock() void UpdateChannelBlock (int *queuesize*, int *threshold*, int *channels_in_block*)

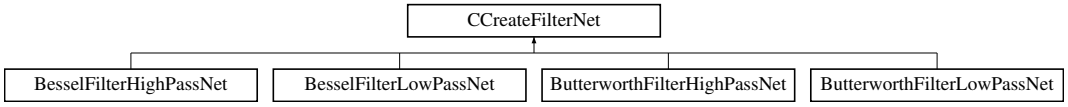
11.9.3 Property Documentation

11.9.3.1 CMosMea CCMOSMea_FunctionNet^ CMosMea [get]

11.9.3.2 Stimulus CStimulusFunctionNet^ Stimulus [get]

11.10 CCreateFilterNet Class Reference

Inheritance diagram for CCreateFilterNet:



Public Member Functions

- CCreateFilterNet (int numCoefSets, int order, double sampleRate, double cutoffFrequency, double scale)
- ~CCreateFilterNet ()
- CFilterCoefficientsNet ^ GetBiQuad (int index)
- array< CFilterCoefficientsNet^> ^ GetBiQuads ()

Static Public Member Functions

- static int FindFilter (array< CFilterCoefficientsNet^ >^ coef, array< CCreateFilterNet^ >^ param)
- static int FindFilter (array< array< uint64_t >^ >^ coef, array< CCreateFilterNet^ >^ param, CFilterCoefficientsNet::s_FilterAttributesNet^ FiltAttr, bool DoMCSLegacyCompare)

Protected Member Functions

- CCreateFilterNet (int numCoefSets, CCreateFilter *pCreateFilter)

Properties

- int NumCoefSets [get]
- int Order [get]
- double SampleRate [get]
- double CutoffFrequency [get]
- double Scale [get]

11.10.1 Constructor & Destructor Documentation

11.10.1.1 CCreateFilterNet() [1/2] CCreateFilterNet (int *numCoefSets*, int *order*, double *sampleRate*, double *cutoffFrequency*, double *scale*)

11.10.1.2 ~CCreateFilterNet() ~CCreateFilterNet ( )

11.10.1.3 CCreateFilterNet() [2/2] CCreateFilterNet (int *numCoefSets*, CCreateFilter * *pCreateFilter*) [protected]

11.10.2 Member Function Documentation

11.10.2.1 FindFilter() [1/2] static int FindFilter (array< array< uint64_t >^ >^ *coef*, array< CCreateFilterNet^ >^ *param*, CFilterCoefficientsNet::s_FilterAttributesNet^ *FiltAttr*, bool *DoMCSLegacyCompare*) [static]

11.10.2.2 FindFilter() [2/2]

```
static int FindFilter (
    array< CFilterCoefficientsNet^>^ coef,
    array< CCreateFilterNet^>^ param ) [static]
```

11.10.2.3 GetBiQuad()

```
CFilterCoefficientsNet ^ GetBiQuad (
    int index )
```

11.10.2.4 GetBiQuads()

```
array<CFilterCoefficientsNet^> ^ GetBiQuads ( )
```

11.10.3 Property Documentation

11.10.3.1 CutoffFrequency

```
double CutoffFrequency [get]
```

11.10.3.2 NumCoefSets

```
int NumCoefSets [get]
```

11.10.3.3 Order

```
int Order [get]
```

11.10.3.4 SampleRate

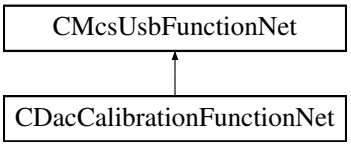
```
double SampleRate [get]
```

11.10.3.5 Scale

```
double Scale [get]
```

11.11 CDacCalibrationFunctionNet Class Reference

Inheritance diagram for CDacCalibrationFunctionNet:



Public Member Functions

- CDacCalibrationFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pDac↩ CalibrationFunctionPointerContainer)

  Initializes a new instance of the CDacCalibrationFunctionNet class.
- CDacCalibrationFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CDacCalibrationFunctionNet ()
- !CDacCalibrationFunctionNet ()
- void SetDacOffset (uint16_t dacChannel, int32_t offset)

  Sets the offset of a DAC channel.
- int32_t GetDacOffset (uint16_t dacChannel)

  Gets the offset of a DAC channel.
- void BurnDacOffset (uint16_t dacChannel)

  Writes the offset of a DAC channel to permanent memory.

Additional Inherited Members

11.11.1 Detailed Description

11.11.2 Constructor & Destructor Documentation

11.11.2.1 CDacCalibrationFunctionNet() [1/2]

```
CDacCalibrationFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pDacCalibrationFunctionPointerContainer )
```

Initializes a new instance of the CDacCalibrationFunctionNet class.

11.11.2.2 CDacCalibrationFunctionNet() [2/2]

```
CDacCalibrationFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.11.2.3 ~CDacCalibrationFunctionNet()

```
virtual ~CDacCalibrationFunctionNet ( ) [virtual]
```

11.11.2.4 "!CDacCalibrationFunctionNet()

```
!CDacCalibrationFunctionNet ( )
```

11.11.3 Member Function Documentation

11.11.3.1 BurnDacOffset()

```
void BurnDacOffset (
    uint16_t dacChannel )
```

Writes the offset of a DAC channel to permanent memory.

Parameters

dacChannel	The DAC channel number.

11.11.3.2 GetDacOffset() `int32_t GetDacOffset ( uint16_t dacChannel )`

Gets the offset of a DAC channel.

Parameters

dacChannel	The DAC channel number.

Returns

The offset in digits.

11.11.3.3 SetDacOffset() `void SetDacOffset ( uint16_t dacChannel, int32_t offset )`

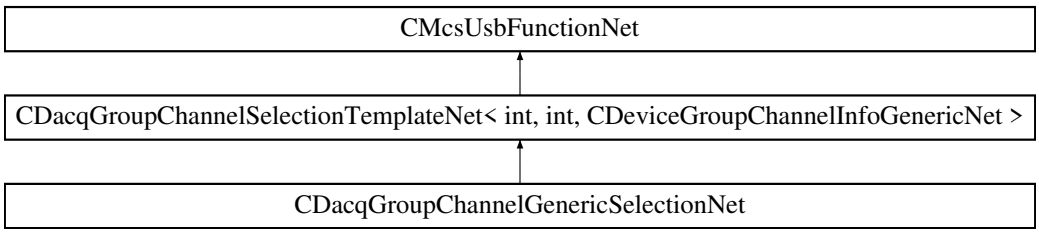
Sets the offset of a DAC channel.

Parameters

dacChannel	The DAC channel number.
offset	The offset in digits.

11.12 CDacqGroupChannelGenericSelectionNet Class Reference

Inheritance diagram for CDacqGroupChannelGenericSelectionNet:



Public Member Functions

- CDacqGroupChannelGenericSelectionNet (CMcsUsbNet^ mcsusb)

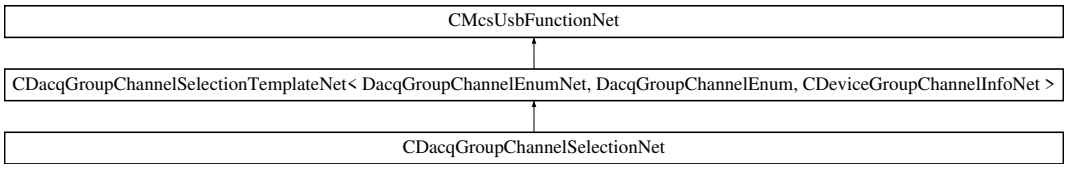
Additional Inherited Members

11.12.1 Constructor & Destructor Documentation

11.12.1.1 CDacqGroupChannelGenericSelectionNet() `CDacqGroupChannelGenericSelectionNet ( CMcsUsbNet^ mcsusb )`

11.13 CDacqGroupChannelSelectionNet Class Reference

Inheritance diagram for CDacqGroupChannelSelectionNet:



Public Member Functions

- CDacqGroupChannelSelectionNet (CMcsUsbNet^ mcsusb)

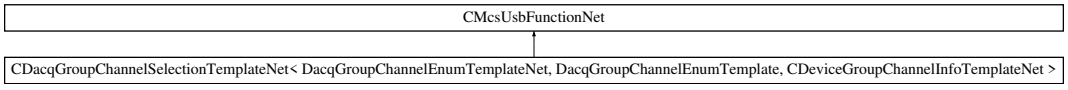
Additional Inherited Members

11.13.1 Constructor & Destructor Documentation

11.13.1.1 CDacqGroupChannelSelectionNet() `CDacqGroupChannelSelectionNet ( CMcsUsbNet^ mcsusb )`

11.14 CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet > Class Template Reference

Inheritance diagram for CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >:



Public Member Functions

- CDacqGroupChannelSelectionTemplateNet (CMcsUsbNet^ mcsusb)
- uint32_t GetNumberOfSupportedGroups ()
- uint32_t GetNumberOfSupportedGroups (uint32_t virtualDevice)
- DacqGroupChannelEnumTemplateNet GetGroupID (uint32_t Index)
- DacqGroupChannelEnumTemplateNet GetGroupID (uint32_t Index, uint32_t virtualDevice)
- uint32_t GetGroupNumberOfChannels (DacqGroupChannelEnumTemplateNet GroupID)
- uint32_t GetGroupNumberOfChannels (DacqGroupChannelEnumTemplateNet GroupID, uint32_t virtual↩ Device)
- DacqMeaGroupTypeEnumNet GetGroupType (DacqGroupChannelEnumTemplateNet GroupID)
- DacqMeaGroupTypeEnumNet GetGroupType (DacqGroupChannelEnumTemplateNet GroupID, uint32_↩ t virtualDevice)
- void EnableChannelsInGroup (DacqGroupChannelEnumTemplateNet GroupID, List< bool >^ Enabled↩ ChannelsBitMap)
- void EnableChannelsInGroup (DacqGroupChannelEnumTemplateNet GroupID, List< bool >^ Enabled↩ ChannelsBitMap, uint32_t virtualDevice)
- List< bool > ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumTemplateNet GroupID)
- List< bool > ^ GetEnabledChannelsInGroup (DacqGroupChannelEnumTemplateNet GroupID, uint32_↩ t virtualDevice)
- SampleSizeNet GetGroupSampleSize (DacqGroupChannelEnumTemplateNet GroupID)
- SampleSizeNet GetGroupSampleSize (DacqGroupChannelEnumTemplateNet GroupID, uint32_t virtual↩ Device)
- List< CDeviceGroupChannelInfoTemplateNet^> ^ GetDeviceGroupChannelInfos ()
- List< CDeviceGroupChannelInfoTemplateNet^> ^ GetDeviceGroupChannelInfos (uint32_t virtualDevice)

Additional Inherited Members

11.14.1 Constructor & Destructor Documentation

11.14.1.1 CDacqGroupChannelSelectionTemplateNet()

```
CDacqGroupChannelSelectionTemplateNet (
    CMcsUsbNet^ mcsusb )
```

11.14.2 Member Function Documentation

11.14.2.1 EnableChannelsInGroup() [1/2]

```
void EnableChannelsInGroup (
    DacqGroupChannelEnumTemplateNet GroupID,
    List< bool >^ EnabledChannelsBitMap )
```

11.14.2.2 EnableChannelsInGroup() [2/2]

```
void EnableChannelsInGroup (
    DacqGroupChannelEnumTemplateNet GroupID,
    List< bool >^ EnabledChannelsBitMap,
    uint32_t virtualDevice )
```

11.14.2.3 GetDeviceGroupChannelInfos() [1/2]

```
List<CDeviceGroupChannelInfoTemplateNet^> ^ GetDeviceGroupChannelInfos ( )
```

11.14.2.4 GetDeviceGroupChannelInfos() [2/2]

```
List<CDeviceGroupChannelInfoTemplateNet^> ^ GetDeviceGroupChannelInfos (
        uint32_t virtualDevice )
```

11.14.2.5 GetEnabledChannelsInGroup() [1/2]

```
List<bool> ^ GetEnabledChannelsInGroup (
        DacqGroupChannelEnumTemplateNet GroupID )
```

11.14.2.6 GetEnabledChannelsInGroup() [2/2]

```
List<bool> ^ GetEnabledChannelsInGroup (
        DacqGroupChannelEnumTemplateNet GroupID,
        uint32_t virtualDevice )
```

11.14.2.7 GetGroupID() [1/2]

```
DacqGroupChannelEnumTemplateNet GetGroupID (
        uint32_t Index )
```

11.14.2.8 GetGroupID() [2/2]

```
DacqGroupChannelEnumTemplateNet GetGroupID (
        uint32_t Index,
        uint32_t virtualDevice )
```

11.14.2.9 GetGroupNumberOfChannels() [1/2]

```
uint32_t GetGroupNumberOfChannels (
        DacqGroupChannelEnumTemplateNet GroupID )
```

11.14.2.10 GetGroupNumberOfChannels() [2/2]

```
uint32_t GetGroupNumberOfChannels (
        DacqGroupChannelEnumTemplateNet GroupID,
        uint32_t virtualDevice )
```

11.14.2.11 GetGroupSampleSize() [1/2]

```
SampleSizeNet GetGroupSampleSize (
        DacqGroupChannelEnumTemplateNet GroupID )
```

11.14.2.12 GetGroupSampleSize() [2/2]

```
SampleSizeNet GetGroupSampleSize (
    DacqGroupChannelEnumTemplateNet GroupID,
    uint32_t virtualDevice )
```

11.14.2.13 GetGroupType() [1/2]

```
DacqMeaGroupTypeEnumNet GetGroupType (
    DacqGroupChannelEnumTemplateNet GroupID )
```

11.14.2.14 GetGroupType() [2/2]

```
DacqMeaGroupTypeEnumNet GetGroupType (
    DacqGroupChannelEnumTemplateNet GroupID,
    uint32_t virtualDevice )
```

11.14.2.15 GetNumberOfSupportedGroups() [1/2]

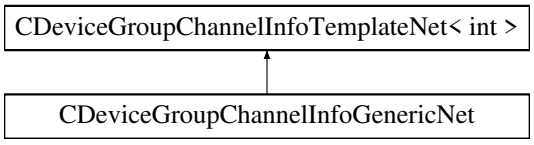
```
uint32_t GetNumberOfSupportedGroups ( )
```

11.14.2.16 GetNumberOfSupportedGroups() [2/2]

```
uint32_t GetNumberOfSupportedGroups (
    uint32_t virtualDevice )
```

11.15 CDeviceGroupChannelInfoGenericNet Class Reference

Inheritance diagram for CDeviceGroupChannelInfoGenericNet:



Public Member Functions

- CDeviceGroupChannelInfoGenericNet (int id, int channels, DacqMeaGroupTypeEnumNet type)

Additional Inherited Members

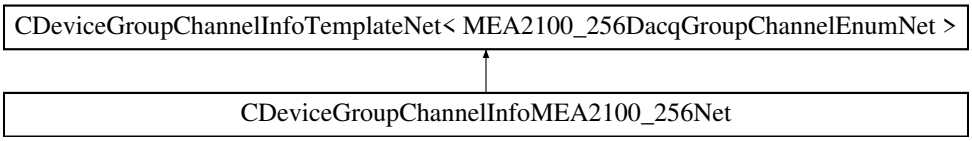
11.15.1 Constructor & Destructor Documentation

11.15.1.1 CDeviceGroupChannelInfoGenericNet() CDeviceGroupChannelInfoGenericNet (

```
int id,
int channels,
DacqMeaGroupTypeEnumNet type )
```

11.16 CDeviceGroupChannelInfoMEA2100_256Net Class Reference

Inheritance diagram for CDeviceGroupChannelInfoMEA2100_256Net:



Public Member Functions

- CDeviceGroupChannelInfoMEA2100_256Net (MEA2100_256DacqGroupChannelEnumNet id, int channels, DacqMeaGroupTypeEnumNet type)

Additional Inherited Members

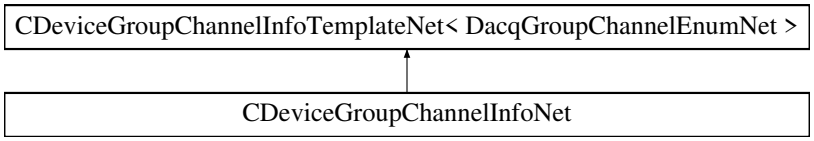
11.16.1 Constructor & Destructor Documentation

11.16.1.1 CDeviceGroupChannelInfoMEA2100_256Net() CDeviceGroupChannelInfoMEA2100_256Net (

```
MEA2100_256DacqGroupChannelEnumNet id,
int channels,
DacqMeaGroupTypeEnumNet type )
```

11.17 CDeviceGroupChannelInfoNet Class Reference

Inheritance diagram for CDeviceGroupChannelInfoNet:



Public Member Functions

- CDeviceGroupChannelInfoNet (DacqGroupChannelEnumNet id, int channels, DacqMeaGroupTypeEnumNet type)

Additional Inherited Members

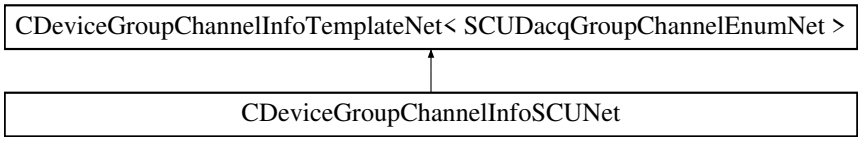
11.17.1 Constructor & Destructor Documentation

11.17.1.1 CDeviceGroupChannelInfoNet() `CDeviceGroupChannelInfoNet (`

```
DacqGroupChannelEnumNet id,
int channels,
DacqMeaGroupTypeEnumNet type )
```

11.18 CDeviceGroupChannelInfoSCUNet Class Reference

Inheritance diagram for CDeviceGroupChannelInfoSCUNet:



Public Member Functions

- CDeviceGroupChannelInfoSCUNet (SCUDacqGroupChannelEnumNet id, int channels, DacqMeaGroupTypeEnumNet type)

Additional Inherited Members

11.18.1 Constructor & Destructor Documentation

11.18.1.1 CDeviceGroupChannelInfoSCUNet() `CDeviceGroupChannelInfoSCUNet (`

```
SCUDacqGroupChannelEnumNet id,
int channels,
DacqMeaGroupTypeEnumNet type )
```

11.19 CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet > Class Template Reference

Public Member Functions

- CDeviceGroupChannelInfoTemplateNet (DacqGroupChannelEnumTemplateNet id, int channels, DacqMeaGroupTypeEnumNet type)

Public Attributes

- DacqGroupChannelEnumTemplateNet GroupID
- int NumberOfChannels
- DacqMeaGroupTypeEnumNet GroupType

11.19.1 Constructor & Destructor Documentation

11.19.1.1 CDeviceGroupChannelInfoTemplateNet() `CDeviceGroupChannelInfoTemplateNet ( DacqGroupChannelEnumTemplateNet id, int channels, DacqMeaGroupTypeEnumNet type )`

11.19.2 Member Data Documentation

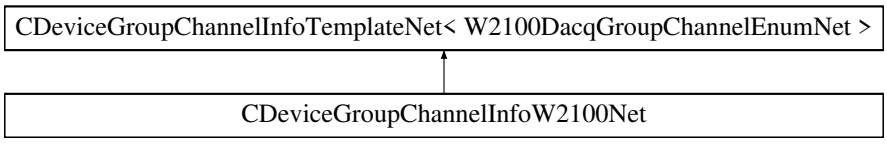
11.19.2.1 GroupID `DacqGroupChannelEnumTemplateNet GroupID`

11.19.2.2 GroupType `DacqMeaGroupTypeEnumNet GroupType`

11.19.2.3 NumberOfChannels `int NumberOfChannels`

11.20 CDeviceGroupChannelInfoW2100Net Class Reference

Inheritance diagram for CDeviceGroupChannelInfoW2100Net:



Public Member Functions

- CDeviceGroupChannelInfoW2100Net (W2100DacqGroupChannelEnumNet id, int channels, DacqMeaGroupTypeEnumNet type)

Additional Inherited Members

11.20.1 Constructor & Destructor Documentation

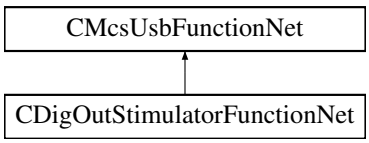
11.20.1.1 CDeviceGroupChannelInfoW2100Net()

```
CDeviceGroupChannelInfoW2100Net (
    W2100DacqGroupChannelEnumNet id,
    int channels,
    DacqMeaGroupTypeEnumNet type )
```

11.21 CDigOutStimulatorFunctionNet Class Reference

CDigOutStimulatorFunctionNet is the class of the DigOut stimulator function class.

Inheritance diagram for CDigOutStimulatorFunctionNet:



Public Member Functions

- CDigOutStimulatorFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pDigOut↩ StimulatorFunctionPointerContainer)

  Initializes a new instance of the CDigOutStimulatorFunctionNet class.
- CDigOutStimulatorFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CDigOutStimulatorFunctionNet ()
- !CDigOutStimulatorFunctionNet ()
- void ClearChannel (int32_t NrChannel)

  clear stimulation pattern
- CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareChannelData (array< int32_t >^ Amplitude, array< uint64_t >^ Duration)

  prepares the channel data for the device and unrolles the data for the GUI
- void SendChannelData (int32_t NrChannel, CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled)

  send or append stimulation pattern
- int32_t GetNumberOfChannels ()

  get the number of channels available on the device
- void SetGlobalRepeat (int32_t NrChannel, bool value)

  set repeat whole stimulation pattern
- bool GetGlobalRepeat (int32_t NrChannel)

  get repeat whole stimulation pattern
- void SetStartTriggerSlope (int32_t NrChannel, DigitalStimulatorTriggerSlopeEnumNet Condition)

  sets start condition of digital out stimulator
- DigitalStimulatorTriggerSlopeEnumNet GetStartTriggerSlope (int32_t NrChannel)

  queries start condition of digital out stimulator
- void SetStopTriggerSlope (int32_t NrChannel, DigitalStimulatorTriggerSlopeEnumNet Condition)

  sets stop condition of digital out stimulator
- DigitalStimulatorTriggerSlopeEnumNet GetStopTriggerSlope (int32_t NrChannel)

  queries stop condition of digital out stimulator

Additional Inherited Members

11.21.1 Detailed Description

CDigOutStimulatorFunctionNet is the class of the DigOut stimulator function class.

11.21.2 Constructor & Destructor Documentation

11.21.2.1 CDigOutStimulatorFunctionNet() [1/2]

```
CDigOutStimulatorFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pDigOutStimulatorFunctionPointerContainer )
```

Initializes a new instance of the CDigOutStimulatorFunctionNet class.

11.21.2.2 CDigOutStimulatorFunctionNet() [2/2]

```
CDigOutStimulatorFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.21.2.3 ~CDigOutStimulatorFunctionNet()

```
virtual ~CDigOutStimulatorFunctionNet ( ) [virtual]
```

11.21.2.4 "!CDigOutStimulatorFunctionNet()

```
!CDigOutStimulatorFunctionNet ( )
```

11.21.3 Member Function Documentation

11.21.3.1 ClearChannel()

```
void ClearChannel (
    int32_t NrChannel )
```

clear stimulation pattern

Parameters

NrChannel	the channel to clear

11.21.3.2 GetGlobalRepeat() `bool GetGlobalRepeat ( int32_t NrChannel )`

get repeat whole stimulation pattern

Parameters

NrChannel	channel number

Returns

current value

11.21.3.3 GetNumberOfChannels() `int32_t GetNumberOfChannels ( )`

get the number of channels available on the device

Returns

the number of channels

11.21.3.4 GetStartTriggerSlope() `DigitalStimulatorTriggerSlopeEnumNet GetStartTriggerSlope ( int32_t NrChannel )`

queries start condition of digital out stimulator

Parameters

NrChannel	channel number

Returns

start condition (rising or falling edge)

11.21.3.5 GetStopTriggerSlope() `DigitalStimulatorTriggerSlopeEnumNet GetStopTriggerSlope ( int32_t NrChannel )`

queries stop condition of digital out stimulator

Parameters

NrChannel	channel number

Returns

stop condition (rising or falling edge)

11.21.3.6 PrepareChannelData()

```
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareChannelData (
            array< int32_t >^ Amplitude,
            array< uint64_t >^ Duration )
```

prepares the channel data for the device and unrolles the data for the GUI

Parameters

Amplitude	array of amplitudes
Duration	array of durations

Returns

11.21.3.7 SendChannelData()

```
void SendChannelData (
            int32_t NrChannel,
            CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled
)
```

send or append stimulation pattern

Parameters

NrChannel	the channel to send data to
device_data_and_unrolled	internal, use value obtained from PrepareChannelData

11.21.3.8 SetGlobalRepeat()

```
void SetGlobalRepeat (
            int32_t NrChannel,
            bool value )
```

set repeat whole stimulation pattern

Parameters

NrChannel	channel number
value	new value

11.21.3.9 SetStartTriggerSlope() `void SetStartTriggerSlope (`

```
int32_t NrChannel,
DigitalStimulatorTriggerSlopeEnumNet Condition )
```

sets start condition of digital out stimulator

Parameters

NrChannel	channel number
Condition	start condition (rising or falling edge)

11.21.3.10 SetStopTriggerSlope() `void SetStopTriggerSlope (`

```
int32_t NrChannel,
DigitalStimulatorTriggerSlopeEnumNet Condition )
```

sets stop condition of digital out stimulator

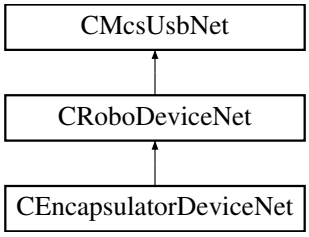
Parameters

NrChannel	channel number
Condition	stop condition (rising or falling edge)

11.22 CEncapsulatorDeviceNet Class Reference

CEncapsulatorDeviceNet is the to control the MCS HiClamp device

Inheritance diagram for CEncapsulatorDeviceNet:



Public Member Functions

- CEncapsulatorDeviceNet (void)
- CRoboFluidDeviceNet ^ GetRoboFluidDevice ()

Additional Inherited Members

11.22.1 Detailed Description

CEncapsulatorDeviceNet is the to control the MCS HiClamp device

11.22.2 Constructor & Destructor Documentation

11.22.2.1 CEncapsulatorDeviceNet() `CEncapsulatorDeviceNet ( void )`

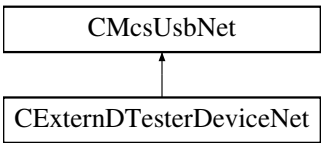
11.22.3 Member Function Documentation

11.22.3.1 GetRoboFluidDevice() `CRoboFluidDeviceNet ^ GetRoboFluidDevice ( )`

11.23 CExternDTesterDeviceNet Class Reference

CExternDTesterDeviceNet is the class to access the ExternD Tester (Handheld Device Tester D)

Inheritance diagram for CExternDTesterDeviceNet:



Public Member Functions

- CExternDTesterDeviceNet ()

  Initializes a new instance of the CExternDTesterDeviceNet class.
- virtual ~CExternDTesterDeviceNet ()
- !CExternDTesterDeviceNet ()
- array< uint8_t > ^ Read (int configString_Length)

  Reads the config string from the device.
- String ^ Read2 ()

  Reads the config string from the device.
- void Write (array< uint8_t >^ configString)

  Reads the config string from the device.
- void Write2 (String^ configString)

  Reads the config string from the device.

Additional Inherited Members

11.23.1 Detailed Description

CExternDTesterDeviceNet is the class to access the ExternD Tester (Handheld Device Tester D)

11.23.2 Constructor & Destructor Documentation

11.23.2.1 CExternDTesterDeviceNet() `CExternDTesterDeviceNet ( )`

Initializes a new instance of the CExternDTesterDeviceNet class.

11.23.2.2 ~CExternDTesterDeviceNet() `virtual ~CExternDTesterDeviceNet ( ) [virtual]`

11.23.2.3 "!CExternDTesterDeviceNet() `!CExternDTesterDeviceNet ( )`

11.23.3 Member Function Documentation

11.23.3.1 Read() `array<uint8_t> ^ Read ( int configString_Length )`

Reads the config string from the device.

Parameters

configString_Length	The maximal length of configString.

Returns

The config string.

11.23.3.2 Read2() `String ^ Read2 ( )`

Reads the config string from the device.

Returns

The config string.

11.23.3.3 Write() `void Write ( array< uint8_t >^ configString )`

Reads the config string from the device.

Parameters

configString	The config string.

11.23.3.4 Write2() `void Write2 ( String^ configString )`

Reads the config string from the device.

Parameters

configString	The config string.

11.24 CFilterCoefficientsNet Class Reference

Classes

- struct s_FilterAttributesNet

Public Member Functions

- CFilterCoefficientsNet ()
- CFilterCoefficientsNet (double b0, double b1, double b2, double a1, double a2)
- CFilterCoefficientsNet (double b0, double b1, double a1)
- CFilterCoefficientsNet (array< double >^ b, array< double >^ a)
- ~CFilterCoefficientsNet ()
- bool IsEqual (array< uint64_t >^ coefficients, s_FilterAttributesNet^ FiltAttr)
- bool IsEqual (array< uint64_t >^ coefficients, s_FilterAttributesNet^ FiltAttr, bool DoMCSLegacyCompare)
- uint64_t GetUintB (int index, s_FilterAttributesNet^ FiltAttr)
- uint64_t GetUintA (int index, s_FilterAttributesNet^ FiltAttr)

Properties

- array< double >^ A `[get]`
- array< double >^ B `[get]`

11.24.1 Constructor & Destructor Documentation

11.24.1.1 CFilterCoefficientsNet() [1/4] `CFilterCoefficientsNet ( )`

11.24.1.2 CFilterCoefficientsNet() [2/4] CFilterCoefficientsNet (

```
double b0,
double b1,
double b2,
double a1,
double a2 )
```

11.24.1.3 CFilterCoefficientsNet() [3/4] CFilterCoefficientsNet (

```
double b0,
double b1,
double a1 )
```

11.24.1.4 CFilterCoefficientsNet() [4/4] CFilterCoefficientsNet (

```
array< double >^ b,
array< double >^ a )
```

11.24.1.5 ~CFilterCoefficientsNet() ~CFilterCoefficientsNet ( )

11.24.2 Member Function Documentation

11.24.2.1 GetUintA() uint64_t GetUintA (

```
int index,
s_FilterAttributesNet^ FiltAttr )
```

11.24.2.2 GetUintB() uint64_t GetUintB (

```
int index,
s_FilterAttributesNet^ FiltAttr )
```

11.24.2.3 IsEqual() [1/2] bool IsEqual (

```
array< uint64_t >^ coefficients,
s_FilterAttributesNet^ FiltAttr )
```

11.24.2.4 IsEqual() [2/2] bool IsEqual (array< uint64_t >^ *coefficients*, s_FilterAttributesNet^ *FiltAttr*, bool *DoMCSLegacyCompare*)

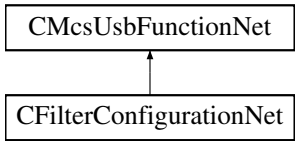
11.24.3 Property Documentation

11.24.3.1 A array< double>^ A [get]

11.24.3.2 B array< double>^ B [get]

11.25 CFilterConfigurationNet Class Reference

Inheritance diagram for CFilterConfigurationNet:



Public Member Functions

- CFilterConfigurationNet (CMcsUsbNet^ mcsusb)
- void SetFilterParameter (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber, CFilterCoefficientsNet^ Coefficients, CFilterPropertyNet^ FilterProp)
- void SetFilterParameter (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber, CFilterCoefficientsNet^ CoefficientsSet1, CFilterCoefficientsNet^ CoefficientsSet2, CFilterPropertyNet^ FilterProp)
- void SetFilterParameterPermanent (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber)
- void EraseFilterParameterPermanent (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber)
- void SetHighpassFilterEnable (bool enable)
- bool GetHighpassFilterEnable ()
- void ResetHighpassFilter ()
- uint32_t GetFilterAttributes (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber, FilterAttributeEnumNet index)
- CFilterCoefficientsNet::s_FilterAttributesNet ^ GetFilterAttributes (DacqGroupChannelEnumNet GroupID, uint32_t FilterNumber)

Additional Inherited Members

11.25.1 Constructor & Destructor Documentation

11.25.1.1 CFilterConfigurationNet()

```
CFilterConfigurationNet (
    CMcsUsbNet^ mcsusb )
```

11.25.2 Member Function Documentation

11.25.2.1 EraseFilterParameterPermanent()

```
void EraseFilterParameterPermanent (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber )
```

11.25.2.2 GetFilterAttributes() [1/2]

```
CFilterCoefficientsNet::s_FilterAttributesNet ^ GetFilter↩
Attributes (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber )
```

11.25.2.3 GetFilterAttributes() [2/2]

```
uint32_t GetFilterAttributes (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber,
    FilterAttributeEnumNet index )
```

11.25.2.4 GetHighpassFilterEnable()

```
bool GetHighpassFilterEnable ( )
```

11.25.2.5 ResetHighpassFilter()

```
void ResetHighpassFilter ( )
```

11.25.2.6 SetFilterParameter() [1/2]

```
void SetFilterParameter (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber,
    CFilterCoefficientsNet^ Coefficients,
    CFilterPropertyNet^ FilterProp )
```

11.25.2.7 SetFilterParameter() [2/2]

```
void SetFilterParameter (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber,
    CFilterCoefficientsNet^ CoefficientsSet1,
    CFilterCoefficientsNet^ CoefficientsSet2,
    CFilterPropertyNet^ FilterProp )
```

11.25.2.8 SetFilterParameterPermanent()

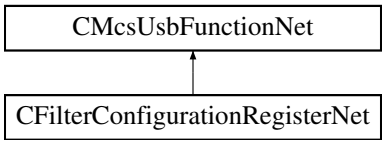
```
void SetFilterParameterPermanent (
    DacqGroupChannelEnumNet GroupID,
    uint32_t FilterNumber )
```

11.25.2.9 SetHighpassFilterEnable()

```
void SetHighpassFilterEnable (
    bool enable )
```

11.26 CFilterConfigurationRegisterNet Class Reference

Inheritance diagram for CFilterConfigurationRegisterNet:



Public Member Functions

- CFilterConfigurationRegisterNet (CMcsUsbNet^ mcsusb)
- void SetFilterParameter (uint32_t FilterCoefRegBase, CFilterCoefficientsNet^ Coefficients, uint32_t FilterInfoRegBase, CFilterPropertyNet^ FilterProp)
- void SetFilterParameter (uint32_t FilterCoefSet1RegBase, CFilterCoefficientsNet^ CoefficientsSet1, uint32_t FilterCoefSet2RegBase, CFilterCoefficientsNet^ CoefficientsSet2, uint32_t FilterInfoRegBase, CFilterPropertyNet^ FilterProp)
- void SetFilterParameterPermanent (uint32_t FilterCoefRegBase, uint32_t FilterCoefDmaReg, uint32_t FilterInfoRegBase, uint32_t FilterInfoDmaReg, uint32_t EEPROMBase, uint32_t EEPROMSize)
- void SetFilterParameterPermanent (uint32_t FilterCoefSet1RegBase, uint32_t FilterCoefSet1DmaReg, uint32_t FilterCoefSet2RegBase, uint32_t FilterCoefSet2DmaReg, uint32_t FilterInfoRegBase, uint32_t FilterInfoDmaReg, uint32_t EEPROMBase, uint32_t EEPROMSize)
- void EraseFilterParameterPermanent (uint32_t FilterCoefDmaReg, uint32_t FilterInfoDmaReg, uint32_t EEPROMBase, uint32_t EEPROMSize)
- void EraseFilterParameterPermanent (uint32_t FilterCoefSet1DmaReg, uint32_t FilterCoefSet2DmaReg, uint32_t FilterInfoDmaReg, uint32_t EEPROMBase, uint32_t EEPROMSize)

Additional Inherited Members

11.26.1 Constructor & Destructor Documentation

11.26.1.1 CFilterConfigurationRegisterNet()

```
CFilterConfigurationRegisterNet (
    CMcsUsbNet^ mcsusb )
```

11.26.2 Member Function Documentation

11.26.2.1 EraseFilterParameterPermanent() [1/2]

```
void EraseFilterParameterPermanent (
    uint32_t FilterCoefDmaReg,
    uint32_t FilterInfoDmaReg,
    uint32_t EEPROMBase,
    uint32_t EEPROMSize )
```

11.26.2.2 EraseFilterParameterPermanent() [2/2]

```
void EraseFilterParameterPermanent (
    uint32_t FilterCoefSet1DmaReg,
    uint32_t FilterCoefSet2DmaReg,
    uint32_t FilterInfoDmaReg,
    uint32_t EEPROMBase,
    uint32_t EEPROMSize )
```

11.26.2.3 SetFilterParameter() [1/2]

```
void SetFilterParameter (
    uint32_t FilterCoefRegBase,
    CFilterCoefficientsNet^ Coefficients,
    uint32_t FilterInfoRegBase,
    CFilterPropertyNet^ FilterProp )
```

11.26.2.4 SetFilterParameter() [2/2]

```
void SetFilterParameter (
    uint32_t FilterCoefSet1RegBase,
    CFilterCoefficientsNet^ CoefficientsSet1,
    uint32_t FilterCoefSet2RegBase,
    CFilterCoefficientsNet^ CoefficientsSet2,
    uint32_t FilterInfoRegBase,
    CFilterPropertyNet^ FilterProp )
```

11.26.2.5 SetFilterParameterPermanent() [1/2]

```
void SetFilterParameterPermanent (
    uint32_t FilterCoefRegBase,
    uint32_t FilterCoefDmaReg,
    uint32_t FilterInfoRegBase,
    uint32_t FilterInfoDmaReg,
    uint32_t EEPROMBase,
    uint32_t EEPROMSize )
```

11.26.2.6 SetFilterParameterPermanent() [2/2]

```
void SetFilterParameterPermanent (
    uint32_t FilterCoefSet1RegBase,
    uint32_t FilterCoefSet1DmaReg,
    uint32_t FilterCoefSet2RegBase,
    uint32_t FilterCoefSet2DmaReg,
    uint32_t FilterInfoRegBase,
    uint32_t FilterInfoDmaReg,
    uint32_t EEPROMBase,
    uint32_t EEPROMSize )
```

11.27 CFilterPropertyNet Class Reference

Public Member Functions

- CFilterPropertyNet (uint32_t CornerFrequenzymHz, uint32_t Order, FilterBandEnumNet FilterBand, FilterFamilyEnumNet FilterFamily, FilterTypeEnumNet FilterType, bool Active)
- ~CFilterPropertyNet ()
- virtual System::String ^ ToString () override

Properties

- uint32_t CornerFrequencymHz [get]
- double CornerFrequency [get]
- uint32_t Order [get]
- FilterBandEnumNet FilterBand [get]
- FilterFamilyEnumNet FilterFamily [get]
- FilterTypeEnumNet FilterType [get]
- bool FilterActive [get]

11.27.1 Constructor & Destructor Documentation

11.27.1.1 CFilterPropertyNet()

```
CFilterPropertyNet (
    uint32_t CornerFrequenzymHz,
    uint32_t Order,
    FilterBandEnumNet FilterBand,
    FilterFamilyEnumNet FilterFamily,
    FilterTypeEnumNet FilterType,
    bool Active )
```

11.27.1.2 ~CFilterPropertyNet()

```
~CFilterPropertyNet ( )
```

11.27.2 Member Function Documentation

11.27.2.1 ToString()

```
virtual System::String ^ ToString ( )  [override], [virtual]
```

11.27.3 Property Documentation

11.27.3.1 CornerFrequency `double CornerFrequency [get]`

11.27.3.2 CornerFrequencymHz `uint32_t CornerFrequencymHz [get]`

11.27.3.3 FilterActive `bool FilterActive [get]`

11.27.3.4 FilterBand `FilterBandEnumNet FilterBand [get]`

11.27.3.5 FilterFamily `FilterFamilyEnumNet FilterFamily [get]`

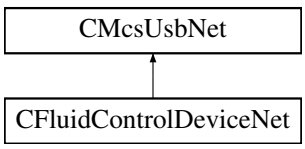
11.27.3.6 FilterType `FilterTypeEnumNet FilterType [get]`

11.27.3.7 Order `uint32_t Order [get]`

11.28 CFluidControlDeviceNet Class Reference

CFluidControlDeviceNet is the class to control MCS FluidControl (FCB and FCX) device.

Inheritance diagram for CFluidControlDeviceNet:



Public Member Functions

- CFluidControlDeviceNet ()

  Initialize a new instance of the CFluidControlDeviceNet class.
- ~CFluidControlDeviceNet ()

  Default destructor.
- void SetValve (unsigned int value)

  Open or Close valves.
- void SetSingleValve (unsigned short valve, unsigned short onoff)

  Opens or Closes a valve.
- void SetDigout (unsigned int value)

  Define the pattern on the Digital Output.
- void SetPWM (unsigned int channel, unsigned int value)

  Sets the duty cycle of the PWM output.
- void CalibrateThermocouple (unsigned int channel)

  Calibrates the ADC which is used for the Thermocouple. For the calibration, Short circuit the Thermocouple and use this function to correct a possible offset of the ADC which measures the thermocouple.
- void SetThermocoupleNanovoltPerKelvin (unsigned int channel, unsigned int value)

  Sets the proportinal constant for the Thermocouple.
- unsigned int GetValve ()

  Gets the state of the valves.
- unsigned short GetSingleValve (unsigned short valve)

  Gets the state of a valve.
- unsigned int GetDigout ()

  Gets the state of the digital output.
- unsigned int GetPWM (unsigned int channel)

  Gets the state of the PWM output.
- unsigned int GetAdc (unsigned int channel)

  Reads an ADC Value.
- unsigned int GetDigin ()

  Reads the digital input.
- int GetThermocoupleTemperature (unsigned int channel)

  Reads the temperature from Thermocouple. The functions gives the temperature difference between both Thermocouple junctions. To get the absolute temperature, add the reference temperature.
- int GetReferenceTemperature (unsigned int channel)

  Reads the reference temperature for the Thermocouple.
- unsigned int GetThermocoupleCalibration (unsigned int channel)

  Gets the calibration constant for the Thermocouple ADC.
- unsigned int GetThermocoupleNanovoltPerKelvin (unsigned int channel)

  Reads the proportional constant for the Thermocouple.

Properties

- CMcsBus_VoltageModeNet^ McsBus_VoltageMode `[get]`

Additional Inherited Members

11.28.1 Detailed Description

CFluidControlDeviceNet is the class to control MCS FluidControl (FCB and FCX) device.

11.28.2 Constructor & Destructor Documentation

11.28.2.1 CFluidControlDeviceNet() `CFluidControlDeviceNet ( )`

Initialize a new instance of the CFluidControlDeviceNet class.

11.28.2.2 ~CFluidControlDeviceNet() `~CFluidControlDeviceNet ( )`

Default destructor.

11.28.3 Member Function Documentation

11.28.3.1 CalibrateThermocouple() `void CalibrateThermocouple ( unsigned int channel )`

Calibrates the ADC which is used for the Thermocouple. For the calibration, Short circuit the Thermocouple and use this function to correct a possible offset of the ADC which measures the thermocouple.

Parameters

channel	Thermocouple channel number.

11.28.3.2 GetAdc() `unsigned int GetAdc ( unsigned int channel )`

Reads an ADC Value.

Parameters

channel	The ADC channel number to query.

Returns

The current ADC value.

11.28.3.3 GetDigin() `unsigned int GetDigin ( )`

Reads the digital input.

Returns

The bit pattern of the state of the digital inputs.

11.28.3.4 GetDigout() `unsigned int GetDigout ( )`

Gets the state of the digital output.

Returns

The current state of the digital outputs as a bit pattern.

11.28.3.5 GetPWM() `unsigned int GetPWM ( unsigned int channel )`

Gets the state of the PWM output.

Returns

The current state of the PWM outputs duty cycle in permille.

11.28.3.6 GetReferenceTemperature() `int GetReferenceTemperature ( unsigned int channel )`

Reads the reference temperature for the Thermocouple.

Parameters

channel	Thermocouple channel number.

Returns

The temperature from the Thermocouple in 1/100 °C.

11.28.3.7 GetSingleValve() `unsigned short GetSingleValve ( unsigned short valve )`

Gets the state of a valve.

Parameters

valve	number of valve

Returns

state of the valve

11.28.3.8 GetThermocoupleCalibration() `unsigned int GetThermocoupleCalibration ( unsigned int channel )`

Gets the calibration constant for the Thermocouple ADC.

Parameters

channel	Thermocouple channel number.

Returns

The calibration constant for the Thermocouple ADC.

11.28.3.9 GetThermocoupleNanovoltPerKelvin() `unsigned int GetThermocoupleNanovoltPerKelvin ( unsigned int channel )`

Reads the proportional constant for the Thermocouple.

Parameters

channel	Thermocouple channel number.

Returns

The proportional constant in Nanovolt per Kelvin.

11.28.3.10 GetThermocoupleTemperature() `int GetThermocoupleTemperature ( unsigned int channel )`

Reads the temperature from Thermocouple. The functions gives the temperature difference between both Thermocouple junctions. To get the absolute temperature, add the reference temperature.

Parameters

channel	Thermocouple channel number.

Returns

The temperature difference between both Thermocouple junctions in 1/100 ℃.

11.28.3.11 GetValve() `unsigned int GetValve ( )`

Gets the state of the valves.

Returns

The current state of the valves as a bit pattern.

11.28.3.12 SetDigout() `void SetDigout ( unsigned int value )`

Define the pattern on the Digital Output.

Parameters

value	bit pattern on the digital output.

11.28.3.13 SetPWM() `void SetPWM ( unsigned int channel, unsigned int value )`

Sets the duty cycle of the PWM output.

Parameters

channel	PWM channel number.
value	duty cycle of the PWM output in permille.

11.28.3.14 SetSingleValve() `void SetSingleValve ( unsigned short valve, unsigned short onoff )`

Opens or Closes a valve.

Parameters

valve	number of valve to be changed.

Parameters

onoff	open or close the valve.

11.28.3.15 SetThermocoupleNanovoltPerKelvin() `void SetThermocoupleNanovoltPerKelvin ( unsigned int channel, unsigned int value )`

Sets the proportinal constant for the Thermocouple.

Parameters

channel	Thermocouple channel number.
value	proportinal constant for the Thermocouple in Nanovolt per Kelvin.

11.28.3.16 SetValve() `void SetValve ( unsigned int value )`

Open or Close valves.

Parameters

value	bit pattern of valves which should be open.

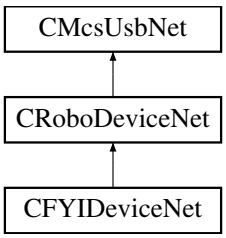
11.28.4 Property Documentation

11.28.4.1 McsBus_VoltageMode `CMcsBus_VoltageModeNet^ McsBus_VoltageMode [get]`

11.29 CFYIDeviceNet Class Reference

CFYIDeviceNet is the class to control the MCS FYI device

Inheritance diagram for CFYIDeviceNet:



Public Member Functions

- CFYIDeviceNet (void)

Properties

- CRobo_FYITemp_FunctionNet^ FYITemp [get]
- CRobo_FYIProgram_FunctionNet^ FYIProgram [get]
- CMcsBus_SensorNet^ Sensor [get]

Additional Inherited Members

11.29.1 Detailed Description

CFYIDeviceNet is the class to control the MCS FYI device

11.29.2 Constructor & Destructor Documentation

11.29.2.1 CFYIDeviceNet() CFYIDeviceNet (void)

11.29.3 Property Documentation

11.29.3.1 FYIProgram CRobo_FYIProgram_FunctionNet^ FYIProgram [get]

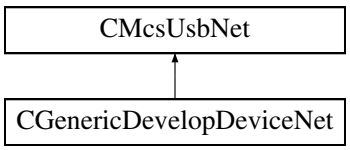
11.29.3.2 FYITemp CRobo_FYITemp_FunctionNet^ FYITemp [get]

11.29.3.3 Sensor CMcsBus_SensorNet^ Sensor [get]

11.30 CGenericDevelopDeviceNet Class Reference

CGenericDevelopDeviceNet is the class to use during development of a new device.

Inheritance diagram for CGenericDevelopDeviceNet:



Public Member Functions

- CGenericDevelopDeviceNet (void)

  Initialize a new instance of the CGenericDevelopDeviceNet class.
- ~CGenericDevelopDeviceNet (void)
- void SetValue (uint16_t value, uint16_t index)

  Sets .

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

- template<typename C >
  void SetBuffer (uint16_t value, uint16_t index, array< C >^ buffer)
- void SetUByteBuffer (uint16_t value, uint16_t index, array< unsigned char >^ buffer)

  Sends an array of type unsigned char to the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- void SetByteBuffer (uint16_t value, uint16_t Index, array< char >^ buffer)

  Sends an array of type char to the device.

Parameters

value	*The value of the request.*

Parameters

Index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- void SetUShortBuffer (uint16_t value, uint16_t index, array< unsigned short >^ buffer)

  Sends an array of type unsigned short to the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- void SetShortBuffer (uint16_t value, uint16_t index, array< short >^ buffer)

  Sends an array of type short to the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- void SetUIntBuffer (uint16_t value, uint16_t index, array< unsigned int >^ buffer)

  Sends an array of unsigned int to the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- void SetIntBuffer (uint16_t value, uint16_t index, array< int >^ buffer)

  Sends an array of type int to the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

buffer	*The buffer to send.*

- template<typename C >
  array< C > ^ GetBuffer (uint16_t value, uint16_t index, int size)
- array< unsigned char > ^ GetUByteBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type unsigned char from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- array< char > ^ GetByteBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type char from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- array< unsigned short > ^ GetUShortBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type unsigned short from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- array< short > ^ GetShortBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type short from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- array< unsigned int > ^ GetUIntBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type unsigned int from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- array< int > ^ GetIntBuffer (uint16_t value, uint16_t index, int size)

  Gets an array of type int from the device.

Parameters

value	*The value of the request.*

Parameters

index	*The index of the request.*

Parameters

size	*The size of the array.*

Returns

The array of data from the device.

- template<typename C >
  void VendorOutRequest (uint8_t request, uint16_t value, uint16_t index, array< C >^ buffer)
- template<typename C >
  array< C > ^ VendorInRequest (uint8_t request, uint16_t value, uint16_t index, int size)
- array< uint8_t > ^ FindEndpoints (uint8_t type, uint8_t direction)
- IntPtr OpenPipe (uint8_t endpointAddress)

  Open a Pipe to an USB Endpoint.

Parameters

endpointAddress	*The Endpoint Number.*

Returns

A handle to the endpoint.

- void ClosePipe (IntPtr pipeHandle)

  Close a Pipe to an USB Endpoint.

Parameters

pipeHandle	*The endpoint handle.*

- void ResetPipe (IntPtr pipeHandle)

  Reset a Pipe to an USB Endpoint.

Parameters

pipeHandle	*The endpoint handle.*

- template<typename C >
  array< C > ^ ReadPipe (IntPtr pipeHandle, uint32_t size)

  Read data from an USB Endpoint.

Parameters

pipeHandle	*The endpoint handle.*

Parameters

size	*Number of elements to read.*

Returns

An array of data read.

- template<typename C >
  void WritePipe (IntPtr pipeHandle, array< C >^ buffer)

  Write data to an USB Endpoint.

Parameters

pipeHandle	*The endpoint handle.*

Parameters

buffer	*An array of data to write.*

Additional Inherited Members

11.30.1 Detailed Description

CGenericDevelopDeviceNet is the class to use during development of a new device.

11.30.2 Constructor & Destructor Documentation

11.30.2.1 CGenericDevelopDeviceNet() `CGenericDevelopDeviceNet ( void )`

Initialize a new instance of the CGenericDevelopDeviceNet class.

11.30.2.2 ~CGenericDevelopDeviceNet() `~CGenericDevelopDeviceNet ( void )`

11.30.3 Member Function Documentation

11.30.3.1 ClosePipe() `void ClosePipe ( IntPtr pipeHandle )`

Close a Pipe to an USB Endpoint.

Parameters

pipeHandle	The endpoint handle.

11.30.3.2 FindEndpoints() `array<uint8_t> ^ FindEndpoints ( uint8_t type, uint8_t direction )`

11.30.3.3 GetBuffer()

```
array<C> ^ GetBuffer (
    uint16_t value,
    uint16_t index,
    int size )
```

11.30.3.4 GetByteBuffer()

```
array<char> ^ GetByteBuffer (
    uint16_t value,
    uint16_t index,
    int size )
```

Gets an array of type char from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.5 GetIntBuffer()

```
array<int> ^ GetIntBuffer (
    uint16_t value,
    uint16_t index,
    int size )
```

Gets an array of type int from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.6 GetShortBuffer()

```
array<short> ^ GetShortBuffer (
        uint16_t value,
        uint16_t index,
        int size )
```

Gets an array of type short from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.7 GetUByteBuffer()

```
array<unsigned char> ^ GetUByteBuffer (
    uint16_t value,
    uint16_t index,
    int size )
```

Gets an array of type unsigned char from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.8 GetUIntBuffer()

```
array<unsigned int> ^ GetUIntBuffer (
    uint16_t value,
    uint16_t index,
    int size )
```

Gets an array of type unsigned int from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.9 GetUShortBuffer() `array<unsigned short> ^ GetUShortBuffer (`

```
uint16_t value,
uint16_t index,
int size )
```

Gets an array of type unsigned short from the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

size	The size of the array.

Returns

The array of data from the device.

11.30.3.10 OpenPipe() `IntPtr OpenPipe ( uint8_t endpointAddress )`

Open a Pipe to an USB Endpoint.

Parameters

endpointAddress	The Endpoint Number.

Returns

A handle to the endpoint.

11.30.3.11 ReadPipe() `array<C> ^ ReadPipe ( IntPtr pipeHandle, uint32_t size )`

Read data from an USB Endpoint.

Parameters

pipeHandle	The endpoint handle.

Parameters

size	Number of elements to read.

Returns

An array of data read.

11.30.3.12 ResetPipe() `void ResetPipe (`

```
IntPtr pipeHandle )
```

Reset a Pipe to an USB Endpoint.

Parameters

pipeHandle	The endpoint handle.

11.30.3.13 SetBuffer() `void SetBuffer (`

```
uint16_t value,
uint16_t index,
array< C >^ buffer )
```

11.30.3.14 SetByteBuffer() `void SetByteBuffer (`

```
uint16_t value,
uint16_t Index,
array< char >^ buffer )
```

Sends an array of type char to the device.

Parameters

value	The value of the request.

Parameters

Index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.15 SetIntBuffer()

```
void SetIntBuffer (
    uint16_t value,
    uint16_t index,
    array< int >^ buffer )
```

Sends an array of type int to the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.16 SetShortBuffer()

```
void SetShortBuffer (
    uint16_t value,
    uint16_t index,
    array< short >^ buffer )
```

Sends an array of type short to the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.17 SetUByteBuffer() `void SetUByteBuffer (`

```
uint16_t value,
uint16_t index,
array< unsigned char >^ buffer )
```

Sends an array of type unsigned char to the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.18 SetUIntBuffer() `void SetUIntBuffer (`

```
uint16_t value,
uint16_t index,
array< unsigned int >^ buffer )
```

Sends an array of unsigned int to the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.19 SetUShortBuffer()

```
void SetUShortBuffer (
    uint16_t value,
    uint16_t index,
    array< unsigned short >^ buffer )
```

Sends an array of type unsigned short to the device.

Parameters

value	The value of the request.

Parameters

index	The index of the request.

Parameters

buffer	The buffer to send.

11.30.3.20 SetValue() void SetValue (

```
uint16_t value,
uint16_t index )
```

Sets .

Parameters

value	The value of the request.

Parameters

index	The index of the request.

11.30.3.21 VendorInRequest() array<C> ^ VendorInRequest (

```
uint8_t request,
uint16_t value,
uint16_t index,
int size )
```

11.30.3.22 VendorOutRequest() void VendorOutRequest (

```
uint8_t request,
uint16_t value,
uint16_t index,
array< C >^ buffer )
```

11.30.3.23 WritePipe() void WritePipe (

```
IntPtr pipeHandle,
array< C >^ buffer )
```

Write data to an USB Endpoint.

Parameters

pipeHandle	The endpoint handle.

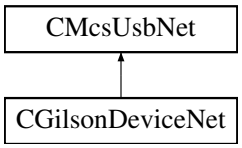
Parameters

buffer	An array of data to write.

11.31 CGilsonDeviceNet Class Reference

CGilsonDeviceNet is the class to control a Gilson device.

Inheritance diagram for CGilsonDeviceNet:



Public Member Functions

- CGilsonDeviceNet (void)

  Initialize a new instance of the CGilsonDeviceNet class.
- ~CGilsonDeviceNet (void)
- void ConnectSlave (byte ID)
- void SendImmediate (wchar_t command)
- String ^ SendImmediateGetResponse (wchar_t command)
- void SendBuffered (String^ command)
- String ^ GetLastAnswer ()

Protected Attributes

- CGilsonDevice * m_pGilsonDevice

Additional Inherited Members

11.31.1 Detailed Description

CGilsonDeviceNet is the class to control a Gilson device.

11.31.2 Constructor & Destructor Documentation

11.31.2.1 CGilsonDeviceNet() CGilsonDeviceNet (
void)

Initialize a new instance of the CGilsonDeviceNet class.

11.31.2.2 ~CGilsonDeviceNet() ~CGilsonDeviceNet (
void)

11.31.3 Member Function Documentation

11.31.3.1 ConnectSlave() void ConnectSlave (
byte *ID*)

11.31.3.2 GetLastAnswer() String ^ GetLastAnswer ( )

11.31.3.3 SendBuffered() void SendBuffered (
String^ *command*)

11.31.3.4 SendImmediate() void SendImmediate (
wchar_t *command*)

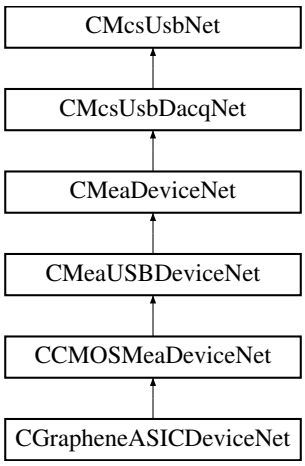
11.31.3.5 SendImmediateGetResponse() String ^ SendImmediateGetResponse (
wchar_t *command*)

11.31.4 Member Data Documentation

11.31.4.1 m_pGilsonDevice CGilsonDevice* m_pGilsonDevice [protected]

11.32 CGrapheneASICDeviceNet Class Reference

Inheritance diagram for CGrapheneASICDeviceNet:



Public Member Functions

- CGrapheneASICDeviceNet (void)
- ~CGrapheneASICDeviceNet ()
- void SetBaseSamplerate (int BaseSamplerate) override
- array< int > ^ GetAvailableBaseSamplerates () override
- void SetRegionOfInterests (System::Collections::Generic::Dictionary< int, CCMOSMeaDeviceNet::CRegionOfInterestRect^ >^ rois) override

Additional Inherited Members

11.32.1 Constructor & Destructor Documentation

11.32.1.1 CGrapheneASICDeviceNet() `CGrapheneASICDeviceNet ( void )`

11.32.1.2 ~CGrapheneASICDeviceNet() `~CGrapheneASICDeviceNet ( )`

11.32.2 Member Function Documentation

11.32.2.1 GetAvailableBaseSamplerates() `array<int> ^ GetAvailableBaseSamplerates ( ) [override], [virtual]`

Reimplemented from CCMOSMeaDeviceNet.

11.32.2.2 SetBaseSamplerate() `void SetBaseSamplerate ( int BaseSamplerate ) [override], [virtual]`

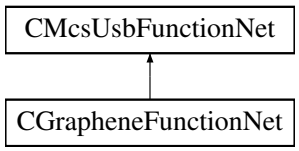
Reimplemented from CCMOSMeaDeviceNet.

11.32.2.3 SetRegionOfInterests() `void SetRegionOfInterests ( System::Collections::Generic::Dictionary< int, CCMOSMeaDeviceNet::CRegionOfInterestRect^>^ rois ) [override]`

11.33 CGrapheneFunctionNet Class Reference

CGrapheneFunctionNet is the class to control Graphene device functions

Inheritance diagram for CGrapheneFunctionNet:



Public Member Functions

- CGrapheneFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pGraphene↩ FunctionPointerContainer)

  Initializes a new instance of the CGrapheneFunctionNet class.
- CGrapheneFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CGrapheneFunctionNet ()
- !CGrapheneFunctionNet ()
- void GetVdVsDAC ([System::Runtime::InteropServices::Out]int16_t% Vd, [System::Runtime::Interop↩ Services::Out]int16_t% Vs)

  Gets Vd and Vs
- void GetVdVsDAC (uint32_t Headstage, [System::Runtime::InteropServices::Out]int16_t% Vd, [System::↩ Runtime::InteropServices::Out]int16_t% Vs)

  Gets Vd and Vs
- void SetVdVsDAC (int16_t Vd, int16_t Vs)

  Sets Vd and Vs
- void SetVdVsDAC (uint32_t Headstage, int16_t Vd, int16_t Vs)

  Sets Vd and VS
- bool GetVoltageReached ()

  Gets the reached voltage

- bool GetVoltageReached (uint32_t Headstage)

  Gets the reached voltage
- int32_t GetVoltageRange ()

  Gets the voltage range
- int32_t GetVoltageRange (uint32_t Headstage)

  Gets the voltage range
- void SetVoltageRange (int32_t range)

  Sets the voltage range
- void SetVoltageRange (uint32_t Headstage, int32_t range)

  Sets the voltage range
- int32_t GetVoltageResolution ()

  Gets the voltage resolution
- int32_t GetVoltageResolution (uint32_t Headstage)

  Gets the voltage resolution
- void SetVoltageResolution (int32_t resolution)

  Sets the voltage resolution
- void SetVoltageResolution (uint32_t Headstage, int32_t resolution)

  Sets the voltage resolution
- void GetDACOffset ([System::Runtime::InteropServices::Out]int16_t% offset_vd, [System::Runtime::↩ InteropServices::Out]int16_t% offset_vs)

  Gets the DAC offset
- void GetDACOffset (uint32_t Headstage, [System::Runtime::InteropServices::Out]int16_t% offset_vd, [System::Runtime::InteropServices::Out]int16_t% offset_vs)

  Gets the DAC offset
- void SetDACOffset (int16_t offset_vd, int16_t offset_vs)

  Sets the DAC offset
- void SetDACOffset (uint32_t Headstage, int16_t offset_vd, int16_t offset_vs)

  Set the DAC offset
- void GetVdVs ([System::Runtime::InteropServices::Out]int32_t% Vd, [System::Runtime::InteropServices::↩ Out]int32_t% Vs)

  Gets Vd and Vs
- void GetVdVs (uint32_t Headstage, [System::Runtime::InteropServices::Out]int32_t% Vd, [System::↩ Runtime::InteropServices::Out]int32_t% Vs)

  Gets Vd and Vs
- void SetVdVs (int32_t Vd, int32_t Vs)

  Sets Vd and Vs
- void SetVdVs (uint32_t Headstage, int32_t Vd, int32_t Vs)

  Sets Vd and Vs
- void SetVdsVgs (int32_t Vds, int32_t Vgs)

  Sets Vds and Vgs
- void SetVdsVgs (uint32_t Headstage, int32_t Vds, int32_t Vgs)

  Sets Vds and Vgs
- int32_t GetCur2VolResistance ()

  Gets the resistance of the current to voltage converter
- int32_t GetCur2VolResistance (uint32_t Headstage)

  Gets the resistance of the current to voltage converter
- int32_t GetADCOffset (uint32_t Channel)

  Gets the ADC offset
- int32_t GetADCOffset (uint32_t Headstage, uint32_t Channel)

  Gets the ADC offset
- void SetADCOffset (uint32_t Channel, int32_t offset)

Sets the ADC offset

- void SetADCOffset (uint32_t Headstage, uint32_t Channel, int32_t offset)

  Sets the ADC offset
- void GetVdsVgs ([System::Runtime::InteropServices::Out]int32_t% Vds, [System::Runtime::InteropServices::Out]int32_t% Vgs)

  Gets Vds and Vgs
- void GetVdsVgs (uint32_t Headstage, [System::Runtime::InteropServices::Out]int32_t% Vds, [System::Runtime::InteropServices::Out]int32_t% Vgs)

  Gets Vds and Vgs

Additional Inherited Members

11.33.1 Detailed Description

CGrapheneFunctionNet is the class to control Graphene device functions

11.33.2 Constructor & Destructor Documentation

11.33.2.1 CGrapheneFunctionNet() [1/2] CGrapheneFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pGrapheneFunctionPointerContainer*)

Initializes a new instance of the CGrapheneFunctionNet class.

11.33.2.2 CGrapheneFunctionNet() [2/2] CGrapheneFunctionNet (CMcsUsbNet^ *mcsusb*)

11.33.2.3 ~CGrapheneFunctionNet() virtual ~CGrapheneFunctionNet ( ) [virtual]

11.33.2.4 "!CGrapheneFunctionNet() !CGrapheneFunctionNet ( )

11.33.3 Member Function Documentation

11.33.3.1 GetADCOffset() [1/2] int32_t GetADCOffset (uint32_t *Channel*)

Gets the ADC offset

Parameters

Channel	The channel to query.

Returns

The offset

11.33.3.2 GetADCOffset() [2/2] int32_t GetADCOffset (uint32_t *Headstage*, uint32_t *Channel*)

Gets the ADC offset

Parameters

Headstage	The headstage to query.
Channel	The channel to query.

Returns

The offset

11.33.3.3 GetCur2VolResistance() [1/2] int32_t GetCur2VolResistance ( )

Gets the resistance of the current to voltage converter

Returns

The resistance in Ohm

11.33.3.4 GetCur2VolResistance() [2/2] int32_t GetCur2VolResistance (uint32_t *Headstage*)

Gets the resistance of the current to voltage converter

Parameters

Headstage	The headstage to query.

Returns

The resistance in Ohm

11.33.3.5 GetDACOffset() [1/2] void GetDACOffset (

```
[System::Runtime::InteropServices::Out] int16_t% offset_vd,
[System::Runtime::InteropServices::Out] int16_t% offset_vs )
```

Gets the DAC offset

Parameters

offset_vd	Vd offset in DAC Units
offset_vs	Vs offset in DAC Units

11.33.3.6 GetDACOffset() [2/2] void GetDACOffset (

```
uint32_t Headstage,
[System::Runtime::InteropServices::Out] int16_t% offset_vd,
[System::Runtime::InteropServices::Out] int16_t% offset_vs )
```

Gets the DAC offset

Parameters

Headstage	The headstage to query.
offset_vd	Vd offset in DAC Units
offset_vs	Vs offset in DAC Units

11.33.3.7 GetVdsVgs() [1/2] void GetVdsVgs (

```
[System::Runtime::InteropServices::Out] int32_t% Vds,
[System::Runtime::InteropServices::Out] int32_t% Vgs )
```

Gets Vds and Vgs

Parameters

Vds	Vds in µV
Vgs	Vgs in µV

11.33.3.8 GetVdsVgs() [2/2] void GetVdsVgs (

```
uint32_t Headstage,
```

```
[System::Runtime::InteropServices::Out] int32_t% Vds,
[System::Runtime::InteropServices::Out] int32_t% Vgs )
```

Gets Vds and Vgs

Parameters

Headstage	The headstage to query.
Vds	Vds in µV
Vgs	Vgs in µV

11.33.3.9 GetVdVs() [1/2] void GetVdVs (

```
[System::Runtime::InteropServices::Out] int32_t% Vd,
[System::Runtime::InteropServices::Out] int32_t% Vs )
```

Gets Vd and Vs

Parameters

Vd	Vd in µV
Vs	Vs in µV

11.33.3.10 GetVdVs() [2/2] void GetVdVs (

```
uint32_t Headstage,
[System::Runtime::InteropServices::Out] int32_t% Vd,
[System::Runtime::InteropServices::Out] int32_t% Vs )
```

Gets Vd and Vs

Parameters

Headstage	The headstage to query.
Vd	Vd in µV
Vs	Vs in µV

11.33.3.11 GetVdVsDAC() [1/2] void GetVdVsDAC (

```
[System::Runtime::InteropServices::Out] int16_t% Vd,
[System::Runtime::InteropServices::Out] int16_t% Vs )
```

Gets Vd and Vs

Parameters

Vd	Vd in DAC Units
Vs	Vs in DAC Units

11.33.3.12 GetVdVsDAC() [2/2] void GetVdVsDAC (

```
uint32_t Headstage,
[System::Runtime::InteropServices::Out] int16_t% Vd,
[System::Runtime::InteropServices::Out] int16_t% Vs )
```

Gets Vd and Vs

Parameters

Headstage	The headstage to query.
Vd	Vd in DAC Units
Vs	Vs in DAC Units

11.33.3.13 GetVoltageRange() [1/2] int32_t GetVoltageRange ( )

Gets the voltage range

Returns

The voltage range in mV

11.33.3.14 GetVoltageRange() [2/2] int32_t GetVoltageRange (

```
uint32_t Headstage )
```

Gets the voltage range

Parameters

Headstage	The headstage to query.

Returns

The voltage range in mV

11.33.3.15 GetVoltageReached() [1/2] bool GetVoltageReached ( )

Gets the reached voltage

Returns

the reached voltage

11.33.3.16 GetVoltageReached() [2/2] bool GetVoltageReached (uint32_t *Headstage*)

Gets the reached voltage

Parameters

Headstage	The headstage to query.

Returns

The reached voltage

11.33.3.17 GetVoltageResolution() [1/2] int32_t GetVoltageResolution ( )

Gets the voltage resolution

Returns

The voltage resolution in µV/digit

11.33.3.18 GetVoltageResolution() [2/2] int32_t GetVoltageResolution (uint32_t *Headstage*)

Gets the voltage resolution

Parameters

Headstage	The headstage to query.

Returns

The voltage resolution in µV/digit

11.33.3.19 SetADCOffset() [1/2] void SetADCOffset (uint32_t *Channel*, int32_t *offset*)

Sets the ADC offset

Parameters

Channel	The channel to query.
offset	The offset

11.33.3.20 SetADCOffset() [2/2] void SetADCOffset (

```
uint32_t Headstage,
uint32_t Channel,
int32_t offset )
```

Sets the ADC offset

Parameters

Headstage	The headstage to query.
Channel	The channel to query.
offset	The offset

11.33.3.21 SetDACOffset() [1/2] void SetDACOffset (

```
int16_t offset_vd,
int16_t offset_vs )
```

Sets the DAC offset

Parameters

offset_vd	Vd offset in DAC Units
offset_vs	Vs offset in DAC Units

11.33.3.22 SetDACOffset() [2/2] void SetDACOffset (

```
uint32_t Headstage,
int16_t offset_vd,
int16_t offset_vs )
```

Set the DAC offset

Parameters

Headstage	The headstage to query.
offset_vd	Vd offset in DAC Units
offset_vs	Vs offset in DAC Units

11.33.3.23 SetVdsVgs() [1/2] void SetVdsVgs (

```
int32_t Vds,
int32_t Vgs )
```

Sets Vds and Vgs

Parameters

Vds	Vds in µV
Vgs	Vgs in µV

11.33.3.24 SetVdsVgs() [2/2]

```
void SetVdsVgs (
    uint32_t Headstage,
    int32_t Vds,
    int32_t Vgs )
```

Sets Vds and Vgs

Parameters

Headstage	The headstage to query.
Vds	Vds in µV
Vgs	Vgs in µV

11.33.3.25 SetVdVs() [1/2]

```
void SetVdVs (
    int32_t Vd,
    int32_t Vs )
```

Sets Vd and Vs

Parameters

Vd	Vd in µV
Vs	Vs in µV

11.33.3.26 SetVdVs() [2/2]

```
void SetVdVs (
    uint32_t Headstage,
    int32_t Vd,
    int32_t Vs )
```

Sets Vd and Vs

Parameters

Headstage	The headstage to query.
Vd	Vd in µV
Vs	Vs in µV

11.33.3.27 SetVdVsDAC() [1/2] void SetVdVsDAC (

```
int16_t Vd,
int16_t Vs )
```

Sets Vd and Vs

Parameters

Vd	Vd in DAC Units
Vs	Vs in DAC Units

11.33.3.28 SetVdVsDAC() [2/2] void SetVdVsDAC (

```
uint32_t Headstage,
int16_t Vd,
int16_t Vs )
```

Sets Vd and VS

Parameters

Headstage	The headstage to query.
Vd	Vd in DAC Units
Vs	Vs in DAC Units

11.33.3.29 SetVoltageRange() [1/2] void SetVoltageRange (

```
int32_t range )
```

Sets the voltage range

Parameters

range	The voltage range in mV

11.33.3.30 SetVoltageRange() [2/2] void SetVoltageRange (

```
uint32_t Headstage,
int32_t range )
```

Sets the voltage range

Parameters

Headstage	The headstage to query.
range	The voltage range in mV

11.33.3.31 SetVoltageResolution() [1/2] void SetVoltageResolution (int32_t *resolution*)

Sets the voltage resolution

Parameters

resolution	The voltage resolution in µV/digit

11.33.3.32 SetVoltageResolution() [2/2] void SetVoltageResolution (uint32_t *Headstage*, int32_t *resolution*)

Sets the voltage resolution

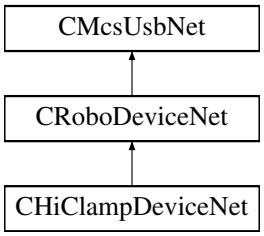
Parameters

Headstage	The headstage to query.
resolution	The voltage resolution in µV/digit

11.34 CHiClampDeviceNet Class Reference

CHiClampDeviceNet is the to control the MCS HiClamp device

Inheritance diagram for CHiClampDeviceNet:



Public Member Functions

- CHiClampDeviceNet (void)

Properties

- CRoboDacqNet^ RoboDacq [get]

Additional Inherited Members

11.34.1 Detailed Description

CHiClampDeviceNet is the to control the MCS HiClamp device

11.34.2 Constructor & Destructor Documentation

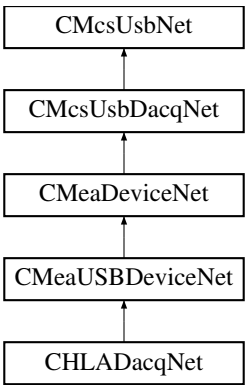
11.34.2.1 CHiClampDeviceNet() CHiClampDeviceNet (void)

11.34.3 Property Documentation

11.34.3.1 RoboDacq CRoboDacqNet^ RoboDacq [get]

11.35 CHLADacqNet Class Reference

Inheritance diagram for CHLADacqNet:



Public Member Functions

- CHLADacqNet (void)

Additional Inherited Members

11.35.1 Constructor & Destructor Documentation

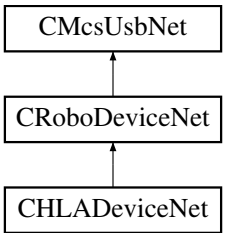
11.35.1.1 CHLADacqNet() `CHLADacqNet (`

`void )`

11.36 CHLADeviceNet Class Reference

CHLADeviceNet is the to control the MCS HLA device

Inheritance diagram for CHLADeviceNet:



Public Member Functions

- CHLADeviceNet (void)

Properties

- CHLADacqNet^ HLADacq `[get]`
- CSerialPortNet^ SerialPort `[get]`

Additional Inherited Members

11.36.1 Detailed Description

CHLADeviceNet is the to control the MCS HLA device

11.36.2 Constructor & Destructor Documentation

11.36.2.1 CHLADeviceNet() `CHLADeviceNet (`

`void )`

11.36.3 Property Documentation

11.36.3.1 HLADacq `CHLADacqNet^ HLADacq [get]`

11.36.3.2 SerialPort `CSerialPortNet^ SerialPort [get]`

11.37 CMcsUsbDacqNet::CHWInfo Class Reference

Class to provide hardware information about the device.

Classes

- class CVoltageRangeInfoNet

Public Member Functions

- CHWInfo (CMcsUsbDacqNet^ device)
- virtual uint32_t GetNumberOfHWADCChannels ([System::Runtime::InteropServices::Out]int% numberOfChannels)

  Get the number of analog channels the device supports.
- virtual uint32_t GetNumberOfHWDigitalChannels ([System::Runtime::InteropServices::Out]int% numberOfChannels)

  Get the number of digital channels the device supports.
- virtual bool IsDigitalChannelDedicated ()

  Query if the digital channel replaces an analog channel when enabled (e.g. on MC_Card) or adds a channel link on USB devices.
- virtual uint32_t GetAvailableSampleRates ([System::Runtime::InteropServices::Out]System::Collections::Generic::List< int32_t >^% sampleRates)
- virtual System::Collections::Generic::List< int32_t > ^ GetAvailableVoltageRangesInMicroVolt (int milliGain)

  Gets a List of voltage ranges the device supports.
- virtual System::Collections::Generic::List< CVoltageRangeInfoNet^ > ^ GetAvailableVoltageRangesInMicroVoltAndStringsInMi (int milliGain)

  Gets a List of voltage ranges the device supports.

11.37.1 Detailed Description

Class to provide hardware information about the device.

11.37.2 Constructor & Destructor Documentation

11.37.2.1 CHWInfo() CHWInfo (CMcsUsbDacqNet^ *device*)

11.37.3 Member Function Documentation

11.37.3.1 GetAvailableSampleRates() virtual uint32_t GetAvailableSampleRates ([System::Runtime::InteropServices::Out] System::Collections::Generic::List< int32_t >^% *sampleRates*) [virtual]

11.37.3.2 GetAvailableVoltageRangesInMicroVolt() virtual System::Collections::Generic::List<int32_t> ^ GetAvailableVoltageRangesInMicroVolt (int *milliGain*) [virtual]

Gets a List of voltage ranges the device supports.

The List is scaled by the gain factor given as argument to this function. Use "1000" as scale factor for backwards compatibility. To get a list of voltage ranges for the headstage, obtain the gain of the headstage with the GetGain() call and use the result in the milliGain parameter. To get a list of voltage ranges for the analog inputs of the interfaceboard, obtain the gain of the analog inputs with the GetAnalogGain() call and use the result in the milliGain parameter.

Parameters

milliGain	The gain factor (in milliGain) used to scale the list of voltage ranges.

Returns

List of voltage ranges in µV.

11.37.3.3 GetAvailableVoltageRangesInMicroVoltAndStringsInMilliVolt() virtual System::Collections::Generic::List<CVoltageRangeInfoNet^> ^ GetAvailableVoltageRangesInMicroVoltAndStringsInMilliVolt (int *milliGain*) [virtual]

Gets a List of voltage ranges the device supports.

The List is scaled by the gain factor given as argument to this function. Use "1000" as scale factor for backwards compatibility. Each list entry contains the voltage range as an integer and as a string. To get a list of voltage ranges for the headstage, obtain the gain of the headstage with the GetGain() call and use the result in the milliGain parameter. To get a list of voltage ranges for the analog inputs of the interfaceboard, obtain the gain of the analog inputs with the GetAnalogGain() call and use the result in the milliGain parameter.

Parameters

milliGain	The gain factor (in milliGain) used to scale the list of voltage ranges.

Returns

List of voltage ranges in µV.

11.37.3.4 GetNumberOfHWADCChannels()

```
virtual uint32_t GetNumberOfHWADCChannels (
    [System::Runtime::InteropServices::Out] int% numberOfChannels ) [virtual]
```

Get the number of analog channels the device supports.

Parameters

numberOfChannels	Number of analog channels the device supports.

Returns

Error Status. 0 on success.

11.37.3.5 GetNumberOfHWDigitalChannels()

```
virtual uint32_t GetNumberOfHWDigitalChannels (
    [System::Runtime::InteropServices::Out] int% numberOfChannels ) [virtual]
```

Get the number of digital channels the device supports.

Parameters

numberOfChannels	Number of digital channels the device supports.

Returns

Error Status. 0 on success.

11.37.3.6 IsDigitalChannelDedicated() `virtual bool IsDigitalChannelDedicated ( ) [virtual]`

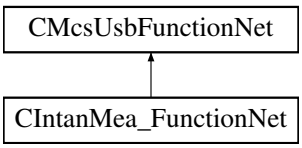
Query if the digital channel replaces an analog channel when enabled (e.g. on MC_Card) or adds a channel link on USB devices.

Returns

false when the digital channel replaces an analog channel when enabled, true when the digital channels is appended to the analog channels when enabled.

11.38 CIntanMea_FunctionNet Class Reference

Inheritance diagram for CIntanMea_FunctionNet:



Public Member Functions

- CIntanMea_FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ intalMea_Function↩ PointerContainer)
- CIntanMea_FunctionNet (CMcsUsbNet^ mcsusb)
- int GetUpperFrequencyByIndex (unsigned short index)
- int GetLowerFrequencyByIndex (unsigned short index)
- int64_t GetDSPHighPassByIndex (unsigned short index)
- int GetIntanRegister (unsigned short chip, unsigned short registernumber)
- int GetImpedanceResult (unsigned short channel)
- void SetBandwidthByIndex (int upper_index, int lower_index)
- void SetDSPHighPassByIndex (int index)
- void AmplifierSettle ()
- void SetIntanRegister (unsigned short register_number, int value)
- void SetDiagnosticMode (unsigned char onoff)
- void BeginImpedanceCheck (array< int >^ config_values)

Additional Inherited Members

11.38.1 Constructor & Destructor Documentation

11.38.1.1 CIntanMea_FunctionNet() [1/2] `CIntanMea_FunctionNet (`

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ intalMea_FunctionPointerContainer )
```

11.38.1.2 CIntanMea_FunctionNet() [2/2] CIntanMea_FunctionNet (CMcsUsbNet^ *mcsusb*)

11.38.2 Member Function Documentation

11.38.2.1 AmplifierSettle() void AmplifierSettle ( )

11.38.2.2 BeginImpedanceCheck() void BeginImpedanceCheck (array< int >^ *config_values*)

11.38.2.3 GetDSPHighPassByIndex() int64_t GetDSPHighPassByIndex (unsigned short *index*)

11.38.2.4 GetImpedanceResult() int GetImpedanceResult (unsigned short *channel*)

11.38.2.5 GetIntanRegister() int GetIntanRegister (unsigned short *chip*, unsigned short *registernumber*)

11.38.2.6 GetLowerFrequencyByIndex() int GetLowerFrequencyByIndex (unsigned short *index*)

11.38.2.7 GetUpperFrequencyByIndex() int GetUpperFrequencyByIndex (unsigned short *index*)

11.38.2.8 SetBandwidthByIndex() void SetBandwidthByIndex (int *upper_index*, int *lower_index*)

11.38.2.9 SetDiagnosticMode() void SetDiagnosticMode (unsigned char *onoff*)

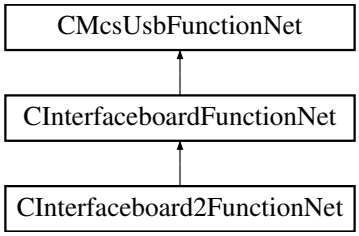
11.38.2.10 SetDSPHighPassByIndex() void SetDSPHighPassByIndex (int *index*)

11.38.2.11 SetIntanRegister() void SetIntanRegister (unsigned short *register_number*, int *value*)

11.39 CInterfaceboard2FunctionNet Class Reference

CInterfaceboard2FunctionNet is the class to control the Interfaceboard

Inheritance diagram for CInterfaceboard2FunctionNet:



Public Member Functions

- CInterfaceboard2FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pInterfaceboard2↩ FunctionPointerContainer)

  Initializes a new instance of the CInterfaceboard2FunctionNet class.
- CInterfaceboard2FunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CInterfaceboard2FunctionNet ()
- !CInterfaceboard2FunctionNet ()
- void SetIoVoltage (IoVoltageEnumNet ioVoltage)

  Sets the I/O Voltage level for the IFB2 digital and AUX ports, default is 3.3V.
- IoVoltageEnumNet GetIoVoltage ()

  Gets the I/O Voltage level for the IFB2 digital and AUX ports, default is 3.3V.

Additional Inherited Members

11.39.1 Detailed Description

CInterfaceboard2FunctionNet is the class to control the Interfaceboard

11.39.2 Constructor & Destructor Documentation

11.39.2.1 CInterfaceboard2FunctionNet() [1/2] CInterfaceboard2FunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pInterfaceboard2FunctionPointerContainer*)

Initializes a new instance of the CInterfaceboard2FunctionNet class.

11.39.2.2 CInterfaceboard2FunctionNet() [2/2] CInterfaceboard2FunctionNet (CMcsUsbNet^ *mcsusb*)

11.39.2.3 ~CInterfaceboard2FunctionNet() virtual ~CInterfaceboard2FunctionNet ( ) [virtual]

11.39.2.4 "!CInterfaceboard2FunctionNet() !CInterfaceboard2FunctionNet ( )

11.39.3 Member Function Documentation

11.39.3.1 GetIoVoltage() IoVoltageEnumNet GetIoVoltage ( )

Gets the I/O Voltage level for the IFB2 digital and AUX ports, default is 3.3V.

Returns

Enum for the IO Voltage (3.3V or 5.0V).

11.39.3.2 SetIoVoltage() void SetIoVoltage (IoVoltageEnumNet *ioVoltage*)

Sets the I/O Voltage level for the IFB2 digital and AUX ports, default is 3.3V.

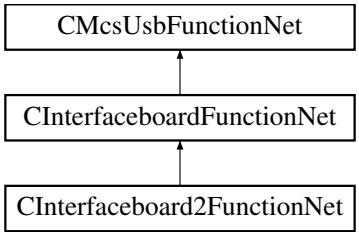
Parameters

ioVoltage	Enum for the I/O Voltage (3.3V or 5.0V).

11.40 CInterfaceboardFunctionNet Class Reference

CInterfaceboardFunctionNet is the class to control the Interfaceboard

Inheritance diagram for CInterfaceboardFunctionNet:



Public Member Functions

- CInterfaceboardFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pInterfaceboard↩ FunctionPointerContainer)

  Initializes a new instance of the CInterfaceboardFunctionNet class.
- CInterfaceboardFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CInterfaceboardFunctionNet ()
- !CInterfaceboardFunctionNet ()
- void SetCardinalDacqSamplerate (uint32_t samplerate)

  Sets the fundamental/cardinal data aquisition samplerate of the Interfaceboard, default is 50 kHz
- uint32_t GetCardinalDacqSamplerate ()

  Gets the fundamental/cardinal data aquisition samplerate of the Interfaceboard, default is 50 kHz
- void SetCardinalStgOutputrate (uint32_t outputrate)

  Sets the fundamental/cardinal STG output rate of the Interfaceboard, default is 50 kHz
- uint32_t GetCardinalStgOutputrate ()

  Gets the fundamental/cardinal STG output rate of the Interfaceboard, default is 50 kHz

Additional Inherited Members

11.40.1 Detailed Description

CInterfaceboardFunctionNet is the class to control the Interfaceboard

11.40.2 Constructor & Destructor Documentation

11.40.2.1 CInterfaceboardFunctionNet() [1/2]

```
CInterfaceboardFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pInterfaceboardFunctionPointerContainer )
```

Initializes a new instance of the CInterfaceboardFunctionNet class.

11.40.2.2 CInterfaceboardFunctionNet() [2/2] CInterfaceboardFunctionNet (CMcsUsbNet^ *mcsusb*)

11.40.2.3 ~CInterfaceboardFunctionNet() virtual ~CInterfaceboardFunctionNet ( ) [virtual]

11.40.2.4 "!CInterfaceboardFunctionNet() !CInterfaceboardFunctionNet ( )

11.40.3 Member Function Documentation

11.40.3.1 GetCardinalDacqSamplerate() uint32_t GetCardinalDacqSamplerate ( )

Gets the fundamental/cardinal data aquisition samplerate of the Interfaceboard, default is 50 kHz

Returns

The samplerate in Hz.

11.40.3.2 GetCardinalStgOutputrate() uint32_t GetCardinalStgOutputrate ( )

Gets the fundamental/cardinal STG output rate of the Interfaceboard, default is 50 kHz

Returns

The output rate in Hz.

11.40.3.3 SetCardinalDacqSamplerate() void SetCardinalDacqSamplerate (uint32_t *samplerate*)

Sets the fundamental/cardinal data aquisition samplerate of the Interfaceboard, default is 50 kHz

Parameters

samplerate	The samplerate in Hz.

11.40.3.4 SetCardinalStgOutputrate() `void SetCardinalStgOutputrate ( uint32_t outputrate )`

Sets the fundamental/cardinal STG output rate of the Interfaceboard, default is 50 kHz

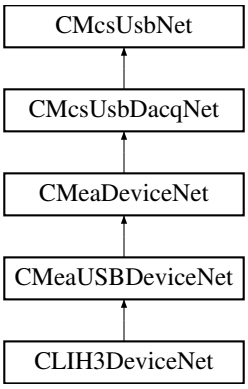
Parameters

outputrate	The output rate in Hz.

11.41 CLIH3DeviceNet Class Reference

CLIH3DeviceNet is the class to access the HEKA LIH3 device.

Inheritance diagram for CLIH3DeviceNet:



Public Member Functions

- CLIH3DeviceNet ()

  Initializes a new instance of the CLIH3DeviceNet class.
- virtual ~CLIH3DeviceNet ()
- !CLIH3DeviceNet ()
- void DummyCommand (uint32_t dummyParameter)

  Dummy command to show how to use the DLL.
- void SetEEpromPage (uint32_t EEpromStartAddress, array< int8_t >^ EEpromData, LIH30_EPC10_Bus_EnumNet epc10bus)

  Writes into EEprom on the EPC10 EEPROM
- array< int8_t >^ GetEEpromPage (uint32_t EEpromStartAddress, int EEpromData_Length, LIH30_EPC10_Bus_EnumNet epc10bus)

  Reads the requested amount of EEprom byte from the EPC10 EEPROM
- void SetSampleInterval (uint32_t SampleInterval)

  Sets the Sample Interval for the DACQ and Stimulation
- uint32_t GetSampleInterval ()

  Gets the Sample Interval for the DACQ and Stimulation
- void SetAdcOffset (LIH30_ADC_Channel_EnumNet AdcChannel, int32_t Offset)

  Sets the ADC offset of the DACQ for a single channel
- int32_t GetAdcOffset (LIH30_ADC_Channel_EnumNet AdcChannel)

  Gets the ADC offset of the DACQ for a single channel

- void SetAdcOffsetPermanent (LIH30_ADC_Channel_EnumNet AdcChannel)

  Writes the ADC offset of the DACQ for a single channel to permanent EEProm memory
- void ErasePermanentAdcOffset (LIH30_ADC_Channel_EnumNet AdcChannel)

  Delets the ADC offset of the DACQ for a single channel in permanent EEProm memory
- uint32_t ReadClipping (LIH30_EPC10_Bus_EnumNet epc10bus)

  Gets the clipping information
- void SetDigOutState (uint16_t DigOutState)

  Writes to the LIH30 digital output
- uint16_t GetDigInState ()

  Reads from the LIH30 digital input
- void SendCommand (LIH30_EPC10_Bus_EnumNet epc10bus, uint16_t Command)

  Send command to the EPC10
- uint16_t GetDacqRunStatus ()

  Gets the data acquisition running status
- void SetDacUseIdleValue (uint32_t DacChannel, bool UseIdle)

  Sets if the DAC Idle value is used after stimulation
- bool GetDacUseIdleValue (uint32_t DacChannel)

  Gets if the DAC Idle value is used after stimulation
- void SetDacIdleValue (uint32_t DacChannel, int32_t IdleValue)

  Sets the DAC Idle value
- int32_t GetDacIdleValue (uint32_t DacChannel)

  Gets the DAC Idle value
- void EnableUserTrigger (bool enable)

  Enables the User Trigger
- bool IsUserTriggerEnabled ()

  Is the User Trigger enabled
- void SetDacOffset (LIH30_DAC_Channel_EnumNet DacChannel, int32_t Offset)

  Sets the offset of a DAC channel.
- int32_t GetDacOffset (LIH30_DAC_Channel_EnumNet DacChannel)

  Gets the offset of a DAC channel.
- void SetDacOffsetPermanent (LIH30_DAC_Channel_EnumNet DacChannel)

  Writes the DAC offset of the STG for a single channel to permanent EEProm memory
- void ErasePermanentDacOffset (LIH30_DAC_Channel_EnumNet DacChannel)

  Delets the DAC offset of the STG for a single channel in permanent EEProm memory
- void SetAudioOutDacParameter (uint32_t Frequency, uint32_t Amplification)

  Sets the parameter of the audio DAC output.
- void GetAudioOutDacParameter ([System::Runtime::InteropServices::Out]uint32_t% Frequency, [System::↩ Runtime::InteropServices::Out]uint32_t% Amplification)

  Gets the parameter of the audio DAC output.
- String ^ ReadUARTData ()

  Reads the config string from the device.
- void WriteUARTData (String^ commandString)

  Write the command string to the device.

Properties

- CStimulusFunctionNet^ StimulusFunction `[get]`

Additional Inherited Members

11.41.1 Detailed Description

CLIH3DeviceNet is the class to access the HEKA LIH3 device.

11.41.2 Constructor & Destructor Documentation

11.41.2.1 CLIH3DeviceNet() `CLIH3DeviceNet ( )`

Initializes a new instance of the CLIH3DeviceNet class.

11.41.2.2 ~CLIH3DeviceNet() `virtual ~CLIH3DeviceNet ( ) [virtual]`

11.41.2.3 "!CLIH3DeviceNet() `!CLIH3DeviceNet ( )`

11.41.3 Member Function Documentation

11.41.3.1 DummyCommand() `void DummyCommand ( uint32_t dummyParameter )`

Dummy command to show how to use the DLL.

Parameters

dummyParameter	parameter to send to the device

11.41.3.2 EnableUserTrigger() `void EnableUserTrigger ( bool enable )`

Enables the User Trigger

Parameters

enable	Enable

11.41.3.3 ErasePermanentAdcOffset() `void ErasePermanentAdcOffset (`

`LIH30_ADC_Channel_EnumNet` *AdcChannel*)

Delets the ADC offset of the DACQ for a single channel in permanent EEProm memory

Parameters

AdcChannel	The ADC channel

11.41.3.4 ErasePermanentDacOffset() `void ErasePermanentDacOffset (`

`LIH30_DAC_Channel_EnumNet` *DacChannel*)

Delets the DAC offset of the STG for a single channel in permanent EEProm memory

Parameters

DacChannel	The DAC channel

11.41.3.5 GetAdcOffset() `int32_t GetAdcOffset (`

`LIH30_ADC_Channel_EnumNet` *AdcChannel*)

Gets the ADC offset of the DACQ for a single channel

Parameters

AdcChannel	The ADC channel

Returns

The offset for the given channel number

11.41.3.6 GetAudioOutDacParameter() `void GetAudioOutDacParameter (`

`[System::Runtime::InteropServices::Out] uint32_t%` *Frequency*,
`[System::Runtime::InteropServices::Out] uint32_t%` *Amplification*)

Gets the parameter of the audio DAC output.

Parameters

Frequency	Frequency(1 - 25000 Hz)
Amplification	Amplification(0 - 0xFFFF)

11.41.3.7 GetDacIdleValue() `int32_t GetDacIdleValue ( uint32_t DacChannel )`

Gets the DAC Idle value

Parameters

DacChannel	The DAC channel

Returns

The idle value

11.41.3.8 GetDacOffset() `int32_t GetDacOffset ( LIH30_DAC_Channel_EnumNet DacChannel )`

Gets the offset of a DAC channel.

Parameters

DacChannel	The DAC channel

Returns

The offset for the given channel number

11.41.3.9 GetDacqRunStatus() `uint16_t GetDacqRunStatus ( )`

Gets the data acquisition running status

Returns

The status (1: running / 0: stopped)

11.41.3.10 GetDacUseIdleValue() `bool GetDacUseIdleValue ( uint32_t DacChannel )`

Gets if the DAC Idle value is used after stimulation

Parameters

DacChannel	The DAC channel

Returns

Use idle value

11.41.3.11 GetDigInState() `uint16_t GetDigInState ( )`

Reads from the LIH30 digital input

Returns

The bit mask defining the digital input state

11.41.3.12 GetEEpromPage() `array<int8_t> ^ GetEEpromPage ( uint32_t EEpromStartAddress, int EEpromData_Length, LIH30_EPC10_Bus_EnumNet epc10bus )`

Reads the requested amount of EEprom byte from the EPC10 EEPROM

Parameters

EEpromStartAddress	start address of memory area to read from
EEpromData_Length	The maximal length of EEpromData.
epc10bus	The EPC10 bus

Returns

pointer to internal memory for the requested amount of data

11.41.3.13 GetSampleInterval() `uint32_t GetSampleInterval ( )`

Gets the Sample Interval for the DACQ and Stimulation

Returns

Sample Interval configured on the device

11.41.3.14 IsUserTriggerEnabled() `bool IsUserTriggerEnabled ( )`

Is the User Trigger enabled

Returns

Enabled

11.41.3.15 ReadClipping() `uint32_t ReadClipping ( LIH30_EPC10_Bus_EnumNet epc10bus )`

Gets the clipping information

Parameters

epc10bus	The EPC10 bus

Returns

The clipping value

11.41.3.16 ReadUARTData() `String ^ ReadUARTData ( )`

Reads the config string from the device.

Returns

The config string.

11.41.3.17 SendCommand() `void SendCommand ( LIH30_EPC10_Bus_EnumNet epc10bus, uint16_t Command )`

Send command to the EPC10

Parameters

epc10bus	The EPC10 bus
Command	The command

11.41.3.18 SetAdcOffset() void SetAdcOffset (LIH30_ADC_Channel_EnumNet *AdcChannel*, int32_t *Offset*)

Sets the ADC offset of the DACQ for a single channel

Parameters

AdcChannel	The ADC channel
Offset	The offset for the given channel number

11.41.3.19 SetAdcOffsetPermanent() void SetAdcOffsetPermanent (LIH30_ADC_Channel_EnumNet *AdcChannel*)

Writes the ADC offset of the DACQ for a single channel to permanent EEProm memory

Parameters

AdcChannel	The ADC channel

11.41.3.20 SetAudioOutDacParameter() void SetAudioOutDacParameter (uint32_t *Frequency*, uint32_t *Amplification*)

Sets the parameter of the audio DAC output.

Parameters

Frequency	Frequency(1 - 25000 Hz)
Amplification	Amplification(0 - 0xFFFF)

11.41.3.21 SetDacIdleValue() void SetDacIdleValue (uint32_t *DacChannel*, int32_t *IdleValue*)

Sets the DAC Idle value

Parameters

DacChannel	The DAC channel
IdleValue	The idle value

11.41.3.22 SetDacOffset() void SetDacOffset (LIH30_DAC_Channel_EnumNet *DacChannel*, int32_t *Offset*)

Sets the offset of a DAC channel.

Parameters

DacChannel	The DAC channel
Offset	The offset for the given channel number

11.41.3.23 SetDacOffsetPermanent() void SetDacOffsetPermanent (LIH30_DAC_Channel_EnumNet *DacChannel*)

Writes the DAC offset of the STG for a single channel to permanent EEProm memory

Parameters

DacChannel	The DAC channel

11.41.3.24 SetDacUseIdleValue() void SetDacUseIdleValue (uint32_t *DacChannel*, bool *UseIdle*)

Sets if the DAC Idle value is used after stimulation

Parameters

DacChannel	The DAC channel
UseIdle	Use idle value

11.41.3.25 SetDigOutState() void SetDigOutState (uint16_t *DigOutState*)

Writes to the LIH30 digital output

Parameters

DigOutState	The bit mask defining the digital output state

11.41.3.26 SetEEpromPage() void SetEEpromPage (

```
uint32_t EEpromStartAddress,
array< int8_t >^ EEpromData,
LIH30_EPC10_Bus_EnumNet epc10bus )
```

Writes into EEprom on the EPC10 EEPROM

Parameters

EEpromStartAddress	start address of memory area to write to
EEpromData	pointer to internal memory for the supported amount of data
epc10bus	The EPC10 bus

11.41.3.27 SetSampleInterval() `void SetSampleInterval (`

```
uint32_t SampleInterval )
```

Sets the Sample Interval for the DACQ and Stimulation

Parameters

SampleInterval	between the samples, Sample interval is available from 1 to 4194303

11.41.3.28 WriteUARTData() `void WriteUARTData (`

```
String^ commandString )
```

Write the command string to the device.

Parameters

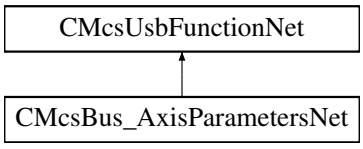
commandString	The config string.

11.41.4 Property Documentation

11.41.4.1 StimulusFunction `CStimulusFunctionNet^ StimulusFunction [get]`

11.42 CMcsBus_AxisParametersNet Class Reference

Inheritance diagram for CMcsBus_AxisParametersNet:



Public Member Functions

- CMcsBus_AxisParametersNet (CMcsUsbNet^ device)
- ~CMcsBus_AxisParametersNet (void)
- void SetAxisParametersEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short index, unsigned int parameter)
- void SetAxisParametersEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short index, int parameter)
- unsigned int GetAxisParametersUnsignedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short index)
- int GetAxisParametersSignedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short index)

Additional Inherited Members

11.42.1 Constructor & Destructor Documentation

11.42.1.1 CMcsBus_AxisParametersNet()

```
CMcsBus_AxisParametersNet (
    CMcsUsbNet^ device )
```

11.42.1.2 ~CMcsBus_AxisParametersNet()

```
~CMcsBus_AxisParametersNet (
    void  )
```

11.42.2 Member Function Documentation

11.42.2.1 GetAxisParametersSignedEeprom()

```
int GetAxisParametersSignedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short index )
```

11.42.2.2 GetAxisParametersUnsignedEeprom()

```
unsigned int GetAxisParametersUnsignedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short index )
```

11.42.2.3 SetAxisParametersEeprom() [1/2]

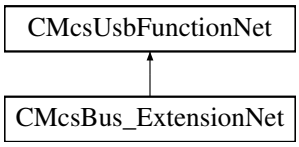
```
void SetAxisParametersEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short index,
    int parameter )
```

11.42.2.4 SetAxisParametersEeprom() [2/2]

```
void SetAxisParametersEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short index,
    unsigned int parameter )
```

11.43 CMcsBus_ExtensionNet Class Reference

Inheritance diagram for CMcsBus_ExtensionNet:



Public Member Functions

- CMcsBus_ExtensionNet (CMcsUsbNet^ device)
- ~CMcsBus_ExtensionNet (void)
- void SetLEDSwitch (unsigned char busnumber, unsigned char busaddress, unsigned short LEDSwitch)
- unsigned short GetLEDSwitch (unsigned char busnumber, unsigned char busaddress)

Additional Inherited Members

11.43.1 Constructor & Destructor Documentation

11.43.1.1 CMcsBus_ExtensionNet()

```
CMcsBus_ExtensionNet (
    CMcsUsbNet^ device )
```

11.43.1.2 ~CMcsBus_ExtensionNet()

```
~CMcsBus_ExtensionNet (
    void  )
```

11.43.2 Member Function Documentation

11.43.2.1 GetLEDSwitch() `unsigned short GetLEDSwitch (`

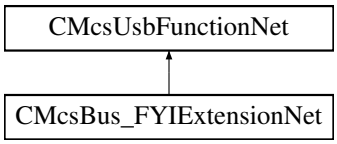
```
unsigned char busnumber,
unsigned char busaddress )
```

11.43.2.2 SetLEDSwitch() `void SetLEDSwitch (`

```
unsigned char busnumber,
unsigned char busaddress,
unsigned short LEDSwitch )
```

11.44 CMcsBus_FYIExtensionNet Class Reference

Inheritance diagram for CMcsBus_FYIExtensionNet:



Public Member Functions

- CMcsBus_FYIExtensionNet (CMcsUsbNet^ device)
- ~CMcsBus_FYIExtensionNet (void)
- void SetValves (unsigned char busnumber, unsigned char busaddress, unsigned int states)
- unsigned int GetValves (unsigned char busnumber, unsigned char busaddress)
- void SetDIO (unsigned char busnumber, unsigned char busaddress, unsigned short io)
- unsigned short GetDIO (unsigned char busnumber, unsigned char busaddress)
- void SetSingleHeater (unsigned char busnumber, unsigned char busaddress, short index, unsigned short power)
- unsigned short GetSingleHeater (unsigned char busnumber, unsigned char busaddress, short index)

Additional Inherited Members

11.44.1 Constructor & Destructor Documentation

11.44.1.1 CMcsBus_FYIExtensionNet() `CMcsBus_FYIExtensionNet (`

```
CMcsUsbNet^ device )
```

11.44.1.2 ~CMcsBus_FYIExtensionNet() ~CMcsBus_FYIExtensionNet (void)

11.44.2 Member Function Documentation

11.44.2.1 GetDIO() unsigned short GetDIO (unsigned char *busnumber*, unsigned char *busaddress*)

11.44.2.2 GetSingleHeater() unsigned short GetSingleHeater (unsigned char *busnumber*, unsigned char *busaddress*, short *index*)

11.44.2.3 GetValves() unsigned int GetValves (unsigned char *busnumber*, unsigned char *busaddress*)

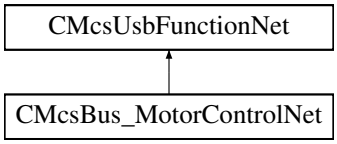
11.44.2.4 SetDIO() void SetDIO (unsigned char *busnumber*, unsigned char *busaddress*, unsigned short *io*)

11.44.2.5 SetSingleHeater() void SetSingleHeater (unsigned char *busnumber*, unsigned char *busaddress*, short *index*, unsigned short *power*)

11.44.2.6 SetValves() void SetValves (unsigned char *busnumber*, unsigned char *busaddress*, unsigned int *states*)

11.45 CMcsBus_MotorControlNet Class Reference

Inheritance diagram for CMcsBus_MotorControlNet:



Public Member Functions

- CMcsBus_MotorControlNet (CMcsUsbNet^ device)
- ~CMcsBus_MotorControlNet (void)
- void SetMCScalingFactorEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int factor)
- int GetMCScalingFactorEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCScalingFactor (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int factor)
- int GetMCScalingFactor (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxSpeedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short speed)
- unsigned short GetMCMaxSpeedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxSpeed (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short speed)
- unsigned short GetMCMaxSpeed (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxTravelEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int travel)
- int GetMCMaxTravelEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxTravel (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int travel)
- int GetMCMaxTravel (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCMaxCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCMaxCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCRegulatorGainEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short gain)
- short GetMCRegulatorGainEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCRegulatorGain (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short gain)
- short GetMCRegulatorGain (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxAccelerationEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short acceleration)
- unsigned short GetMCMaxAccelerationEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)

- void SetMCMaxAcceleration (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short acceleration)
- unsigned short GetMCMaxAcceleration (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCStandbyCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short percent)
- short GetMCStandbyCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCStandbyCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short percent)
- short GetMCStandbyCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCStandbyTimeEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short t)
- short GetMCStandbyTimeEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCStandbyTime (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short t)
- short GetMCStandbyTime (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCBreakCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCBreakCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCBreakCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCBreakCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCConfigEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short config)
- unsigned short GetMCConfigEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCConfig (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short config)
- unsigned short GetMCConfig (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCSpeedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short speed)
- unsigned short GetMCSpeedEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCSpeed (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short speed)
- short GetMCSpeed (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCAccelerationEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short acceleration)
- unsigned short GetMCAccelerationEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCAcceleration (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short acceleration)
- unsigned short GetMCAcceleration (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCReferenceCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCReferenceCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCReferenceCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCReferenceCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrentModeEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, RoboCurrentModeEnumNet mode)
- RoboCurrentModeEnumNet GetMCCurrentModeEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)

- void SetMCCurrentMode (unsigned char busnumber, unsigned char busaddress, unsigned char axis, RoboCurrentModeEnumNet mode)
- RoboCurrentModeEnumNet GetMCCurrentMode (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCAxisRevisionEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short revision)
- unsigned short GetMCAxisRevisionEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCSpeedUnitEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int32_t speedunit)
- int32_t GetMCSpeedUnitEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCOutputOnOff (unsigned char busnumber, unsigned char busaddress, unsigned char axis, bool OnOff_status)
- bool GetMCOutputOnOff (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCSpeedShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short speed)
- short GetMCSpeedShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCAccelerationShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short acceleration)
- unsigned short GetMCAccelerationShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrentShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis, short current)
- short GetMCCurrentShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCMaxTravelShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int travel)
- int GetMCMaxTravelShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrentPosition (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int position)
- int GetMCCurrentPosition (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCNewPosition (unsigned char busnumber, unsigned char busaddress, unsigned char axis, int position)
- int GetMCNewPosition (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- short GetMCCurrentSpeed (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void StartMCMovement (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCRotation (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned char onoff)
- unsigned short GetMCMovement (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCReference (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned char switch_enable, unsigned char switch_polarity)
- unsigned char GetMCReference (unsigned char busnumber, unsigned char busaddress, unsigned char axis, [System::Runtime::InteropServices::Out]unsigned char% switch_port)
- void StopMCMovement (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetMCCurrentModeShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis, RoboCurrentModeEnumNet mode)
- RoboCurrentModeEnumNet GetMCCurrentModeShortCommand (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- unsigned short GetMCPhase (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- unsigned short GetMCPhaseOffset (unsigned char busnumber, unsigned char busaddress, unsigned char axis)
- void SetSubChannel (unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short subchannel)
- unsigned short GetSubChannel (unsigned char busnumber, unsigned char busaddress, unsigned char axis)

Additional Inherited Members

11.45.1 Constructor & Destructor Documentation

11.45.1.1 CMcsBus_MotorControlNet()

```
CMcsBus_MotorControlNet (
    CMcsUsbNet^ device )
```

11.45.1.2 ~CMcsBus_MotorControlNet()

```
~CMcsBus_MotorControlNet (
    void  )
```

11.45.2 Member Function Documentation

11.45.2.1 GetMCAcceleration()

```
unsigned short GetMCAcceleration (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.2 GetMCAccelerationEeprom()

```
unsigned short GetMCAccelerationEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.3 GetMCAccelerationShortCommand()

```
unsigned short GetMCAccelerationShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.4 GetMCAxisRevisionEeprom()

```
unsigned short GetMCAxisRevisionEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.5 GetMCBreakCurrent()

```
short GetMCBreakCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.6 GetMCBreakCurrentEeprom()

```
short GetMCBreakCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.7 GetMCConfig()

```
unsigned short GetMCConfig (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.8 GetMCConfigEeprom()

```
unsigned short GetMCConfigEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.9 GetMCCurrent()

```
short GetMCCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.10 GetMCCurrentEeprom()

```
short GetMCCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.11 GetMCCurrentMode()

```
RoboCurrentModeEnumNet GetMCCurrentMode (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.12 GetMCCurrentModeEeprom()

```
RoboCurrentModeEnumNet GetMCCurrentModeEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.13 GetMCCurrentModeShortCommand()

```
RoboCurrentModeEnumNet GetMCCurrentModeShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.14 GetMCCurrentPosition()

```
int GetMCCurrentPosition (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.15 GetMCCurrentShortCommand()

```
short GetMCCurrentShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.16 GetMCCurrentSpeed()

```
short GetMCCurrentSpeed (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.17 GetMCMaxAcceleration()

```
unsigned short GetMCMaxAcceleration (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.18 GetMCMaxAccelerationEeprom()

```
unsigned short GetMCMaxAccelerationEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.19 GetMCMaxCurrent()

```
short GetMCMaxCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.20 GetMCMaxCurrentEeprom()

```
short GetMCMaxCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.21 GetMCMaxSpeed()

```
unsigned short GetMCMaxSpeed (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.22 GetMCMaxSpeedEeprom()

```
unsigned short GetMCMaxSpeedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.23 GetMCMaxTravel()

```
int GetMCMaxTravel (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.24 GetMCMaxTravelEeprom()

```
int GetMCMaxTravelEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.25 GetMCMaxTravelShortCommand()

```
int GetMCMaxTravelShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.26 GetMCMovement()

```
unsigned short GetMCMovement (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.27 GetMCNewPosition()

```
int GetMCNewPosition (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.28 GetMCOutputOnOff()

```
bool GetMCOutputOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.29 GetMCPhase()

```
unsigned short GetMCPhase (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.30 GetMCPhaseOffset()

```
unsigned short GetMCPhaseOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.31 GetMCReference()

```
unsigned char GetMCReference (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    [System::Runtime::InteropServices::Out] unsigned char% switch_port )
```

11.45.2.32 GetMCReferenceCurrent()

```
short GetMCReferenceCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.33 GetMCReferenceCurrentEeprom()

```
short GetMCReferenceCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.34 GetMCRegulatorGain()

```
short GetMCRegulatorGain (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.35 GetMCRegulatorGainEeprom()

```
short GetMCRegulatorGainEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.36 GetMCScalingFactor()

```
int GetMCScalingFactor (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.37 GetMCScalingFactorEeprom()

```
int GetMCScalingFactorEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.38 GetMCSpeed()

```
short GetMCSpeed (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.39 GetMCSpeedEeprom()

```
unsigned short GetMCSpeedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.40 GetMCSpeedShortCommand()

```
short GetMCSpeedShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.41 GetMCSpeedUnitEeprom()

```
int32_t GetMCSpeedUnitEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.42 GetMCStandbyCurrent()

```
short GetMCStandbyCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.43 GetMCStandbyCurrentEeprom()

```
short GetMCStandbyCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.44 GetMCStandbyTime()

```
short GetMCStandbyTime (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.45 GetMCStandbyTimeEeprom()

```
short GetMCStandbyTimeEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.46 GetSubChannel()

```
unsigned short GetSubChannel (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.47 SetMCAcceleration()

```
void SetMCAcceleration (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short acceleration )
```

11.45.2.48 SetMCAccelerationEeprom()

```
void SetMCAccelerationEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short acceleration )
```

11.45.2.49 SetMCAccelerationShortCommand()

```
void SetMCAccelerationShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short acceleration )
```

11.45.2.50 SetMCAxisRevisionEeprom()

```
void SetMCAxisRevisionEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short revision )
```

11.45.2.51 SetMCBreakCurrent()

```
void SetMCBreakCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.52 SetMCBreakCurrentEeprom()

```
void SetMCBreakCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.53 SetMCConfig()

```
void SetMCConfig (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short config )
```

11.45.2.54 SetMCConfigEeprom()

```
void SetMCConfigEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short config )
```

11.45.2.55 SetMCCurrent()

```
void SetMCCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.56 SetMCCurrentEeprom()

```
void SetMCCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.57 SetMCCurrentMode()

```
void SetMCCurrentMode (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    RoboCurrentModeEnumNet mode )
```

11.45.2.58 SetMCCurrentModeEeprom()

```
void SetMCCurrentModeEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    RoboCurrentModeEnumNet mode )
```

11.45.2.59 SetMCCurrentModeShortCommand()

```
void SetMCCurrentModeShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    RoboCurrentModeEnumNet mode )
```

11.45.2.60 SetMCCurrentPosition()

```
void SetMCCurrentPosition (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int position )
```

11.45.2.61 SetMCCurrentShortCommand()

```
void SetMCCurrentShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.62 SetMCMaxAcceleration()

```
void SetMCMaxAcceleration (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short acceleration )
```

11.45.2.63 SetMCMaxAccelerationEeprom()

```
void SetMCMaxAccelerationEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short acceleration )
```

11.45.2.64 SetMCMaxCurrent()

```
void SetMCMaxCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.65 SetMCMaxCurrentEeprom()

```
void SetMCMaxCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.66 SetMCMaxSpeed()

```
void SetMCMaxSpeed (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short speed )
```

11.45.2.67 SetMCMaxSpeedEeprom()

```
void SetMCMaxSpeedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short speed )
```

11.45.2.68 SetMCMaxTravel()

```
void SetMCMaxTravel (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int travel )
```

11.45.2.69 SetMCMaxTravelEeprom()

```
void SetMCMaxTravelEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int travel )
```

11.45.2.70 SetMCMaxTravelShortCommand()

```
void SetMCMaxTravelShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int travel )
```

11.45.2.71 SetMCNewPosition()

```
void SetMCNewPosition (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int position )
```

11.45.2.72 SetMCOutputOnOff()

```
void SetMCOutputOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    bool OnOff_status )
```

11.45.2.73 SetMCReference()

```
void SetMCReference (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned char switch_enable,
    unsigned char switch_polarity )
```

11.45.2.74 SetMCReferenceCurrent()

```
void SetMCReferenceCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.75 SetMCReferenceCurrentEeprom()

```
void SetMCReferenceCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short current )
```

11.45.2.76 SetMCRegulatorGain()

```
void SetMCRegulatorGain (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short gain )
```

11.45.2.77 SetMCRegulatorGainEeprom()

```
void SetMCRegulatorGainEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short gain )
```

11.45.2.78 SetMCRotation()

```
void SetMCRotation (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned char onoff )
```

11.45.2.79 SetMCScalingFactor()

```
void SetMCScalingFactor (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int factor )
```

11.45.2.80 SetMCScalingFactorEeprom()

```
void SetMCScalingFactorEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int factor )
```

11.45.2.81 SetMCSpeed()

```
void SetMCSpeed (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short speed )
```

11.45.2.82 SetMCSpeedEeprom()

```
void SetMCSpeedEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short speed )
```

11.45.2.83 SetMCSpeedShortCommand()

```
void SetMCSpeedShortCommand (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short speed )
```

11.45.2.84 SetMCSpeedUnitEeprom()

```
void SetMCSpeedUnitEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int32_t speedunit )
```

11.45.2.85 SetMCStandbyCurrent()

```
void SetMCStandbyCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short percent )
```

11.45.2.86 SetMCStandbyCurrentEeprom()

```
void SetMCStandbyCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short percent )
```

11.45.2.87 SetMCStandbyTime()

```
void SetMCStandbyTime (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short t )
```

11.45.2.88 SetMCStandbyTimeEeprom()

```
void SetMCStandbyTimeEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short t )
```

11.45.2.89 SetSubChannel()

```
void SetSubChannel (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short subchannel )
```

11.45.2.90 StartMCMovement()

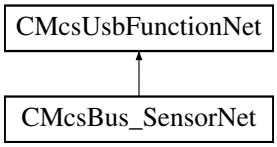
```
void StartMCMovement (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.45.2.91 StopMCMovement()

```
void StopMCMovement (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis )
```

11.46 CMcsBus_SensorNet Class Reference

Inheritance diagram for CMcsBus_SensorNet:



Public Member Functions

- CMcsBus_SensorNet (CMcsUsbNet^ device)
- ~CMcsBus_SensorNet (void)
- void SetMinimalThreshold (unsigned char busnumber, unsigned char busaddress, unsigned short threshold)
- unsigned short GetMinimalThreshold (unsigned char busnumber, unsigned char busaddress)
- void SetDetectionThreshold (unsigned char busnumber, unsigned char busaddress, unsigned short threshold)
- unsigned short GetDetectionThreshold (unsigned char busnumber, unsigned char busaddress)
- void SetLatency (unsigned char busnumber, unsigned char busaddress, unsigned short latency)
- unsigned short GetLatency (unsigned char busnumber, unsigned char busaddress)
- unsigned short GetBubbleStatus (unsigned char busnumber, unsigned char busaddress)
- unsigned short GetLatencyCounter (unsigned char busnumber, unsigned char busaddress)
- unsigned short GetDetectorValue (unsigned char busnumber, unsigned char busaddress)
- array< int > ^ GetPressure (unsigned char busnumber, unsigned char busaddress, int n)
- int GetPressure (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetRegulatorOnOff (unsigned char busnumber, unsigned char busaddress, unsigned short index, unsigned char onoff)
- unsigned char GetRegulatorOnOff (unsigned char busnumber, unsigned char busaddress, unsigned short index)

- void SetSollPressure (unsigned char busnumber, unsigned char busaddress, unsigned short index, int pressure)
- int GetSollPressure (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetRegulatorFactor (unsigned char busnumber, unsigned char busaddress, unsigned short index, int factor)
- int GetRegulatorFactor (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetPressureOffset (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- array< unsigned short > ^ GetPressureOffset (unsigned char busnumber, unsigned char busaddress)
- int GetPressureOffset (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- unsigned int GetRegulatorStatus (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetRotatePump (unsigned char busnumber, unsigned char busaddress, unsigned short index, short speed)
- short GetRotatePump (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetMovePump (unsigned char busnumber, unsigned char busaddress, unsigned short index, unsigned short speed, int position)
- void GetMovePump (unsigned char busnumber, unsigned char busaddress, unsigned short index, [System::Runtime::InteropServices::Out]unsigned short% speed, [System::Runtime::InteropServices::Out]int% position)
- void SetRegulationTimeouts (unsigned char busnumber, unsigned char busaddress, unsigned short MaxSpeedWait, unsigned short MaxSignChange)
- void GetRegulationTimeouts (unsigned char busnumber, unsigned char busaddress, [System::Runtime::InteropServices::Out]unsigned short% MaxSpeedWait, [System::Runtime::InteropServices::Out]unsigned short% MaxSignChange)
- array< int > ^ Get4ADC (unsigned char busnumber, unsigned char busaddress)
- array< int > ^ Get4ADCAverage (unsigned char busnumber, unsigned char busaddress)
- void Set4DAC (unsigned char busnumber, unsigned char busaddress, array< unsigned short >^ dac)
- array< unsigned short > ^ Get4DAC (unsigned char busnumber, unsigned char busaddress)
- void Set4ADCMode (unsigned char busnumber, unsigned char busaddress, PatchServAdcModeEnumNet mode)
- PatchServAdcModeEnumNet Get4ADCMode (unsigned char busnumber, unsigned char busaddress)
- void Set4ADCCatchampAverageShift (unsigned char busnumber, unsigned char busaddress, unsigned int shift)
- unsigned int Get4ADCCatchampAverageShift (unsigned char busnumber, unsigned char busaddress)
- array< unsigned short > ^ Get2AnalogInput (unsigned char busnumber, unsigned char busaddress)
- unsigned short Get2DigitalInput (unsigned char busnumber, unsigned char busaddress)
- array< unsigned short > ^ GetADCs (unsigned char busnumber, unsigned char busaddress, int n)
- array< unsigned short > ^ GetADCsLoop (unsigned char busnumber, unsigned char busaddress, int n)
- void SetPiezoState (unsigned char busnumber, unsigned char busaddress, int state)
- void GetPiezoState (unsigned char busnumber, unsigned char busaddress, [System::Runtime::InteropServices::Out]int% state, [System::Runtime::InteropServices::Out]int% reason)
- void SetDACs (unsigned char busnumber, unsigned char busaddress, unsigned short index, array< unsigned short >^ dac_times_voltages)
- array< unsigned short > ^ GetDACs (unsigned char busnumber, unsigned char busaddress, unsigned short index)
- void SetSamplePeriode (unsigned char busnumber, unsigned char busaddress, unsigned short periode)
- unsigned short GetSamplePeriode (unsigned char busnumber, unsigned char busaddress)
- void StartSync (unsigned char busnumber, unsigned char busaddress)
- unsigned short GetSyncState (unsigned char busnumber, unsigned char busaddress)
- void CatchAmpSetDacAmplitude (unsigned char busnumber, unsigned char busaddress, unsigned short dacAmplitude)
- unsigned short CatchAmpGetDacAmplitude (unsigned char busnumber, unsigned char busaddress)
- void CatchAmpSetDacOffset (unsigned char busnumber, unsigned char busaddress, short dacOffset)
- short CatchAmpGetDacOffset (unsigned char busnumber, unsigned char busaddress)
- int CatchAmpGetAdcMean (unsigned char busnumber, unsigned char busaddress)
- int CatchAmpGetAdcValue (unsigned char busnumber, unsigned char busaddress)

- int CatchAmpGetAdcValueH (unsigned char busnumber, unsigned char busaddress)
- int CatchAmpGetAdcValueL (unsigned char busnumber, unsigned char busaddress)
- void CatchAmpSetPwmEnable (unsigned char busnumber, unsigned char busaddress, bool pwmEnable)
- bool CatchAmpGetPwmEnable (unsigned char busnumber, unsigned char busaddress)
- void CatchAmpSetDacEnable (unsigned char busnumber, unsigned char busaddress, bool dacEnable)
- bool CatchAmpGetDacEnable (unsigned char busnumber, unsigned char busaddress)
- int TactSwitchGetState (unsigned char busnumber, unsigned char busaddress)
- void TactSwitchSetDisplay (unsigned char busnumber, unsigned char busaddress, int Melody)

Additional Inherited Members

11.46.1 Constructor & Destructor Documentation

11.46.1.1 CMcsBus_SensorNet() CMcsBus_SensorNet (CMcsUsbNet^ *device*)

11.46.1.2 ~CMcsBus_SensorNet() ~CMcsBus_SensorNet (void)

11.46.2 Member Function Documentation

11.46.2.1 CatchAmpGetAdcMean() int CatchAmpGetAdcMean (unsigned char *busnumber*, unsigned char *busaddress*)

11.46.2.2 CatchAmpGetAdcValue() int CatchAmpGetAdcValue (unsigned char *busnumber*, unsigned char *busaddress*)

11.46.2.3 CatchAmpGetAdcValueH() int CatchAmpGetAdcValueH (unsigned char *busnumber*, unsigned char *busaddress*)

11.46.2.4 CatchAmpGetAdcValueL()

```
int CatchAmpGetAdcValueL (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.5 CatchAmpGetDacAmplitude()

```
unsigned short CatchAmpGetDacAmplitude (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.6 CatchAmpGetDacEnable()

```
bool CatchAmpGetDacEnable (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.7 CatchAmpGetDacOffset()

```
short CatchAmpGetDacOffset (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.8 CatchAmpGetPwmEnable()

```
bool CatchAmpGetPwmEnable (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.9 CatchAmpSetDacAmplitude()

```
void CatchAmpSetDacAmplitude (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short dacAmplitude )
```

11.46.2.10 CatchAmpSetDacEnable()

```
void CatchAmpSetDacEnable (
    unsigned char busnumber,
    unsigned char busaddress,
    bool dacEnable )
```

11.46.2.11 CatchAmpSetDacOffset()

```
void CatchAmpSetDacOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    short dacOffset )
```

11.46.2.12 CatchAmpSetPwmEnable()

```
void CatchAmpSetPwmEnable (
    unsigned char busnumber,
    unsigned char busaddress,
    bool pwmEnable )
```

11.46.2.13 Get2AnalogInput()

```
array<unsigned short> ^ Get2AnalogInput (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.14 Get2DigitalInput()

```
unsigned short Get2DigitalInput (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.15 Get4ADC()

```
array<int> ^ Get4ADC (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.16 Get4ADCAverage()

```
array<int> ^ Get4ADCAverage (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.17 Get4ADCCatchampAverageShift()

```
unsigned int Get4ADCCatchampAverageShift (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.18 Get4ADCMode()

```
PatchServAdcModeEnumNet Get4ADCMode (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.19 Get4DAC()

```
array<unsigned short> ^ Get4DAC (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.20 GetADCs()

```
array<unsigned short> ^ GetADCs (
    unsigned char busnumber,
    unsigned char busaddress,
    int n )
```

11.46.2.21 GetADCsLoop()

```
array<unsigned short> ^ GetADCsLoop (
    unsigned char busnumber,
    unsigned char busaddress,
    int n )
```

11.46.2.22 GetBubbleStatus()

```
unsigned short GetBubbleStatus (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.23 GetDACs()

```
array<unsigned short> ^ GetDACs (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.24 GetDetectionThreshold()

```
unsigned short GetDetectionThreshold (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.25 GetDetectorValue()

```
unsigned short GetDetectorValue (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.26 GetLatency()

```
unsigned short GetLatency (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.27 GetLatencyCounter()

```
unsigned short GetLatencyCounter (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.28 GetMinimalThreshold()

```
unsigned short GetMinimalThreshold (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.29 GetMovePump()

```
void GetMovePump (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    [System::Runtime::InteropServices::Out] unsigned short% speed,
    [System::Runtime::InteropServices::Out] int% position )
```

11.46.2.30 GetPiezoState()

```
void GetPiezoState (
    unsigned char busnumber,
    unsigned char busaddress,
    [System::Runtime::InteropServices::Out] int% state,
    [System::Runtime::InteropServices::Out] int% reason )
```

11.46.2.31 GetPressure() [1/2]

```
array<int> ^ GetPressure (
    unsigned char busnumber,
    unsigned char busaddress,
    int n )
```

11.46.2.32 GetPressure() [2/2]

```
int GetPressure (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.33 GetPressureOffset() [1/2]

```
array<unsigned short> ^ GetPressureOffset (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.34 GetPressureOffset() [2/2]

```
int GetPressureOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.35 GetRegulationTimeouts()

```
void GetRegulationTimeouts (
    unsigned char busnumber,
    unsigned char busaddress,
    [System::Runtime::InteropServices::Out] unsigned short% MaxSpeedWait,
    [System::Runtime::InteropServices::Out] unsigned short% MaxSignChange )
```

11.46.2.36 GetRegulatorFactor()

```
int GetRegulatorFactor (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.37 GetRegulatorOnOff()

```
unsigned char GetRegulatorOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.38 GetRegulatorStatus()

```
unsigned int GetRegulatorStatus (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.39 GetRotatePump()

```
short GetRotatePump (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.40 GetSamplePeriode()

```
unsigned short GetSamplePeriode (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.41 GetSollPressure()

```
int GetSollPressure (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.42 GetSyncState()

```
unsigned short GetSyncState (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.43 Set4ADCCatchampAverageShift()

```
void Set4ADCCatchampAverageShift (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned int shift )
```

11.46.2.44 Set4ADCMode()

```
void Set4ADCMode (
    unsigned char busnumber,
    unsigned char busaddress,
    PatchServAdcModeEnumNet mode )
```

11.46.2.45 Set4DAC()

```
void Set4DAC (
    unsigned char busnumber,
    unsigned char busaddress,
    array< unsigned short >^ dac )
```

11.46.2.46 SetDACs()

```
void SetDACs (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    array< unsigned short >^ dac_times_voltages )
```

11.46.2.47 SetDetectionThreshold()

```
void SetDetectionThreshold (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short threshold )
```

11.46.2.48 SetLatency()

```
void SetLatency (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short latency )
```

11.46.2.49 SetMinimalThreshold()

```
void SetMinimalThreshold (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short threshold )
```

11.46.2.50 SetMovePump()

```
void SetMovePump (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    unsigned short speed,
    int position )
```

11.46.2.51 SetPiezoState()

```
void SetPiezoState (
    unsigned char busnumber,
    unsigned char busaddress,
    int state )
```

11.46.2.52 SetPressureOffset()

```
void SetPressureOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index )
```

11.46.2.53 SetRegulationTimeouts()

```
void SetRegulationTimeouts (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short MaxSpeedWait,
    unsigned short MaxSignChange )
```

11.46.2.54 SetRegulatorFactor()

```
void SetRegulatorFactor (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    int factor )
```

11.46.2.55 SetRegulatorOnOff()

```
void SetRegulatorOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    unsigned char onoff )
```

11.46.2.56 SetRotatePump()

```
void SetRotatePump (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    short speed )
```

11.46.2.57 SetSamplePeriode()

```
void SetSamplePeriode (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short periode )
```

11.46.2.58 SetSollPressure()

```
void SetSollPressure (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short index,
    int pressure )
```

11.46.2.59 StartSync()

```
void StartSync (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.60 TactSwitchGetState()

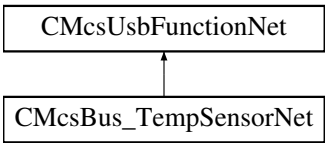
```
int TactSwitchGetState (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.46.2.61 TactSwitchSetDisplay()

```
void TactSwitchSetDisplay (
    unsigned char busnumber,
    unsigned char busaddress,
    int Melody )
```

11.47 CMcsBus_TempSensorNet Class Reference

Inheritance diagram for CMcsBus_TempSensorNet:



Public Member Functions

- CMcsBus_TempSensorNet (CMcsUsbNet^ device)
- ~CMcsBus_TempSensorNet (void)
- short GetTemperatur (unsigned char busnumber, unsigned char busaddress)
- short GetTemperatur (unsigned char busnumber, unsigned char busaddress, short index)
- void SetNanoVoltsPerKelvin (unsigned char busnumber, unsigned char busaddress, int nanovoltsperkelvin)
- int GetNanoVoltsPerKelvin (unsigned char busnumber, unsigned char busaddress)
- short GetThermoVoltage (unsigned char busnumber, unsigned char busaddress, short index)
- short GetThermoTemp (unsigned char busnumber, unsigned char busaddress, short index)
- void SetThermoOffset (unsigned char busnumber, unsigned char busaddress, short index, short offset)
- short GetThermoOffset (unsigned char busnumber, unsigned char busaddress, short index)

Additional Inherited Members

11.47.1 Constructor & Destructor Documentation

11.47.1.1 CMcsBus_TempSensorNet()

```
CMcsBus_TempSensorNet (
    CMcsUsbNet^ device )
```

11.47.1.2 ~CMcsBus_TempSensorNet()

```
~CMcsBus_TempSensorNet (
    void  )
```

11.47.2 Member Function Documentation

11.47.2.1 GetNanoVoltsPerKelvin()

```
int GetNanoVoltsPerKelvin (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.47.2.2 GetTemperatur() [1/2]

```
short GetTemperatur (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.47.2.3 GetTemperatur() [2/2]

```
short GetTemperatur (
    unsigned char busnumber,
    unsigned char busaddress,
    short index )
```

11.47.2.4 GetThermoOffset()

```
short GetThermoOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    short index )
```

11.47.2.5 GetThermoTemp()

```
short GetThermoTemp (
    unsigned char busnumber,
    unsigned char busaddress,
    short index )
```

11.47.2.6 GetThermoVoltage()

```
short GetThermoVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    short index )
```

11.47.2.7 SetNanoVoltsPerKelvin()

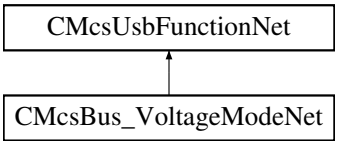
```
void SetNanoVoltsPerKelvin (
    unsigned char busnumber,
    unsigned char busaddress,
    int nanovoltsperkelvin )
```

11.47.2.8 SetThermoOffset()

```
void SetThermoOffset (
    unsigned char busnumber,
    unsigned char busaddress,
    short index,
    short offset )
```

11.48 CMcsBus_VoltageModeNet Class Reference

Inheritance diagram for CMcsBus_VoltageModeNet:



Public Member Functions

- CMcsBus_VoltageModeNet (CMcsUsbNet^ device)
- ~CMcsBus_VoltageModeNet (void)
- void SetVMMaxPositiveCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short current)
- short GetVMMaxPositiveCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxPositiveCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short current)
- short GetVMMaxPositiveCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxNegativeCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short current)
- short GetVMMaxNegativeCurrentEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxNegativeCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short current)
- short GetVMMaxNegativeCurrent (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxPositiveVoltageEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short voltage)
- short GetVMMaxPositiveVoltageEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxPositiveVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short voltage)
- short GetVMMaxPositiveVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxNegativeVoltageEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short voltage)
- short GetVMMaxNegativeVoltageEeprom (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMMaxNegativeVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short voltage)
- short GetVMMaxNegativeVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMOutputOnOff (unsigned char busnumber, unsigned char busaddress, unsigned char channel, unsigned short status)
- unsigned short GetVMOutputOnOff (unsigned char busnumber, unsigned char busaddress, unsigned char channel)
- void SetVMVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel, short voltage)
- short GetVMVoltage (unsigned char busnumber, unsigned char busaddress, unsigned char channel)

Additional Inherited Members

11.48.1 Constructor & Destructor Documentation

11.48.1.1 CMcsBus_VoltageModeNet() `CMcsBus_VoltageModeNet ( CMcsUsbNet^ device )`

11.48.1.2 ~CMcsBus_VoltageModeNet() ~CMcsBus_VoltageModeNet (void)

11.48.2 Member Function Documentation

11.48.2.1 GetVMMaxNegativeCurrent() short GetVMMaxNegativeCurrent (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.2 GetVMMaxNegativeCurrentEeprom() short GetVMMaxNegativeCurrentEeprom (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.3 GetVMMaxNegativeVoltage() short GetVMMaxNegativeVoltage (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.4 GetVMMaxNegativeVoltageEeprom() short GetVMMaxNegativeVoltageEeprom (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.5 GetVMMaxPositiveCurrent() short GetVMMaxPositiveCurrent (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.6 GetVMMaxPositiveCurrentEeprom() short GetVMMaxPositiveCurrentEeprom (unsigned char *busnumber*, unsigned char *busaddress*, unsigned char *channel*)

11.48.2.7 GetVMMaxPositiveVoltage()

```
short GetVMMaxPositiveVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel )
```

11.48.2.8 GetVMMaxPositiveVoltageEeprom()

```
short GetVMMaxPositiveVoltageEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel )
```

11.48.2.9 GetVMOutputOnOff()

```
unsigned short GetVMOutputOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel )
```

11.48.2.10 GetVMVoltage()

```
short GetVMVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel )
```

11.48.2.11 SetVMMaxNegativeCurrent()

```
void SetVMMaxNegativeCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short current )
```

11.48.2.12 SetVMMaxNegativeCurrentEeprom()

```
void SetVMMaxNegativeCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short current )
```

11.48.2.13 SetVMMaxNegativeVoltage()

```
void SetVMMaxNegativeVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short voltage )
```

11.48.2.14 SetVMMaxNegativeVoltageEeprom()

```
void SetVMMaxNegativeVoltageEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short voltage )
```

11.48.2.15 SetVMMaxPositiveCurrent()

```
void SetVMMaxPositiveCurrent (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short current )
```

11.48.2.16 SetVMMaxPositiveCurrentEeprom()

```
void SetVMMaxPositiveCurrentEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short current )
```

11.48.2.17 SetVMMaxPositiveVoltage()

```
void SetVMMaxPositiveVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short voltage )
```

11.48.2.18 SetVMMaxPositiveVoltageEeprom()

```
void SetVMMaxPositiveVoltageEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short voltage )
```

11.48.2.19 SetVMOutputOnOff()

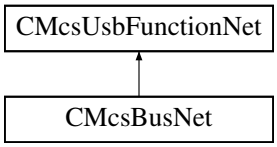
```
void SetVMOutputOnOff (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    unsigned short status )
```

11.48.2.20 SetVMVoltage()

```
void SetVMVoltage (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char channel,
    short voltage )
```

11.49 CMcsBusNet Class Reference

Inheritance diagram for CMcsBusNet:



Public Member Functions

- CMcsBusNet (CMcsUsbNet^ device)
- virtual ~CMcsBusNet (void)
- void SetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned short value)
- void SetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, short value)
- void SetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, unsigned int value)
- void SetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, int value)
- void GetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, [System::Runtime::InteropServices::Out]unsigned short% value)
- void GetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, [System::Runtime::InteropServices::Out]short% value)
- void GetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, [System::Runtime::InteropServices::Out]unsigned int% value)
- void GetCommand (unsigned char command, unsigned char busnumber, unsigned char busaddress, unsigned char axis, [System::Runtime::InteropServices::Out]int% value)
- void SetBusAddressEeprom (unsigned char busnumber, unsigned char busaddress, unsigned short newaddress)
- unsigned short GetBusAddressEeprom (unsigned char busnumber, unsigned char busaddress)
- void SetBusAddress (unsigned char busnumber, unsigned char busaddress, unsigned short newaddress)
- unsigned short GetBusAddress (unsigned char busnumber, unsigned char busaddress)
- void CMcsBusNet::SetModeEeprom (unsigned char busnumber, unsigned char busaddress, unsigned short mode)
- unsigned short CMcsBusNet::GetModeEeprom (unsigned char busnumber, unsigned char busaddress)
- void CMcsBusNet::SetMode (unsigned char busnumber, unsigned char busaddress, unsigned short mode)
- unsigned short CMcsBusNet::GetMode (unsigned char busnumber, unsigned char busaddress)
- void SetHWRevisionEeprom (unsigned char busnumber, unsigned char busaddress, unsigned short revision)
- unsigned short GetHWRevisionEeprom (unsigned char busnumber, unsigned char busaddress)

Additional Inherited Members

11.49.1 Constructor & Destructor Documentation

11.49.1.1 CMcsBusNet() CMcsBusNet (CMcsUsbNet^ *device*)

11.49.1.2 ~CMcsBusNet() virtual ~CMcsBusNet (void) [virtual]

11.49.2 Member Function Documentation

11.49.2.1 CMcsBusNet::GetMode() unsigned short CMcsBusNet::GetMode (unsigned char *busnumber*, unsigned char *busaddress*)

11.49.2.2 CMcsBusNet::GetModeEeprom() unsigned short CMcsBusNet::GetModeEeprom (unsigned char *busnumber*, unsigned char *busaddress*)

11.49.2.3 CMcsBusNet::SetMode() void CMcsBusNet::SetMode (unsigned char *busnumber*, unsigned char *busaddress*, unsigned short *mode*)

11.49.2.4 CMcsBusNet::SetModeEeprom() void CMcsBusNet::SetModeEeprom (unsigned char *busnumber*, unsigned char *busaddress*, unsigned short *mode*)

11.49.2.5 GetBusAddress() unsigned short GetBusAddress (unsigned char *busnumber*, unsigned char *busaddress*)

11.49.2.6 GetBusAddressEeprom() unsigned short GetBusAddressEeprom (unsigned char *busnumber*, unsigned char *busaddress*)

11.49.2.7 GetCommand() [1/4]

```
void GetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    [System::Runtime::InteropServices::Out] int% value )
```

11.49.2.8 GetCommand() [2/4]

```
void GetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    [System::Runtime::InteropServices::Out] short% value )
```

11.49.2.9 GetCommand() [3/4]

```
void GetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    [System::Runtime::InteropServices::Out] unsigned int% value )
```

11.49.2.10 GetCommand() [4/4]

```
void GetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    [System::Runtime::InteropServices::Out] unsigned short% value )
```

11.49.2.11 GetHWRevisionEeprom()

```
unsigned short GetHWRevisionEeprom (
    unsigned char busnumber,
    unsigned char busaddress )
```

11.49.2.12 SetBusAddress()

```
void SetBusAddress (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short newaddress )
```

11.49.2.13 SetBusAddressEeprom()

```
void SetBusAddressEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short newaddress )
```

11.49.2.14 SetCommand() [1/4]

```
void SetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    int value )
```

11.49.2.15 SetCommand() [2/4]

```
void SetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    short value )
```

11.49.2.16 SetCommand() [3/4]

```
void SetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned int value )
```

11.49.2.17 SetCommand() [4/4]

```
void SetCommand (
    unsigned char command,
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned char axis,
    unsigned short value )
```

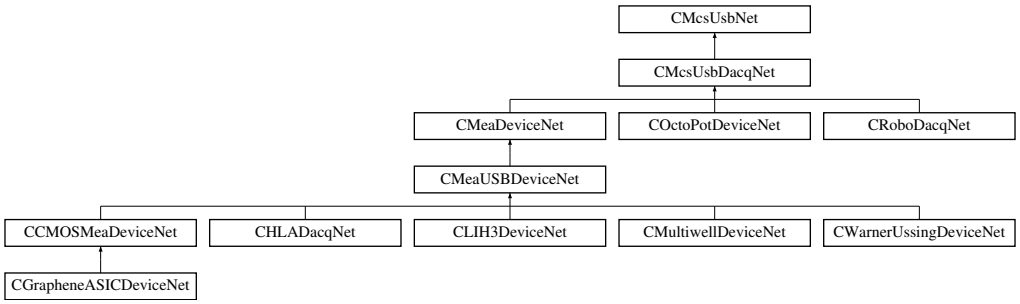
11.49.2.18 SetHWRevisionEeprom()

```
void SetHWRevisionEeprom (
    unsigned char busnumber,
    unsigned char busaddress,
    unsigned short revision )
```

11.50 CMcsUsbDacqNet Class Reference

Base class for data acquisition devices.

Inheritance diagram for CMcsUsbDacqNet:



Classes

- class CHWInfo

  Class to provide hardware information about the device.

Public Member Functions

- CMcsUsbDacqNet ()
- ~CMcsUsbDacqNet ()
- uint32_t GetErrorMessage ([System::Runtime::InteropServices::Out]String^% errorString, [System::Runtime::InteropServices::Out]int% info)
- virtual uint32_t GetVoltageRangeIndex (unsigned int virtualDevice)
- virtual void SetVoltageRangeByIndex (int32_t voltageRangeIndex, unsigned int virtualDevice)

  Sets the voltage range on devices which support multiple voltage ranges.
- virtual void SetVoltageRangeInMicroVolt (int32_t voltageRange, unsigned int virtualDevice)

  Sets the voltage range on devices which support multiple voltage ranges.
- virtual int32_t GetVoltageRangeInMicroVolt (unsigned int virtualDevice)

  Gets the currently selected voltage range on devices which support multiple voltage ranges.
- virtual int32_t GetVoltageRangeInMilliVolt ()

  Gets the currently selected voltage range on devices which support multiple voltage ranges.
- virtual void SetDataMode (DataModeEnumNet dataMode, unsigned int virtualDevice)

  Sets the data mode, can be 16, 24 or 32bit, all signed or unsigned on the MEA2100 device.
- virtual DataModeEnumNet GetDataMode (unsigned int virtualDevice)

  Gets the data mode, can be 16, 24 or 32bit, all signed or unsigned on the MEA2100 device.
- void SetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, DigitalSourceEnumNet source, int bitnumber_offset)

  Sets the function/source of an digital output bit.
- void SetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, W2100DigitalSourceEnumNet source, int bitnumber_offset)

  Sets the function/source of an digital output bit.
- void SetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, SCUDigitalSourceEnumNet source, int bitnumber_offset)

  Sets the function/source of an digital output bit.
- void SetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, MEA2100_256DigitalSourceEnumNet source, int bitnumber_offset)

Sets the function/source of an digital output bit.

- template<typename digitalsourceenum >
  void SetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, DigitalSource< digitalsourceenum >^ source, int bitnumber_offset)

  Sets the function/source of an digital output bit.
- void GetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, [System::Runtime::InteropServices::Out]DigitalSourceEnumNet% source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)

  Gets the function/source of an digital output bit.
- void GetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, [System::Runtime::InteropServices::Out]W2100DigitalSourceEnumNet% source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)

  Gets the function/source of an digital output bit.
- void GetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, [System::Runtime::InteropServices::Out]SCUDigitalSourceEnumNet% source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)

  Gets the function/source of an digital output bit.
- void GetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, [System::Runtime::InteropServices::Out]MEA2100_256DigitalSourceEnumNet% source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)

  Gets the function/source of an digital output bit.
- template<typename digitalsourceenum >
  void GetDigitalSource (DigitalTargetEnumNet digitaltarget, int32_t NrChannel, [System::Runtime::InteropServices::Out]DigitalSource< digitalsourceenum >^% source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)

  Gets the function/source of an digital output bit.
- virtual AdapterTypeEnumNet GetAdapterType ()

  Gets the adapter which is connected to the MEA2100 device.
- virtual MeaLayoutEnumNet GetMeaLayout ()

  Gets the MEA layout which is connected to the MEA2100 device.
- virtual uint32_t GetAdcDataFormat (uint32_t virtualDevice)

  Gets the ADC data format, 16 means 16 bits, 24 means 24 bits, 32 means 32 bits.
- virtual uint32_t GetAnalogValueUnit (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] AnalogUnitEnumNet% unit)
- virtual uint32_t GetResolutionPerDigit (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% res, [System::Runtime::InteropServices::Out] int% resUnit)
- virtual uint32_t GetAdcZero (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% adcz)
- virtual uint32_t GetHardwareMinRange (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% r, [System::Runtime::InteropServices::Out] int% rUnit)
- virtual uint32_t GetHardwareMaxRange (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% r, [System::Runtime::InteropServices::Out] int% rUnit)
- virtual uint32_t GetDataFormat (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% numberOfBits)
- virtual uint32_t GetNumberOfDataBits (uint32_t virtualDevice, DacqGroupChannelEnumNet group, [System::Runtime::InteropServices::Out] int% numberOfBits)

  Get the real number of data bits.
- virtual void SetSamplerate (int32_t rate, unsigned int oversample, unsigned int virtualDevice)

  Sets the sampling frequency of the device.
- virtual int32_t GetSamplerate (unsigned int virtualDevice)

  Gets the sampling frequency of the device.
- virtual uint32_t GetMaxSamplingFrequency (int virtualDevice)

  Gets the maximal sampling frequency of the device.
- virtual uint32_t GetMinSamplingFrequencyStepsize ()

Gets the minimal sampling frequency step size increment value of the device.

- virtual int32_t GetChannelsInBlock (unsigned int virtualDevice)

  Get the number of 16 bit datawords which will be collected per sample frame, use after the device is configured.
- virtual void GetChannelLayout ([System::Runtime::InteropServices::Out]int% AnalogChannels, [System::Runtime::InteropServices::Out]int% DigitalChannels, [System::Runtime::InteropServices::Out]int% ChecksumChannels, [System::Runtime::InteropServices::Out]int% TimestampChannels, [System::Runtime::InteropServices::Out]int% ChannelsInBlock, unsigned int virtualDevice)
- virtual void SendStartDacq ()

  Start sampling.
- virtual void SendStartDacq (int VirtualDacqMap)

  Start sampling.
- virtual void SendStartStgAndDacq (uint32_t trigger_map, int VirtualDacqMap)

  Start sampling together with the STG.
- virtual void SendStopDacq ()

  Stop sampling.
- virtual void SendStopDacq (int VirtualDacqMap)

  Stop sampling.

Parameters

VirtualDacqMap	

- virtual void SendStopStgAndDacq (uint32_t trigger_map, int VirtualDacqMap)

  Stop sampling together with the STG.
- virtual void SendStopStgAndDacqWithOptions (uint32_t trigger_map, int VirtualDacqMap, int options)

  Stop sampling together with the STG and options.
- virtual void StartLoop ()

  Start the data acquisition thread.
- virtual void StartLoop (int32_t timeout)

  Start the data acquisition thread.
- virtual void StartLoop (int32_t timeout, int32_t numSubmittedUsbBuffers, int32_t numUsbBuffers, int32_t packetsInUrb)

  Start the data acquisition thread.
- virtual void StartLoop (int32_t timeout, int32_t numSubmittedUsbBuffers, int32_t numUsbBuffers, int32_t packetsInUrb, uint32_t virtualDevice)

  Start the data acquisition thread.
- virtual void StopLoop ()
- virtual void ClearBuffers ()
- virtual void StartDacq ()

  Start the data acquisition thread and sampling.
- virtual void StartDacq (int32_t timeout)

  Start the data acquisition thread and sampling.
- virtual void StartDacq (int32_t timeout, int32_t numSubmittedUsbBuffers, int32_t numUsbBuffers, int32_t packetsInUrb)

  Start the data acquisition thread and sampling.
- virtual void StartDacq (int32_t timeout, int32_t numSubmittedUsbBuffers, int32_t numUsbBuffers, int32_t packetsInUrb, uint32_t virtualDevice)

  Start the data acquisition thread and sampling.
- virtual void StopDacq ()

  Stop the data acquisition thread and sampling.
- virtual void StopDacq (uint32_t virtualDevice)

Stop the data acquisition thread and sampling.

- virtual uint32_t SetPoti (uint32_t channel, uint32_t value, bool write_nvram)
- virtual uint32_t GetPoti (uint32_t channel, [System::Runtime::InteropServices::Out]uint32_t% value)
- virtual CFilterPropertyNet ^ GetFilterProperty (DacqGroupChannelEnumNet GroupID, unsigned int index)
- virtual array< CFilterPropertyNet^ > ^ CMcsUsbDacqNet::GetFilterProperties (DacqGroupChannelEnumNet GroupID)
- int GetChannelDataFillSize ()
- virtual void SetSelectedChannels (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a FIFO queue per channel. Each channel will have its own FIFO and Callback function.
- virtual void SetSelectedChannels (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual void SetSelectedChannels (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a FIFO queue per channel. Each channel will have its own FIFO and Callback function.
- virtual void SetSelectedChannels (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual void SetSelectedData (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a common FIFO queue for all channels. Use handle = 0 in the ChannelBlock_ReadFrames... functions.
- virtual void SetSelectedData (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual void SetSelectedData (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a common FIFO queue for all channels. Use handle = 0 in the ChannelBlock_ReadFrames... functions.
- virtual void SetSelectedData (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual int AddSelectedChannelsQueue (int nByteOffset, int nChannelOffset, int nChannels, int queuesize, int threshold, SampleSizeNet samplesize)

  Adds a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_Read↩ FramesDict... with handle = 0 to read the data.
- virtual int AddSelectedChannelsQueue (int nByteOffset, int nChannelOffset, int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize)
- virtual int AddSelectedChannelsQueue (int nByteOffset, int nChannelOffset, array< bool >^ selected↩ Channels, int queuesize, int threshold, SampleSizeNet samplesize)

  Adds a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_Read↩ FramesDict... with handle = 0 to read the data.
- virtual int AddSelectedChannelsQueue (int nByteOffset, int nChannelOffset, array< bool >^ selected↩ Channels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize)
- virtual void SetSelectedChannelsQueue (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_↩ ReadFramesDict... with handle = 0 to read the data.
- virtual void SetSelectedChannelsQueue (int nChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual void SetSelectedChannelsQueue (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, int ChannelsInBlock)

  Create a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_↩ ReadFramesDict... with handle = 0 to read the data.
- virtual void SetSelectedChannelsQueue (array< bool >^ selectedChannels, int queuesize, int threshold, SampleSizeNet samplesize, SampleDstSizeNet sampleDstSize, int ChannelsInBlock)
- virtual uint32_t ChannelBlock_AvailFrames (int handle)

  Get the number of sample frames already available in the FIFO.
- virtual uint32_t ChannelBlock_AvailFrames (int handle, int queue)

- virtual array< uint16_t > ^ ChannelBlock_ReadFramesUI16 (int handle, int frames, [System::Runtime::↩ InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint16_t data format
- virtual void ChannelBlock_ReadFramesUI16 (int handle, array< uint16_t >^ buffer, int frames_pos, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint16_t data format
- virtual array< int16_t > ^ ChannelBlock_ReadFramesI16 (int handle, int frames, [System::Runtime::↩ InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int16_t data format
- virtual void ChannelBlock_ReadFramesI16 (int handle, array< int16_t >^ buffer, int frames_pos, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int16_t data format
- virtual array< uint32_t > ^ ChannelBlock_ReadFramesUI32 (int handle, int frames, [System::Runtime::↩ InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format
- virtual void ChannelBlock_ReadFramesUI32 (int handle, array< uint32_t >^ buffer, int frames_pos, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format
- virtual array< int32_t > ^ ChannelBlock_ReadFramesI32 (int handle, int frames, [System::Runtime::↩ InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format
- virtual void ChannelBlock_ReadFramesI32 (int handle, array< int32_t >^ buffer, int frames_pos, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format
- virtual array< array< uint16_t >^> ^ ChannelBlock_ReadAsFrameArrayUI16 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< uint16_t >^> ^ ChannelBlock_ReadAsFrameArrayUI16 (int handle, int queue, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< int16_t >^> ^ ChannelBlock_ReadAsFrameArrayI16 (int handle, int frames, [System↩ ::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< int16_t >^> ^ ChannelBlock_ReadAsFrameArrayI16 (int handle, int queue, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< uint32_t >^> ^ ChannelBlock_ReadAsFrameArrayUI32 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< uint32_t >^> ^ ChannelBlock_ReadAsFrameArrayUI32 (int handle, int queue, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< int32_t >^> ^ ChannelBlock_ReadAsFrameArrayI32 (int handle, int frames, [System↩ ::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual array< array< int32_t >^> ^ ChannelBlock_ReadAsFrameArrayI32 (int handle, int queue, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue as array of uint16_t data frame arrays
- virtual System::Collections::Generic::Dictionary< int, array< uint16_t >^> ^ ChannelBlock_ReadFramesDictUI16 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

- virtual System::Collections::Generic::Dictionary< int, array< int16_t >^ >^ ChannelBlock_ReadFramesDictI16 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< uint32_t >^ >^ ChannelBlock_ReadFramesDictUI32 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< int32_t >^ >^ ChannelBlock_ReadFramesDictI32 (int handle, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< uint16_t >^ >^ GetGroupChannelDataUI16 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< int16_t >^ >^ GetGroupChannelDataI16 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< uint32_t >^ >^ GetGroupChannelDataUI32 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in uint32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- virtual System::Collections::Generic::Dictionary< int, array< int32_t >^ >^ GetGroupChannelDataI32 (DacqGroupChannelEnumNet group, int frames, [System::Runtime::InteropServices::Out]int % frames_ret)

  Read data from a FIFO queue in int32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number
- void SetupGroupDacqQueue (int queuesize, int threshold)
- void SetupGroupDacqQueue (int queuesize, int threshold, unsigned int virtualDevice)
- CHWInfo ^ HWInfo ()

Static Public Attributes

- static const int Error_Callback_Queue_Full = 0x100
- static const int Error_Callback_Aquisition_Stopped = 0x200
- static const int Error_Callback_Packet_Error = 1
- static const int Error_Callback_RingQueue_Full = 3
- static const int Error_Callback_Frames_Lost = 4
- static const int Error_Callback_Data_lost = 5

Properties

- virtual int Samplerate `[get, set]`

  The sampling frequency of the device in Hz.

Events

- OnChannelData^ ChannelDataEvent `[add, remove, raise]`
- OnError^ ErrorEvent `[add, remove, raise]`

Additional Inherited Members

11.50.1 Detailed Description

Base class for data acquisition devices.

11.50.2 Constructor & Destructor Documentation

11.50.2.1 CMcsUsbDacqNet() CMcsUsbDacqNet ( )

11.50.2.2 ~CMcsUsbDacqNet() ~CMcsUsbDacqNet ( )

11.50.3 Member Function Documentation

11.50.3.1 AddSelectedChannelsQueue() [1/4] virtual int AddSelectedChannelsQueue (

```
int nByteOffset,
int nChannelOffset,
array< bool >^ selectedChannels,
int queuesize,
int threshold,
SampleSizeNet samplesize ) [virtual]
```

Adds a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_Read↩ FramesDict... with handle = 0 to read the data.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

nByteOffset	Number of bytes to start with.

Parameters

nChannelOffset	Number of channel to start with (counted in samplesize bytes).

Parameters

selectedChannels	List of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.

Returns

The handle to the Queue.

11.50.3.2 AddSelectedChannelsQueue() [2/4]

```
virtual int AddSelectedChannelsQueue (
    int nByteOffset,
    int nChannelOffset,
    array< bool >^ selectedChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize )  [virtual]
```

11.50.3.3 AddSelectedChannelsQueue() [3/4]

```
virtual int AddSelectedChannelsQueue (
    int nByteOffset,
    int nChannelOffset,
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize )  [virtual]
```

Adds a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_Read↩ FramesDict... with handle = 0 to read the data.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

nByteOffset	Number of bytes to start with.

Parameters

nChannelOffset	Number of channel to start with (counted in samplesize bytes).

Parameters

nChannels	Number of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.

Returns

The handle to the Queue.

11.50.3.4 AddSelectedChannelsQueue() [4/4]

```
virtual int AddSelectedChannelsQueue (
    int nByteOffset,
    int nChannelOffset,
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize ) [virtual]
```

11.50.3.5 ChannelBlock_AvailFrames() [1/2]

```
virtual uint32_t ChannelBlock_AvailFrames (
    int handle ) [virtual]
```

Get the number of sample frames already available in the FIFO.

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Returns

Number of sample frames available in the FIFO.

11.50.3.6 ChannelBlock_AvailFrames() [2/2]

```
virtual uint32_t ChannelBlock_AvailFrames (
    int handle,
    int queue ) [virtual]
```

11.50.3.7 ChannelBlock_ReadAsFrameArrayI16() [1/2]

```
virtual array<array<int16_t>^> ^ ChannelBlock_ReadAsFrameArrayI16 (
    int handle,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret ) [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of int16_t frame arrays.

11.50.3.8 ChannelBlock_ReadAsFrameArrayI16() [2/2]

```
virtual array<array<int16_t>^> ^ ChannelBlock_ReadAsFrameArrayI16 (
            int handle,
            int queue,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

queue	Number of the sub queue.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of int16_t frame arrays.

11.50.3.9 ChannelBlock_ReadAsFrameArrayI32() [1/2]

```
virtual array<array<int32_t>^> ^ ChannelBlock_ReadAsFrameArrayI32 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of int32_t frame arrays.

11.50.3.10 ChannelBlock_ReadAsFrameArrayI32() [2/2] virtual array<array<int32_t>^> ^ Channel↩ Block_ReadAsFrameArrayI32 (

```
            int handle,
            int queue,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.
queue	Number of the sub queue.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of int32_t frame arrays.

11.50.3.11 ChannelBlock_ReadAsFrameArrayUI16() [1/2] virtual array<array<uint16_t>^> ^ ChannelBlock_ReadAsFrameArrayUI16 (

```
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of uint16_t frame arrays.

11.50.3.12 ChannelBlock_ReadAsFrameArrayUI16() [2/2]

```
virtual array<array<uint16_t>^> ^
ChannelBlock_ReadAsFrameArrayUI16 (
            int handle,
            int queue,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

queue	Number of the sub queue.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of uint16_t frame arrays.

11.50.3.13 ChannelBlock_ReadAsFrameArrayUI32() [1/2] virtual array<array<uint32_t>^> ^ ChannelBlock_ReadAsFrameArrayUI32 (int *handle*, int *frames*, [System::Runtime::InteropServices::Out] int % *frames_ret*) [virtual]

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of uint32_t frame arrays.

11.50.3.14 ChannelBlock_ReadAsFrameArrayUI32() [2/2] virtual array<array<uint32_t>^> ^ ChannelBlock_ReadAsFrameArrayUI32 (int *handle*, int *queue*, int *frames*, [System::Runtime::InteropServices::Out] int % *frames_ret*) [virtual]

Read data from a FIFO queue as array of uint16_t data frame arrays

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedData call was used.

Parameters

queue	Number of the sub queue.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of uint32_t frame arrays.

11.50.3.15 ChannelBlock_ReadFramesDictI16()

```
virtual System::Collections::Generic::Dictionary<int,
array<int16_t>^> ^ ChannelBlock_ReadFramesDictI16 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedChannelsQueue call was used.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of int16_t arrays and hardware channel as key.

11.50.3.16 ChannelBlock_ReadFramesDictI32()

```
virtual System::Collections::Generic::Dictionary<int,
array<int32_t>^> ^ ChannelBlock_ReadFramesDictI32 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedChannelsQueue call was used.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of int32_t arrays and hardware channel as key.

11.50.3.17 ChannelBlock_ReadFramesDictUI16()

```
virtual System::Collections::Generic::Dictionary<int,
array<uint16_t>^> ^ ChannelBlock_ReadFramesDictUI16 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedChannelsQueue call was used.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of uint16_t arrays and hardware channel as key.

11.50.3.18 ChannelBlock_ReadFramesDictUI32()

```
virtual System::Collections::Generic::Dictionary<int,
array<uint32_t>^> ^ ChannelBlock_ReadFramesDictUI32 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

handle	Handle of the FIFO queue. Zero when the SetSelectedChannelsQueue call was used.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of uint32_t arrays and hardware channel as key.

11.50.3.19 ChannelBlock_ReadFramesI16() [1/2]

```
virtual void ChannelBlock_ReadFramesI16 (
            int handle,
            array< int16_t >^ buffer,
            int frames_pos,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int16_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

buffer	Buffer to put the data from the device in.
frames_pos	Position in buffer where to put the data.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.20 ChannelBlock_ReadFramesI16() [2/2]

```
virtual array<int16_t> ^ ChannelBlock_ReadFramesI16 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int16_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.21 ChannelBlock_ReadFramesI32() [1/2]

```
virtual void ChannelBlock_ReadFramesI32 (
            int handle,
            array< int32_t >^ buffer,
            int frames_pos,
```

```
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

buffer	Buffer to put the data from the device in.
frames_pos	Position in buffer where to put the data.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.22 ChannelBlock_ReadFramesI32() [2/2] virtual array<int32_t> ^ ChannelBlock_Read↩ FramesI32 (

```
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.23 ChannelBlock_ReadFramesUI16() [1/2]

```
virtual void ChannelBlock_ReadFramesUI16 (
    int handle,
    array< uint16_t >^ buffer,
    int frames_pos,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint16_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.
buffer	Buffer to put the data from the device in.
frames_pos	Position in buffer where to put the data.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.24 ChannelBlock_ReadFramesUI16() [2/2]

```
virtual array<uint16_t> ^ ChannelBlock_Read↩
FramesUI16 (
    int handle,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint16_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Array of data from the device.

11.50.3.25 ChannelBlock_ReadFramesUI32() [1/2]

```
virtual void ChannelBlock_ReadFramesUI32 (
    int handle,
    array< uint32_t >^ buffer,
    int frames_pos,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

buffer	Buffer to put the data from the device in.
frames_pos	Position in buffer where to put the data.
frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.26 ChannelBlock_ReadFramesUI32() [2/2]

```
virtual array<uint32_t> ^ ChannelBlock_Read↩
FramesUI32 (
            int handle,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format

Parameters

handle	Handle of the FIFO queue. Either zero when the SetSelectedData call was used or the channel number.

Parameters

frames	Number of sample frames to read.

Parameters

frames_ret	Number of sample frames which were read, might be smaller than frames.

11.50.3.27 ClearBuffers()

```
virtual void ClearBuffers ( )  [virtual]
```

11.50.3.28 CMcsUsbDacqNet::GetFilterProperties()

```
virtual array<CFilterPropertyNet^> ^ CMcs↩
UsbDacqNet::GetFilterProperties (
            DacqGroupChannelEnumNet GroupID )  [virtual]
```

11.50.3.29 GetAdapterType()

```
virtual AdapterTypeEnumNet GetAdapterType ( )  [virtual]
```

Gets the adapter which is connected to the MEA2100 device.

Returns

AdapterTypeEnumNet which enumerates the possible adapters.

11.50.3.30 GetAdcDataFormat()

```
virtual uint32_t GetAdcDataFormat (
    uint32_t virtualDevice ) [virtual]
```

Gets the ADC data format, 16 means 16 bits, 24 means 24 bits, 32 means 32 bits.

Returns

The data format in bits.

11.50.3.31 GetAdcZero()

```
virtual uint32_t GetAdcZero (
    uint32_t virtualDevice,
    DacqGroupChannelEnumNet group,
    [System::Runtime::InteropServices::Out] int% adcz ) [virtual]
```

11.50.3.32 GetAnalogValueUnit()

```
virtual uint32_t GetAnalogValueUnit (
    uint32_t virtualDevice,
    DacqGroupChannelEnumNet group,
    [System::Runtime::InteropServices::Out] AnalogUnitEnumNet% unit ) [virtual]
```

11.50.3.33 GetChannelDataFillSize()

```
int GetChannelDataFillSize ( )
```

11.50.3.34 GetChannelLayout()

```
virtual void GetChannelLayout (
    [System::Runtime::InteropServices::Out] int% AnalogChannels,
    [System::Runtime::InteropServices::Out] int% DigitalChannels,
    [System::Runtime::InteropServices::Out] int% ChecksumChannels,
    [System::Runtime::InteropServices::Out] int% TimestampChannels,
    [System::Runtime::InteropServices::Out] int% ChannelsInBlock,
    unsigned int virtualDevice ) [virtual]
```

11.50.3.35 GetChannelsInBlock()

```
virtual int32_t GetChannelsInBlock (
    unsigned int virtualDevice ) [virtual]
```

Get the number of 16 bit datawords which will be collected per sample frame, use after the device is configured.

Returns

Number of 16 bit datawords per sample frame.

11.50.3.36 GetDataFormat()

```
virtual uint32_t GetDataFormat (
    uint32_t virtualDevice,
    DacqGroupChannelEnumNet group,
    [System::Runtime::InteropServices::Out] int% numberOfBits ) [virtual]
```

11.50.3.37 GetDataMode()

```
virtual DataModeEnumNet GetDataMode (
    unsigned int virtualDevice ) [virtual]
```

Gets the data mode, can be 16, 24 or 32bit, all signed or unsigned on the MEA2100 device.

Parameters

virtualDevice	Virtual device to use.

Returns

DataModeEnumNet which enumerates the possible data modes.

11.50.3.38 GetDigitalSource() [1/5]

```
void GetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    [System::Runtime::InteropServices::Out] DigitalSource< digitalsourceenum >^% source,
    [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

Gets the function/source of an digital output bit.

This is the templated generic implementation.

Parameters

digitaltarget	The digital target to query.
NrChannel	The channel/bit of target to query.
source	The source/function assignd to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.39 GetDigitalSource() [2/5]

```
void GetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    [System::Runtime::InteropServices::Out] DigitalSourceEnumNet% source,
    [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

Gets the function/source of an digital output bit.

This overload is for the MEA2100 device.

Parameters

digitaltarget	The digital target to query.
NrChannel	The channel/bit of target to query.
source	The source/function assignd to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.40 GetDigitalSource() [3/5]

```
void GetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    [System::Runtime::InteropServices::Out] MEA2100_256DigitalSourceEnumNet% source,
    [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

Gets the function/source of an digital output bit.

This overload is for the MEA2100-256 device.

Parameters

digitaltarget	The digital target to query.
NrChannel	The channel/bit of target to query.
source	The source/function assignd to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.41 GetDigitalSource() [4/5]

```
void GetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    [System::Runtime::InteropServices::Out] SCUDigitalSourceEnumNet% source,
    [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

Gets the function/source of an digital output bit.

This overload is for the SCU device.

Parameters

digitaltarget	The digital target to query.
NrChannel	The channel/bit of target to query.
source	The source/function assignd to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.42 GetDigitalSource() [5/5]

```
void GetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    [System::Runtime::InteropServices::Out] W2100DigitalSourceEnumNet% source,
    [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

Gets the function/source of an digital output bit.

This overload is for the W2100 device.

Parameters

digitaltarget	The digital target to query.
NrChannel	The channel/bit of target to query.
source	The source/function assignd to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.43 GetErrorMessage()

```
uint32_t GetErrorMessage (
    [System::Runtime::InteropServices::Out] String^% errorString,
    [System::Runtime::InteropServices::Out] int% info )
```

11.50.3.44 GetFilterProperty()

```
virtual CFilterPropertyNet ^ GetFilterProperty (
    DacqGroupChannelEnumNet GroupID,
    unsigned int index )  [virtual]
```

11.50.3.45 GetGroupChannelDataI16()

```
virtual System::Collections::Generic::Dictionary<int,
array<int16_t>^> ^ GetGroupChannelDataI16 (
    DacqGroupChannelEnumNet group,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

group	Group selector supported by the device.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of int16_t arrays and hardware channel as key.

11.50.3.46 GetGroupChannelDataI32()

```
virtual System::Collections::Generic::Dictionary<int,
array<int32_t>^> ^ GetGroupChannelDataI32 (
    DacqGroupChannelEnumNet group,
    int frames,
    [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in int32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

group	Group selector supported by the device.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of int32_t arrays and hardware channel as key.

11.50.3.47 GetGroupChannelDataUI16()

```
virtual System::Collections::Generic::Dictionary<int,
array<uint16_t>^> ^ GetGroupChannelDataUI16 (
            DacqGroupChannelEnumNet group,
            int frames,
            [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint16_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

group	Group selector supported by the device.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of uint16_t arrays and hardware channel as key.

11.50.3.48 GetGroupChannelDataUI32()

```
virtual System::Collections::Generic::Dictionary<int,
array<uint32_t>^> ^ GetGroupChannelDataUI32 (
        DacqGroupChannelEnumNet group,
        int frames,
        [System::Runtime::InteropServices::Out] int % frames_ret )  [virtual]
```

Read data from a FIFO queue in uint32_t data format, that contains subqueues, each populates an entry in the dictionary by hardware channel number

Parameters

group	Group selector supported by the device.

Parameters

frames	Number of sample frames to read.
frames_ret	Number of sample frames which were read, might be smaller than frames.

Returns

Dictonary of uint32_t arrays and hardware channel as key.

11.50.3.49 GetHardwareMaxRange()

```
virtual uint32_t GetHardwareMaxRange (
        uint32_t virtualDevice,
        DacqGroupChannelEnumNet group,
        [System::Runtime::InteropServices::Out] int% r,
        [System::Runtime::InteropServices::Out] int% rUnit )  [virtual]
```

11.50.3.50 GetHardwareMinRange()

```
virtual uint32_t GetHardwareMinRange (
        uint32_t virtualDevice,
        DacqGroupChannelEnumNet group,
        [System::Runtime::InteropServices::Out] int% r,
        [System::Runtime::InteropServices::Out] int% rUnit )  [virtual]
```

11.50.3.51 GetMaxSamplingFrequency()

```
virtual uint32_t GetMaxSamplingFrequency (
        int virtualDevice )  [virtual]
```

Gets the maximal sampling frequency of the device.

Returns

Sampling frequency in Hz.

11.50.3.52 GetMeaLayout() virtual MeaLayoutEnumNet GetMeaLayout ( ) [virtual]

Gets the MEA layout which is connected to the MEA2100 device.

Returns

MeaLayoutEnumNet which enumerates the MEA types.

11.50.3.53 GetMinSamplingFrequencyStepsize() virtual uint32_t GetMinSamplingFrequencyStepsize ( ) [virtual]

Gets the minimal sampling frequency step size increment value of the device.

Returns

Sampling frequency step size in Hz.

11.50.3.54 GetNumberOfDataBits()

```
virtual uint32_t GetNumberOfDataBits (
    uint32_t virtualDevice,
    DacqGroupChannelEnumNet group,
    [System::Runtime::InteropServices::Out] int% numberOfBits ) [virtual]
```

Get the real number of data bits.

This value may be different from the value returned by GetDataFormat, e.g. in MC_Card the data are shifted 2 bits so the real number is 14 while the data format is 16 bits

11.50.3.55 GetPoti()

```
virtual uint32_t GetPoti (
    uint32_t channel,
    [System::Runtime::InteropServices::Out] uint32_t% value ) [virtual]
```

11.50.3.56 GetResolutionPerDigit()

```
virtual uint32_t GetResolutionPerDigit (
    uint32_t virtualDevice,
    DacqGroupChannelEnumNet group,
    [System::Runtime::InteropServices::Out] int% res,
    [System::Runtime::InteropServices::Out] int% resUnit ) [virtual]
```

11.50.3.57 GetSamplerate()

```
virtual int32_t GetSamplerate (
    unsigned int virtualDevice ) [virtual]
```

Gets the sampling frequency of the device.

Returns

Sampling frequency in Hz.

11.50.3.58 GetVoltageRangeIndex() virtual uint32_t GetVoltageRangeIndex (unsigned int *virtualDevice*) [virtual]

11.50.3.59 GetVoltageRangeInMicroVolt() virtual int32_t GetVoltageRangeInMicroVolt (unsigned int *virtualDevice*) [virtual]

Gets the currently selected voltage range on devices which support multiple voltage ranges.

Returns

The Voltage Range in uV.

11.50.3.60 GetVoltageRangeInMilliVolt() virtual int32_t GetVoltageRangeInMilliVolt ( ) [virtual]

Gets the currently selected voltage range on devices which support multiple voltage ranges.

Returns

The rounded Voltage Range in mV.

11.50.3.61 HWInfo() CHWInfo ^ HWInfo ( )

11.50.3.62 SendStartDacq() [1/2] virtual void SendStartDacq ( ) [virtual]

Start sampling.

11.50.3.63 SendStartDacq() [2/2] virtual void SendStartDacq (int *VirtualDacqMap*) [virtual]

Start sampling.

Parameters

VirtualDacqMap	

11.50.3.64 SendStartStgAndDacq() virtual void SendStartStgAndDacq (uint32_t *trigger_map*, int *VirtualDacqMap*) [virtual]

Start sampling together with the STG.

Parameters

trigger_map	
VirtualDacqMap	

11.50.3.65 SendStopDacq() [1/2] virtual void SendStopDacq ( ) [virtual]

Stop sampling.

11.50.3.66 SendStopDacq() [2/2] virtual void SendStopDacq (int *VirtualDacqMap*) [virtual]

Stop sampling.

Parameters

VirtualDacqMap	

11.50.3.67 SendStopStgAndDacq() virtual void SendStopStgAndDacq (uint32_t *trigger_map*, int *VirtualDacqMap*) [virtual]

Stop sampling together with the STG.

Parameters

trigger_map	

11.50.3.68 SendStopStgAndDacqWithOptions() virtual void SendStopStgAndDacqWithOptions (uint32_t *trigger_map*,

```
int VirtualDacqMap,
int options )  [virtual]
```

Stop sampling together with the STG and options.

Parameters

trigger_map	

Parameters

options	

Parameters

VirtualDacqMap	

11.50.3.69 SetDataMode()

```
virtual void SetDataMode (
  DataModeEnumNet dataMode,
  unsigned int virtualDevice )  [virtual]
```

Sets the data mode, can be 16, 24 or 32bit, all signed or unsigned on the MEA2100 device.

Parameters

dataMode	DataModeEnumNet enumerates the possible data modes.
virtualDevice	Virtual device to use.

11.50.3.70 SetDigitalSource() [1/5]

```
void SetDigitalSource (
  DigitalTargetEnumNet digitaltarget,
  int32_t NrChannel,
  DigitalSource< digitalsourceenum >^ source,
  int bitnumber_offset )
```

Sets the function/source of an digital output bit.

This is the templated generic implementation.

Parameters

digitaltarget	The digital target to change.
NrChannel	The channel/bit of target to change.
source	The source/function to assign to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.71 SetDigitalSource() [2/5]

```
void SetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    DigitalSourceEnumNet source,
    int bitnumber_offset )
```

Sets the function/source of an digital output bit.

This overload is for the MEA2100 device.

Parameters

digitaltarget	The digital target to change.
NrChannel	The channel/bit of target to change.
source	The source/function to assign to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.72 SetDigitalSource() [3/5]

```
void SetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
    int32_t NrChannel,
    MEA2100_256DigitalSourceEnumNet source,
    int bitnumber_offset )
```

Sets the function/source of an digital output bit.

This overload is for the MEA2100-256 device.

Parameters

digitaltarget	The digital target to change.
NrChannel	The channel/bit of target to change.
source	The source/function to assign to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.73 SetDigitalSource() [4/5]

```
void SetDigitalSource (
    DigitalTargetEnumNet digitaltarget,
```

```
int32_t NrChannel,
SCUDigitalSourceEnumNet source,
int bitnumber_offset )
```

Sets the function/source of an digital output bit.

This overload is for the SCU device.

Parameters

digitaltarget	The digital target to change.
NrChannel	The channel/bit of target to change.
source	The source/function to assign to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.74 SetDigitalSource() [5/5]

```
void SetDigitalSource (
DigitalTargetEnumNet digitaltarget,
int32_t NrChannel,
W2100DigitalSourceEnumNet source,
int bitnumber_offset )
```

Sets the function/source of an digital output bit.

This overload is for the W2100 device.

Parameters

digitaltarget	The digital target to change.
NrChannel	The channel/bit of target to change.
source	The source/function to assign to the digital target.
bitnumber_offset	An offset / bit number with the source/function.

11.50.3.75 SetPoti()

```
virtual uint32_t SetPoti (
uint32_t channel,
uint32_t value,
bool write_nvram ) [virtual]
```

11.50.3.76 SetSamplerate()

```
virtual void SetSamplerate (
int32_t rate,
unsigned int oversample,
unsigned int virtualDevice ) [virtual]
```

Sets the sampling frequency of the device.

Parameters

rate	Sampling frequency in Hz.

11.50.3.77 SetSelectedChannels() [1/4]

```
virtual void SetSelectedChannels (
    array< bool >^ selectedChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    int ChannelsInBlock )  [virtual]
```

Create a FIFO queue per channel. Each channel will have its own FIFO and Callback function.

When using a 32bit sample size, the number obtained from GetChannelsInBlock must be devided by 2 to be used here, since GetChannelsInBlock returns the number of 16 bit datapoints per sample frame, while this functions uses the number of sample frames in its own data format.

Parameters

selectedChannels	List of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.

Parameters

ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.78 SetSelectedChannels() [2/4] virtual void SetSelectedChannels (

```
array< bool >^ selectedChannels,
int queuesize,
int threshold,
SampleSizeNet samplesize,
SampleDstSizeNet sampleDstSize,
int ChannelsInBlock )  [virtual]
```

11.50.3.79 SetSelectedChannels() [3/4] virtual void SetSelectedChannels (

```
int nChannels,
int queuesize,
int threshold,
SampleSizeNet samplesize,
int ChannelsInBlock )  [virtual]
```

Create a FIFO queue per channel. Each channel will have its own FIFO and Callback function.

When using a 32bit sample size, the number obtained from GetChannelsInBlock must be devided by 2 to be used here, since GetChannelsInBlock returns the number of 16 bit datapoints per sample frame, while this functions uses the number of sample frames in its own data format.

Parameters

nChannels	Number of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of samples frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.
ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.80 SetSelectedChannels() [4/4]

```
virtual void SetSelectedChannels (
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize,
    int ChannelsInBlock ) [virtual]
```

11.50.3.81 SetSelectedChannelsQueue() [1/4]

```
virtual void SetSelectedChannelsQueue (
    array< bool >^ selectedChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    int ChannelsInBlock ) [virtual]
```

Create a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_↩ ReadFramesDict... with handle = 0 to read the data.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

selectedChannels	List of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.

Parameters

ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.82 SetSelectedChannelsQueue() [2/4] virtual void SetSelectedChannelsQueue (

```
array< bool >^ selectedChannels,
int queuesize,
int threshold,
SampleSizeNet samplesize,
SampleDstSizeNet sampleDstSize,
int ChannelsInBlock )  [virtual]
```

11.50.3.83 SetSelectedChannelsQueue() [3/4] virtual void SetSelectedChannelsQueue (

```
int nChannels,
int queuesize,
int threshold,
SampleSizeNet samplesize,
int ChannelsInBlock )  [virtual]
```

Create a common FIFO queue for all channels. Data in callback will be a list per channel. Use ChannelBlock_↩ ReadFramesDict... with handle = 0 to read the data.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

nChannels	Number of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.

Parameters

ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.84 SetSelectedChannelsQueue() [4/4]

```
virtual void SetSelectedChannelsQueue (
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize,
    int ChannelsInBlock )  [virtual]
```

11.50.3.85 SetSelectedData() [1/4]

```
virtual void SetSelectedData (
    array< bool >^ selectedChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    int ChannelsInBlock )  [virtual]
```

Create a common FIFO queue for all channels. Use handle = 0 in the ChannelBlock_ReadFrames... functions.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

selectedChannels	List of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.
ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.86 SetSelectedData() [2/4]

```
virtual void SetSelectedData (
    array< bool >^ selectedChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize,
    int ChannelsInBlock )  [virtual]
```

11.50.3.87 SetSelectedData() [3/4]

```
virtual void SetSelectedData (
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    int ChannelsInBlock )  [virtual]
```

Create a common FIFO queue for all channels. Use handle = 0 in the ChannelBlock_ReadFrames... functions.

When using 32 bit data format, ChannelsInBlock is still the number of 16 bit channels per frame, as obtained from GetChannelsInBlock, while nChannels is the number of 32 bit channels to be read from the device. So when all channels from a device are read in 32 bit data format nChannels = ChannelsInBlock/2

Parameters

nChannels	Number of channels to be collected in the FIFO.

Parameters

queuesize	Size of sample frames the FIFO can hold.

Parameters

threshold	Number of sample frames the FIFO must acquire before the callback function is called.

Parameters

samplesize	size of the datawords, either 16 or 32bit.
ChannelsInBlock	value obtained from GetChannelsInBlock.

11.50.3.88 SetSelectedData() [4/4]

```
virtual void SetSelectedData (
    int nChannels,
    int queuesize,
    int threshold,
    SampleSizeNet samplesize,
    SampleDstSizeNet sampleDstSize,
    int ChannelsInBlock )  [virtual]
```

11.50.3.89 SetupGroupDacqQueue() [1/2]

```
void SetupGroupDacqQueue (
    int queuesize,
    int threshold )
```

11.50.3.90 SetupGroupDacqQueue() [2/2]

```
void SetupGroupDacqQueue (
    int queuesize,
    int threshold,
    unsigned int virtualDevice )
```

11.50.3.91 SetVoltageRangeByIndex()

```
virtual void SetVoltageRangeByIndex (
    int32_t voltageRangeIndex,
    unsigned int virtualDevice )  [virtual]
```

Sets the voltage range on devices which support multiple voltage ranges.

Parameters

voltageRangeIndex	Voltage Range to use as index, smaller values are larger voltage ranges.

11.50.3.92 SetVoltageRangeInMicroVolt()

```
virtual void SetVoltageRangeInMicroVolt (
    int32_t voltageRange,
    unsigned int virtualDevice ) [virtual]
```

Sets the voltage range on devices which support multiple voltage ranges.

Parameters

voltageRange	Voltage Range to use in µV.

This replaces SetVoltageRange, where the value of the range was in mV!

11.50.3.93 StartDacq() [1/4]

```
virtual void StartDacq ( ) [virtual]
```

Start the data acquisition thread and sampling.

11.50.3.94 StartDacq() [2/4]

```
virtual void StartDacq (
    int32_t timeout ) [virtual]
```

Start the data acquisition thread and sampling.

Parameters

timeout	Timeout in ms.

11.50.3.95 StartDacq() [3/4]

```
virtual void StartDacq (
    int32_t timeout,
    int32_t numSubmittedUsbBuffers,
    int32_t numUsbBuffers,
    int32_t packetsInUrb ) [virtual]
```

Start the data acquisition thread and sampling.

Parameters

timeout	Timeout in ms.

Parameters

numSubmittedUsbBuffers	Number of USB Buffers that are simultaniously submitted.

Parameters

numUsbBuffers	Number of USB Buffers to use.

Parameters

packetsInUrb	Packets in each URB.

11.50.3.96 StartDacq() [4/4]

```
virtual void StartDacq (
    int32_t timeout,
    int32_t numSubmittedUsbBuffers,
    int32_t numUsbBuffers,
    int32_t packetsInUrb,
    uint32_t virtualDevice ) [virtual]
```

Start the data acquisition thread and sampling.

Parameters

numSubmittedUsbBuffers	Number of USB Buffers that are simultaniously submitted.

Parameters

timeout	Timeout in ms.

Parameters

numUsbBuffers	Number of USB Buffers to use.

Parameters

packetsInUrb	Packets in each URB.

Parameters

virtualDevice	Virtual Device to start.

11.50.3.97 StartLoop() [1/4] virtual void StartLoop ( ) [virtual]

Start the data acquisition thread.

11.50.3.98 StartLoop() [2/4] virtual void StartLoop (int32_t *timeout*) [virtual]

Start the data acquisition thread.

Parameters

timeout	Timeout in ms.

11.50.3.99 StartLoop() [3/4] virtual void StartLoop (int32_t *timeout*, int32_t *numSubmittedUsbBuffers*, int32_t *numUsbBuffers*, int32_t *packetsInUrb*) [virtual]

Start the data acquisition thread.

Parameters

timeout	Timeout in ms.

Parameters

numSubmittedUsbBuffers	Number of USB Buffers that are simultaniously submitted.

Parameters

numUsbBuffers	Number of USB Buffers to use.

Parameters

packetsInUrb	Packets in each URB.

11.50.3.100 StartLoop() [4/4]

```
virtual void StartLoop (
    int32_t timeout,
    int32_t numSubmittedUsbBuffers,
    int32_t numUsbBuffers,
    int32_t packetsInUrb,
    uint32_t virtualDevice ) [virtual]
```

Start the data acquisition thread.

Parameters

numSubmittedUsbBuffers	Number of USB Buffers that are simultaniously submitted.

Parameters

timeout	Timeout in ms.

Parameters

numUsbBuffers	Number of USB Buffers to use.

Parameters

packetsInUrb	Packets in each URB.

Parameters

virtualDevice	Virtual Device to start.

11.50.3.101 StopDacq() [1/2] virtual void StopDacq ( ) [virtual]

Stop the data acquisition thread and sampling.

11.50.3.102 StopDacq() [2/2] virtual void StopDacq (uint32_t *virtualDevice*) [virtual]

Stop the data acquisition thread and sampling.

Parameters

virtualDevice	Virtual Device to start.

11.50.3.103 StopLoop() virtual void StopLoop ( ) [virtual]

11.50.4 Member Data Documentation

11.50.4.1 Error_Callback_Aquisition_Stopped const int Error_Callback_Aquisition_Stopped = 0x200 [static]

11.50.4.2 Error_Callback_Data_lost const int Error_Callback_Data_lost = 5 [static]

11.50.4.3 Error_Callback_Frames_Lost const int Error_Callback_Frames_Lost = 4 [static]

11.50.4.4 Error_Callback_Packet_Error `const int Error_Callback_Packet_Error = 1 [static]`

11.50.4.5 Error_Callback_Queue_Full `const int Error_Callback_Queue_Full = 0x100 [static]`

11.50.4.6 Error_Callback_RingQueue_Full `const int Error_Callback_RingQueue_Full = 3 [static]`

11.50.5 Property Documentation

11.50.5.1 Samplerate `virtual int Samplerate [get], [set]`

The sampling frequency of the device in Hz.

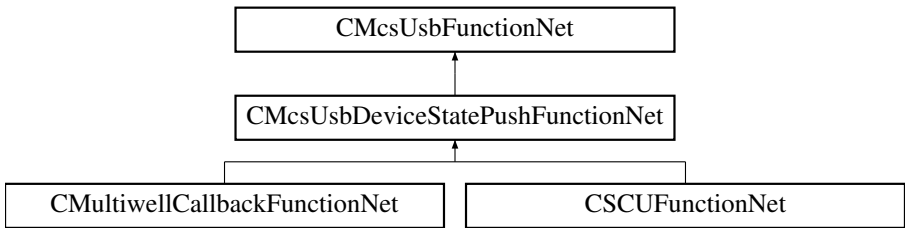
11.50.6 Event Documentation

11.50.6.1 ChannelDataEvent `OnChannelData^ ChannelDataEvent [add], [remove], [raise]`

11.50.6.2 ErrorEvent `OnError^ ErrorEvent [add], [remove], [raise]`

11.51 CMcsUsbDeviceStatePushFunctionNet Class Reference

Inheritance diagram for CMcsUsbDeviceStatePushFunctionNet:



Public Member Functions

- void TriggerStatus ()

Protected Member Functions

- CMcsUsbDeviceStatePushFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ p↩ Device)

Events

- OnMcsUsbDeviceState^ McsUsbDeviceStateEvent [add, remove, raise]

Additional Inherited Members

11.51.1 Constructor & Destructor Documentation

11.51.1.1 CMcsUsbDeviceStatePushFunctionNet() CMcsUsbDeviceStatePushFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pDevice*) [protected]

11.51.2 Member Function Documentation

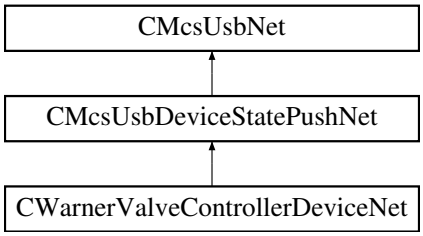
11.51.2.1 TriggerStatus() void TriggerStatus ( )

11.51.3 Event Documentation

11.51.3.1 McsUsbDeviceStateEvent OnMcsUsbDeviceState^ McsUsbDeviceStateEvent [add], [remove], [raise]

11.52 CMcsUsbDeviceStatePushNet Class Reference

Inheritance diagram for CMcsUsbDeviceStatePushNet:



Public Member Functions

- void TriggerStatus ()

Protected Member Functions

- CMcsUsbDeviceStatePushNet (CMcsUsbPointerContainer^ pDevice)

Events

- OnMcsUsbDeviceState^ McsUsbDeviceStateEvent [add, remove, raise]

Additional Inherited Members

11.52.1 Constructor & Destructor Documentation

11.52.1.1 CMcsUsbDeviceStatePushNet() CMcsUsbDeviceStatePushNet (CMcsUsbPointerContainer^ *pDevice*) [protected]

11.52.2 Member Function Documentation

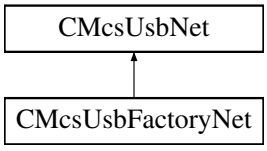
11.52.2.1 TriggerStatus() void TriggerStatus ( )

11.52.3 Event Documentation

11.52.3.1 McsUsbDeviceStateEvent OnMcsUsbDeviceState^ McsUsbDeviceStateEvent [add], [remove], [raise]

11.53 CMcsUsbFactoryNet Class Reference

Inheritance diagram for CMcsUsbFactoryNet:



Classes

- class TargetSelectionInfoNet

Public Member Functions

- CMcsUsbFactoryNet ()
- ~CMcsUsbFactoryNet ()
- unsigned int GetNumDestinations ()
- String ^ GetDestinationName (unsigned int index)
- String ^ GetDestinationName (CFirmwareDestinationNet dest)
- void SetDestinationSerialNumber (CFirmwareDestinationNet dest, String^ serialnumber)
- String ^ GetDestinationSerialNumber (CFirmwareDestinationNet dest)
- CFirmwareDestinationNet GetDestination (unsigned int index)
- CFirmwareDestinationNet GetDestination (String^ Key)
- unsigned int GetDestinationTargetAddress (CFirmwareDestinationNet destination)

  Gets the target base address for the destination.
- TargetSelectionInfoNet ^ GetDestinationTargetSelectionInfo (CFirmwareDestinationNet destination)
- uint32_t ChangeSerialNumber (String^ serial)
- bool LoadUserFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry)

  Send the DSP Firmware to the MEA21 device.
- bool LoadUserFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, uint32_t LockMask)
- bool UpdateFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet Dest, OnUpdateFirmwareStatusChange^ deleg, OnUpdateFirmwareProgress^ progress, bool SkipWait)

  Flashes a firmware file to the device.
- bool UpdateFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet Dest, OnUpdateFirmwareStatusChange^ deleg, OnUpdateFirmwareProgress^ progress, bool SkipWait, unsigned int LockMask)
- bool UpdateFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet dest)

  Flashes a firmware file to the device.
- bool UpdateFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet dest, bool SkipWait)

  Flashes a firmware file to the device.
- bool UpdateFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet dest, bool SkipWait, uint32_t LockMask)
- bool CompareFirmware (String^ FirmwareFile, CMcsUsbListEntryNet^ listEntry, CFirmwareDestinationNet Dest, OnUpdateFirmwareStatusChange^ deleg, OnUpdateFirmwareProgress^ progress, String^ MessagePrefix, unsigned int LockMask, [System::Runtime::InteropServices::Out] String^% ErrorText, [System::Runtime::InteropServices::Out] String^% Protokoll)
- uint32_t Coldstart (CFirmwareDestinationNet dest)
- int32_t GetXilinxFlashOffset (CFirmwareDestinationNet dest)
- uint32_t GetXilinxFlashReadCommand (CFirmwareDestinationNet dest)
- array< uint8_t > ^ DownloadFirmware (CFirmwareDestinationNet Dest, uint32_t Address, uint32_t length)
- bool GetUsercodeFromFlash (unsigned int FPGA, unsigned int Address, [System::Runtime::InteropServices::Out] unsigned int% Usercode)
- array< unsigned char > ^ ReadBlockFromFlash (unsigned int FPGA, unsigned int Address)
- void ReadBlockFromFlash (unsigned int FPGA, unsigned int Address, array< unsigned char >^ buffer, int position)
- array< unsigned char > ^ ReadBlockFromIFBGlobalEEprom (unsigned int Address)
- array< unsigned char > ^ ReadBlockFromNVMEM (unsigned int FPGA, unsigned int Offset, unsigned int Address)

Static Public Member Functions

- static String ^ GetDestinationDisplayLabel (String^ RawLabel, CFirmwareDestinationNet dest)
- static String ^ FindFirmwareVersionMagicInBuffer (array< unsigned char >^ buffer, int length, [System::↩ Runtime::InteropServices::Out]int% position)
- static bool GetFirmwareVersionFromFile (String^ FirmwareFile, [System::Runtime::InteropServices::Out] uint32_t% Version)

  Retrives version info from a Firmware update file.
- static bool GetFirmwareVersionFromFile (String^ FirmwareFile, [System::Runtime::InteropServices::Out] uint32_t% Version, [System::Runtime::InteropServices::Out] uint32_t% Position)
- static bool GetFirmwareVersionFromHexFile (String^ FirmwareFile, [System::Runtime::InteropServices::Out] uint32_t% Version)
- static uint32_t GetChecksumFromFX3Image (String^ FirmwareFile)
- static uint32_t GetUSBDeviceIDFromFX3Image (String^ FirmwareFile)
- static bool GetUsercodeFromBitFile (String^ FirmwareFile, [System::Runtime::InteropServices::Out] unsigned int% Usercode)

Static Public Attributes

- static const uint32_t FX3MCSDataAddress = 0x40037E00
- static const uint32_t FX3MCSDataDeviceIdOffset = 0x4
- static const uint32_t FX3MCSDataVersionOffset = 0x8
- static const uint32_t FX3MCSDataIFB2ImageOffset = 0xC
- static const uint32_t FX3MCSDataIFB1ImageOffset = 0x2C

Additional Inherited Members

11.53.1 Constructor & Destructor Documentation

11.53.1.1 CMcsUsbFactoryNet() `CMcsUsbFactoryNet ( )`

11.53.1.2 ~CMcsUsbFactoryNet() `~CMcsUsbFactoryNet ( )`

11.53.2 Member Function Documentation

11.53.2.1 ChangeSerialNumber() `uint32_t ChangeSerialNumber ( String^ serial )`

11.53.2.2 Coldstart()

```
uint32_t Coldstart (
    CFirmwareDestinationNet dest )
```

11.53.2.3 CompareFirmware()

```
bool CompareFirmware (
    String^ FirmwareFile,
    CMcsUsbListEntryNet^ listEntry,
    CFirmwareDestinationNet Dest,
    OnUpdateFirmwareStatusChange^ deleg,
    OnUpdateFirmwareProgress^ progress,
    String^ MessagePrefix,
    unsigned int LockMask,
    [System::Runtime::InteropServices::Out] String^% ErrorText,
    [System::Runtime::InteropServices::Out] String^% Protokoll )
```

11.53.2.4 DownloadFirmware()

```
array<uint8_t> ^ DownloadFirmware (
    CFirmwareDestinationNet Dest,
    uint32_t Address,
    uint32_t length )
```

11.53.2.5 FindFirmwareVersionMagicInBuffer()

```
static String ^ FindFirmwareVersionMagicInBuffer (
    array< unsigned char >^ buffer,
    int length,
    [System::Runtime::InteropServices::Out] int% position )  [static]
```

11.53.2.6 GetChecksumFromFX3Image()

```
static uint32_t GetChecksumFromFX3Image (
    String^ FirmwareFile )  [static]
```

11.53.2.7 GetDestination() [1/2]

```
CFirmwareDestinationNet GetDestination (
    String^ Key )
```

11.53.2.8 GetDestination() [2/2]

```
CFirmwareDestinationNet GetDestination (
    unsigned int index )
```

11.53.2.9 GetDestinationDisplayLabel()

```
static String ^ GetDestinationDisplayLabel (
    String^ RawLabel,
    CFirmwareDestinationNet dest )  [static]
```

11.53.2.10 GetDestinationName() [1/2]

```
String ^ GetDestinationName (
    CFirmwareDestinationNet dest )
```

11.53.2.11 GetDestinationName() [2/2]

```
String ^ GetDestinationName (
    unsigned int index )
```

11.53.2.12 GetDestinationSerialNumber()

```
String ^ GetDestinationSerialNumber (
    CFirmwareDestinationNet dest )
```

11.53.2.13 GetDestinationTargetAddress()

```
unsigned int GetDestinationTargetAddress (
    CFirmwareDestinationNet destination )
```

Gets the target base address for the destination.

Parameters

destination	The destination to be queried.

Returns

The base address as a 32 bit number, only the lower 16 bit represent the address.

11.53.2.14 GetDestinationTargetSelectionInfo()

```
TargetSelectionInfoNet ^ GetDestinationTarget↩
SelectionInfo (
    CFirmwareDestinationNet destination )
```

11.53.2.15 GetFirmwareVersionFromFile() [1/2]

```
static bool GetFirmwareVersionFromFile (
    String^ FirmwareFile,
    [System::Runtime::InteropServices::Out] uint32_t% Version ) [static]
```

Retrives version info from a Firmware update file.

11.53.2.16 GetFirmwareVersionFromFile() [2/2]

```
static bool GetFirmwareVersionFromFile (
    String^ FirmwareFile,
    [System::Runtime::InteropServices::Out] uint32_t% Version,
    [System::Runtime::InteropServices::Out] uint32_t% Position ) [static]
```

11.53.2.17 GetFirmwareVersionFromHexFile()

```
static bool GetFirmwareVersionFromHexFile (
    String^ FirmwareFile,
    [System::Runtime::InteropServices::Out] uint32_t% Version )  [static]
```

11.53.2.18 GetNumDestinations()

```
unsigned int GetNumDestinations ( )
```

11.53.2.19 GetUSBDeviceIDFromFX3Image()

```
static uint32_t GetUSBDeviceIDFromFX3Image (
    String^ FirmwareFile )  [static]
```

11.53.2.20 GetUsercodeFromBitFile()

```
static bool GetUsercodeFromBitFile (
    String^ FirmwareFile,
    [System::Runtime::InteropServices::Out] unsigned int% Usercode )  [static]
```

11.53.2.21 GetUsercodeFromFlash()

```
bool GetUsercodeFromFlash (
    unsigned int FPGA,
    unsigned int Address,
    [System::Runtime::InteropServices::Out] unsigned int% Usercode )
```

11.53.2.22 GetXilinxFlashOffset()

```
int32_t GetXilinxFlashOffset (
    CFirmwareDestinationNet dest )
```

11.53.2.23 GetXilinxFlashReadCommand()

```
uint32_t GetXilinxFlashReadCommand (
    CFirmwareDestinationNet dest )
```

11.53.2.24 LoadUserFirmware() [1/2]

```
bool LoadUserFirmware (
    String^ FirmwareFile,
    CMcsUsbListEntryNet^ listEntry )
```

Send the DSP Firmware to the MEA21 device.

Parameters

FirmwareFile	Filename of the DSP Firmware (∗.bin) file.

Parameters

listEntry	Device to use for the connection. See CMcsUsbListNet.

11.53.2.25 LoadUserFirmware() [2/2]

```
bool LoadUserFirmware (
    String^ FirmwareFile,
    CMcsUsbListEntryNet^ listEntry,
    uint32_t LockMask )
```

11.53.2.26 ReadBlockFromFlash() [1/2]

```
array<unsigned char> ^ ReadBlockFromFlash (
    unsigned int FPGA,
    unsigned int Address )
```

11.53.2.27 ReadBlockFromFlash() [2/2]

```
void ReadBlockFromFlash (
    unsigned int FPGA,
    unsigned int Address,
    array< unsigned char >^ buffer,
    int position )
```

11.53.2.28 ReadBlockFromIFBGlobalEEprom()

```
array<unsigned char> ^ ReadBlockFromIFBGlobal↩
EEprom (
    unsigned int Address )
```

11.53.2.29 ReadBlockFromNVMEM()

```
array<unsigned char> ^ ReadBlockFromNVMEM (
    unsigned int FPGA,
    unsigned int Offset,
    unsigned int Address )
```

11.53.2.30 SetDestinationSerialNumber()

```
void SetDestinationSerialNumber (
    CFirmwareDestinationNet dest,
    String^ serialnumber )
```

11.53.2.31 UpdateFirmware() [1/5]

```
bool UpdateFirmware (
    String^ FirmwareFile,
    CMcsUsbListEntryNet^ listEntry,
    CFirmwareDestinationNet dest )
```

Flashes a firmware file to the device.

Parameters

FirmwareFile	Filename of the Firmware file.

Parameters

listEntry	Device to use for the connection.

11.53.2.32 UpdateFirmware() [2/5] bool UpdateFirmware (

```
String^ FirmwareFile,
CMcsUsbListEntryNet^ listEntry,
CFirmwareDestinationNet dest,
bool SkipWait )
```

Flashes a firmware file to the device.

Parameters

FirmwareFile	Filename of the Firmware file.

Parameters

listEntry	Device to use for the connection.

11.53.2.33 UpdateFirmware() [3/5] bool UpdateFirmware (

```
String^ FirmwareFile,
CMcsUsbListEntryNet^ listEntry,
CFirmwareDestinationNet dest,
bool SkipWait,
uint32_t LockMask )
```

11.53.2.34 UpdateFirmware() [4/5] bool UpdateFirmware (

```
String^ FirmwareFile,
CMcsUsbListEntryNet^ listEntry,
CFirmwareDestinationNet Dest,
```

```
OnUpdateFirmwareStatusChange^ deleg,
OnUpdateFirmwareProgress^ progress,
bool SkipWait )
```

Flashes a firmware file to the device.

Parameters

FirmwareFile	Filename of the Firmware file.

11.53.2.35 UpdateFirmware() [5/5]

```
bool UpdateFirmware (
String^ FirmwareFile,
CMcsUsbListEntryNet^ listEntry,
CFirmwareDestinationNet Dest,
OnUpdateFirmwareStatusChange^ deleg,
OnUpdateFirmwareProgress^ progress,
bool SkipWait,
unsigned int LockMask )
```

11.53.3 Member Data Documentation

11.53.3.1 FX3MCSDataAddress

```
const uint32_t FX3MCSDataAddress = 0x40037E00 [static]
```

11.53.3.2 FX3MCSDataDeviceIdOffset

```
const uint32_t FX3MCSDataDeviceIdOffset = 0x4 [static]
```

11.53.3.3 FX3MCSDataIFB1ImageOffset

```
const uint32_t FX3MCSDataIFB1ImageOffset = 0x2C [static]
```

11.53.3.4 FX3MCSDataIFB2ImageOffset

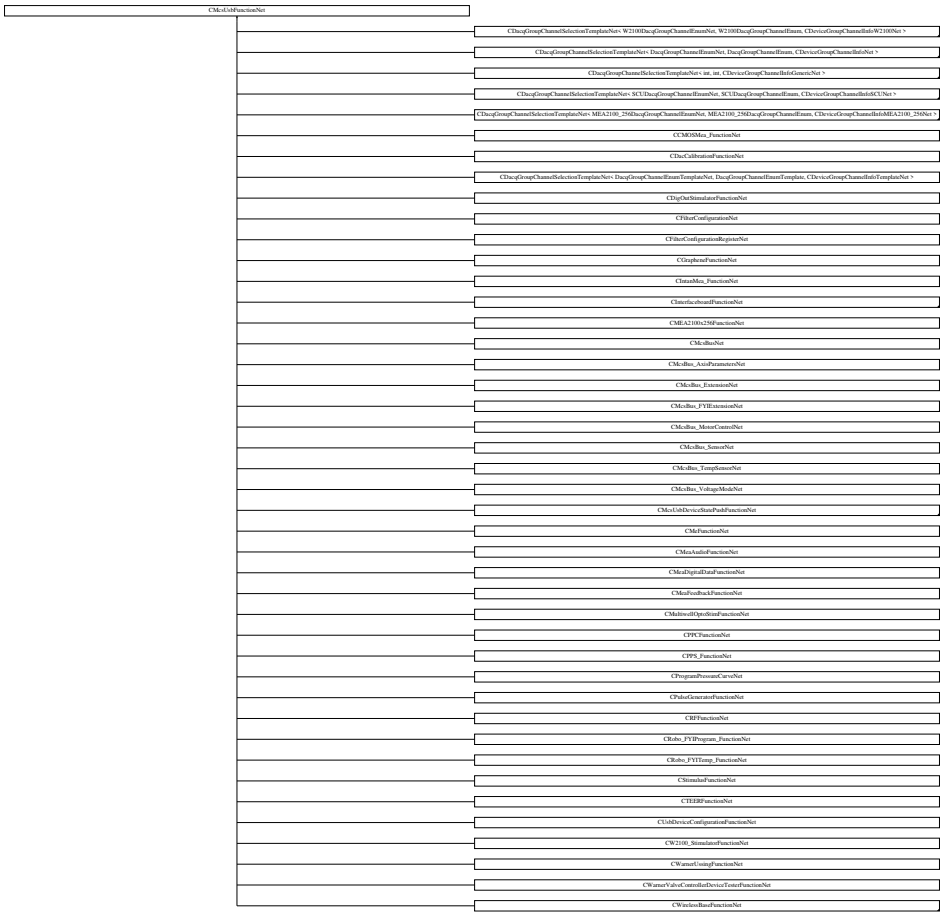
```
const uint32_t FX3MCSDataIFB2ImageOffset = 0xC [static]
```

11.53.3.5 FX3MCSDataVersionOffset

```
const uint32_t FX3MCSDataVersionOffset = 0x8 [static]
```

11.54 CMcsUsbFunctionNet Class Reference

Inheritance diagram for CMcsUsbFunctionNet:



Public Member Functions

- CMcsUsbFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CMcsUsbFunctionNet (void)
- !CMcsUsbFunctionNet ()
- void ThrowCUsbExceptionNetOnError (uint32_t status)

Protected Member Functions

- CMcsUsbFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ mcsusbfunction)

Protected Attributes

- CMcsUsbNet ^ m_pMcsUsb
- CMcsUsbFunction * m_pMcsUsbFunction

11.54.1 Constructor & Destructor Documentation

11.54.1.1 CMcsUsbFunctionNet() [1/2] CMcsUsbFunctionNet (CMcsUsbNet^ *mcsusb*)

11.54.1.2 ~CMcsUsbFunctionNet() virtual ~CMcsUsbFunctionNet (void) [virtual]

11.54.1.3 "!CMcsUsbFunctionNet() !CMcsUsbFunctionNet ( )

11.54.1.4 CMcsUsbFunctionNet() [2/2] CMcsUsbFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *mcsusbfunction*) [protected]

11.54.2 Member Function Documentation

11.54.2.1 ThrowCUsbExceptionNetOnError() void ThrowCUsbExceptionNetOnError (uint32_t *status*)

11.54.3 Member Data Documentation

11.54.3.1 m_pMcsUsb CMcsUsbNet ^ m_pMcsUsb [protected]

11.54.3.2 m_pMcsUsbFunction CMcsUsbFunction* m_pMcsUsbFunction [protected]

11.55 CMcsUsbFunctionPointerContainer Class Reference

11.56 CMcsUsbListEntryNet Class Reference

McsUsbListEntryNet identifies a connected device.

Public Member Functions

- ~CMcsUsbListEntryNet ()
- virtual bool Equals (Object^ obj) override

  Checks weather two CMcsUsbListEntryNet represent the same USB device.
- void SetStringFormat (String ^ format)

  Specify the text the CMcsUsbListEntryNet.ToString() function should return. The special code N expands to the device name and S expands to the serial number of the device.
- virtual String ^ ToString () override

Static Public Member Functions

- static CMcsUsbListEntryNet ^ GetEntry ()

  Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.
- static CMcsUsbListEntryNet ^ GetEntry (DeviceEnumNet McsUsbDevice)

  Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.
- static CMcsUsbListEntryNet ^ GetEntry (DeviceEnumNet McsUsbDevice, unsigned int index)

  Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.
- static unsigned int GetEntryCount ()

  Returns the number of devices connected to the computer.
- static unsigned int GetEntryCount (DeviceEnumNet McsUsbDevice)

  Returns the number of devices connected to the computer.

Properties

- String^ Manufacturer `[get]`

  The Manufacturer ID of the device represented by this CMcsUsbListEntryNet.
- String^ Product `[get]`

  The Product ID of the device represented by this CMcsUsbListEntryNet.
- String^ DeviceName `[get]`

  The device name of the device represented by this CMcsUsbListEntryNet.
- String^ SerialNumber `[get]`

  The serial number of the device represented by this CMcsUsbListEntryNet.
- String^ HwVersion `[get]`

  The hardware revision of the device represented by this CMcsUsbListEntryNet.
- DeviceIdNet^ DeviceId `[get]`

11.56.1 Detailed Description

McsUsbListEntryNet identifies a connected device.

11.56.2 Constructor & Destructor Documentation

11.56.2.1 ~CMcsUsbListEntryNet() `~CMcsUsbListEntryNet ( )`

11.56.3 Member Function Documentation

11.56.3.1 Equals() `virtual bool Equals ( Object^ obj ) [override], [virtual]`

Checks weather two CMcsUsbListEntryNet represent the same USB device.

Parameters

obj	The CMcsUsbListEntryNet to compare with.

11.56.3.2 GetEntry() [1/3] static CMcsUsbListEntryNet ^ GetEntry ( ) [static]

Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.

Returns

A CMcsUsbListEntryNet to be used to connect to the device.

11.56.3.3 GetEntry() [2/3] static CMcsUsbListEntryNet ^ GetEntry (DeviceEnumNet *McsUsbDevice*) [static]

Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.

Parameters

McsUsbDevice	Specifies the type of devices to look for.

Returns

A CMcsUsbListEntryNet to be used to connect to the device.

11.56.3.4 GetEntry() [3/3] static CMcsUsbListEntryNet ^ GetEntry (DeviceEnumNet *McsUsbDevice*, unsigned int *index*) [static]

Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.

Parameters

McsUsbDevice	Specifies the type of devices to look for.

Parameters

index	number of the entry to use.

Returns

A CMcsUsbListEntryNet to be used to connect to the device.

11.56.3.5 GetEntryCount() [1/2] static unsigned int GetEntryCount ( ) [static]

Returns the number of devices connected to the computer.

Returns

The number of devices.

11.56.3.6 GetEntryCount() [2/2] static unsigned int GetEntryCount (DeviceEnumNet *McsUsbDevice*) [static]

Returns the number of devices connected to the computer.

Parameters

McsUsbDevice	Specifies the type of devices to look for.

Returns

The number of devices.

11.56.3.7 SetStringFormat() void SetStringFormat (String ^ *format*)

Specify the text the CMcsUsbListEntryNet.ToString() function should return. The special code N expands to the device name and S expands to the serial number of the device.

Parameters

format	A String containing the format template. Default is "%N (%S)".

11.56.3.8 ToString() `virtual String ^ ToString ( ) [override], [virtual]`

11.56.4 Property Documentation

11.56.4.1 DeviceId `DeviceIdNet^ DeviceId [get]`

11.56.4.2 DeviceName `String^ DeviceName [get]`

The device name of the device represented by this CMcsUsbListEntryNet.

11.56.4.3 HwVersion `String^ HwVersion [get]`

The hardware revision of the device represented by this CMcsUsbListEntryNet.

11.56.4.4 Manufacturer `String^ Manufacturer [get]`

The Manufacturer ID of the device represented by this CMcsUsbListEntryNet.

11.56.4.5 Product `String^ Product [get]`

The Product ID of the device represented by this CMcsUsbListEntryNet.

11.56.4.6 SerialNumber `String^ SerialNumber [get]`

The serial number of the device represented by this CMcsUsbListEntryNet.

11.57 CMcsUsbListNet Class Reference

Class to handle a list of connected MCS USB devices.

Public Member Functions

- CMcsUsbListNet (DeviceEnumNet McsUsbDevice)

  Initializes a new instance of CMcsUsbListNet class.
- CMcsUsbListNet (array< DeviceIdNet^ >^ DeviceIdList)

  Initializes a new instance of CMcsUsbListNet class.
- ~CMcsUsbListNet ()

  Destructor: called by Dispose()
- !CMcsUsbListNet ()

  Finalizer: called by GC before collecting
- void SetStringFormat (String ^ format)

  Specify the text the CMcsUsbListEntryNet.ToString() function should return. The special code N expands to the device name and S expands to the serial number of the device.
- uint32_t GetNumberOfDevices ()

  Gets the number of devices currently in the list.
- CMcsUsbListEntryNet ^ GetUsbListEntry (unsigned int index)

  Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.
- array< CMcsUsbListEntryNet^ > ^ GetUsbListEntries ()

  Returns all entries from the list of USB Devices connected to the computer.
- bool IsDeviceTypeOf (CMcsUsbListEntryNet^ entry, DeviceEnumNet McsUsbDevice)

Properties

- uint32_t Count [get]

  Gets the number of devices currently in the list.

Events

- OnDeviceArrivalRemoval^ DeviceArrival
- OnDeviceArrivalRemoval^ DeviceRemoval

11.57.1 Detailed Description

Class to handle a list of connected MCS USB devices.

11.57.2 Constructor & Destructor Documentation

11.57.2.1 CMcsUsbListNet() [1/2] CMcsUsbListNet (DeviceEnumNet *McsUsbDevice*)

Initializes a new instance of CMcsUsbListNet class.

11.57.2.2 CMcsUsbListNet() [2/2] CMcsUsbListNet (array< DeviceIdNet^>^ *DeviceIdList*)

Initializes a new instance of CMcsUsbListNet class.

11.57.2.3 ~CMcsUsbListNet() ~CMcsUsbListNet ( )

Destructor: called by Dispose()

11.57.2.4 "!CMcsUsbListNet() !CMcsUsbListNet ( )

Finalizer: called by GC before collecting

11.57.3 Member Function Documentation

11.57.3.1 GetNumberOfDevices() uint32_t GetNumberOfDevices ( )

Gets the number of devices currently in the list.

Returns

The number of devices currently in the list.

11.57.3.2 GetUsbListEntries() array<CMcsUsbListEntryNet^> ^ GetUsbListEntries ( )

Returns all entries from the list of USB Devices connected to the computer.

11.57.3.3 GetUsbListEntry() CMcsUsbListEntryNet ^ GetUsbListEntry (unsigned int *index*)

Returns one CMcsUsbListEntryNet from the list of USB Devices connected to the computer.

Parameters

index	number of the entry to use.

11.57.3.4 IsDeviceTypeOf() `bool IsDeviceTypeOf (`

```
CMcsUsbListEntryNet^ entry,
DeviceEnumNet McsUsbDevice )
```

11.57.3.5 SetStringFormat() `void SetStringFormat (`

```
String ^ format )
```

Specify the text the CMcsUsbListEntryNet.ToString() function should return. The special code N expands to the device name and S expands to the serial number of the device.

Parameters

format	A String containing the format template. Default is "%N (%S)".

11.57.4 Property Documentation

11.57.4.1 Count `uint32_t Count [get]`

Gets the number of devices currently in the list.

11.57.5 Event Documentation

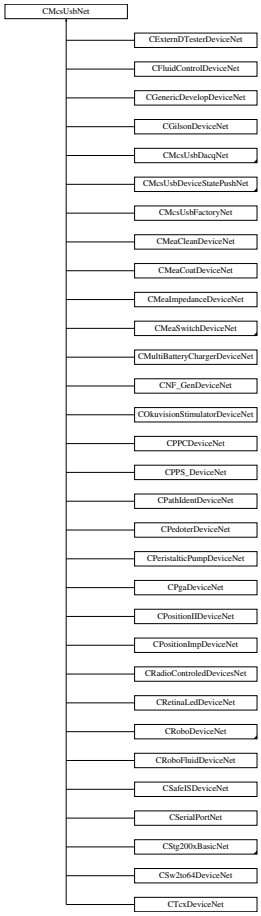
11.57.5.1 DeviceArrival `OnDeviceArrivalRemoval^ DeviceArrival`

11.57.5.2 DeviceRemoval `OnDeviceArrivalRemoval^ DeviceRemoval`

11.58 CMcsUsbNet Class Reference

Base class to handle MCS USB devices. All device classes are derived from this class. Functionality that is provided by all MCS devices is handled by this class.

Inheritance diagram for CMcsUsbNet:



Public Member Functions

- CMcsUsbNet ()

  Initializes a new instance of the base class to handle MCS USB devices.
- CMcsUsbNet (McsBusTypeEnumNet bustype)

  Initializes a new instance of the base class to handle MCS USB devices.
- virtual ~CMcsUsbNet ()
- !CMcsUsbNet ()
- DeviceEnumNet GetDeviceEnum ()
- virtual uint32_t Connect ()

  Opens a connection to the device.
- virtual uint32_t Connect (unsigned int LockMask)

  Opens a connection to the device.
- virtual uint32_t Connect (CMcsUsbListEntryNet^ entry)

  Opens a connection to the device.
- virtual uint32_t Connect (CMcsUsbListEntryNet^ entry, unsigned int LockMask)

  Opens a connection to the device.

- virtual uint32_t GetStatus ([System::Runtime::InteropServices::Out]uint32_t% iStatus)
- virtual bool IsConnected ()

  Check if a device is Connected.
- virtual void Disconnect ()

  Disconnect from a device.
- CMcsUsbListEntryNet ^ GetUsbListEntry ()
- virtual String ^ GetSerialNumber ()

  Query the Serial Number of the device.
- DriverVersionNet ^ GetVersion ()
- DriverVersionNet ^ GetVersion (CFirmwareDestinationNet dest)
- DeviceIdNet ^ GetDeviceId ()
- void MultibootSelectImage (unsigned int sector)

  Select the multiboot image specified by "sector" (range: 0..2) for IFB FPGA.
- String ^ MultibootGetImageId (unsigned int sector)

  Query the multiboot image id of the device located in specified sector (range: 0..2 / 0..9) of IFB1 / IFB2 FPGA.
- uint32_t MultibootGetCypressImageId (unsigned int sector)

  Query the multiboot image id of the device located in specified sector (range: 0..9 0..9) of IFB2 Cypress.
- uint32_t MultibootGetSelectedImage ()

  Gets sector index of selected FPGA boot image on IFB
- uint32_t GetMea21UsbPort ()

  Gets the USB port if an IFB that is used by this connection
- HeadstageIdEnumNet GetHeadstageID (uint32_t headstage)

  Gets the ID of a connected headstage.
- bool GetHeadstagePresent (uint32_t headstage)

  queries whether a headstage is present
- bool GetHeadstageActive (uint32_t headstage)

  queries whether a headstage is active
- void RescanHeadstage (uint32_t headstage)

  rescans and activates a headstage
- array< BYTE > ^ GetSoftwareKey (unsigned int index)
- void SetSoftwareKey (unsigned int index, array< BYTE >^ buffer)
- void RemoveSoftwareKey (unsigned int index)
- void AddSoftwareKey (String^ key)
- bool EmptyKey (String^ key)
- bool ValidKey (String^ key, [System::Runtime::InteropServices::Out]String^% serial_number)
- bool ValidKey (String^ key, uint8_t ProgrammID, uint8_t majorversion, [System::Runtime::InteropServices↩ ::Out]String^% serial_number)
- bool HasSoftwareKey (uint8_t ProgrammID, uint8_t majorversion)
- bool HasSoftwareKey (SoftwareKeyProgrammIdsNet::ProgrammIdsNet ProgrammID, uint8_t majorversion)
- String ^ GetSoftwareKeyString (uint8_t ProgrammID, uint8_t majorversion)
- String ^ GetSoftwareKeyString (SoftwareKeyProgrammIdsNet::ProgrammIdsNet ProgrammID, uint8_t majorversion)
- bool IsDeviceHighSpeedCapable ()
- bool IsDeviceHighSpeed ()
- McsUsbSpeedEnumNet GetDeviceCapableSpeed ()
- McsUsbSpeedEnumNet GetDeviceSpeed ()

  Query the Connection Speed of the device.
- unsigned int TxnTestMemoryWrite (unsigned short index)
- unsigned int TxnTestMemoryReadAndCheck (unsigned short index)
- void TxnSetSerialNumber (unsigned int number)
- unsigned int TxnGetSerialNumber ()
- unsigned int ReadRegister (unsigned int reg)
- array< uint32_t > ^ ReadRegister (unsigned int reg, int length)

- unsigned int ReadRegister32 (unsigned int adr)
- unsigned int ReadRegisterTimeSlot (unsigned int reg, int TimeSlot)
- void WriteRegister (unsigned int reg, unsigned int value)
- void WriteRegisterValue (unsigned int reg, unsigned int value)
- void WriteRegister32 (unsigned int adr, unsigned int value)
- void WriteRegister (unsigned int reg, array< unsigned int >^ values)
- void WriteRegisterArray (unsigned int reg, array< unsigned int >^ values)
- void WriteRegisterTimeSlot (unsigned int reg, unsigned int value, int TimeSlot)
- void WriteRegisterTimeSlot (unsigned int reg, array< unsigned int >^ values, int TimeSlot)
- bool ReadEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, [System::Runtime::InteropServices::Out]uint32_t% DMA_value)
- bool ReadEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, [System::Runtime::InteropServices::Out]uint32_t% DMA_value, uint32_t EEPROMSize)
- bool ReadEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, [System::Runtime::InteropServices::Out]uint32_t% DMA_value, uint32_t EEPROMSize, uint32_t EepromStartAddress)
- void WriteEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t DMA_value)
- void WriteEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t DMA_value, uint32_t EEPROMSize)
- void WriteEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t DMA_value, uint32_t EEPROMSize, uint32_t EepromStartAddress)
- void EraseEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg)
- void EraseEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t EEPROMSize)
- void EraseEepromRegisterPreconfig (uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t EEPROMSize, uint32_t EepromStartAddress)
- unsigned int GetLastUSBError ()
- void ThrowCUsbExceptionNetOnError (uint32_t status)
- bool GetDeviceCannotStallOutRequests ()
- String ^ GetHardwareRevision ()
- unsigned int GetFirmwareVersion (CFirmwareDestinationNet destination)

  Gets the firmware version for the destination.
- uint8_t GetNumConfigurations ()
- uint8_t GetConfiguration ()
- void SetConfiguration (uint8_t config)
- uint32_t GetDeviceRootHubVendorID ()

  Gets the Vendor ID of the USB root hub the device is connected to.
- UsbVendorIdEnumNet GetDeviceRootHubVendorEnum ()

  Gets the Vendor ID of the USB root hub the device is connected to.
- String ^ GetDeviceRootHubVendorName ()

  Gets the Vendor Name of the USB root hub the device is connected to.
- void EnableExceptions (bool enable)

  Enables or Disables Exceptions for calls to McsUsb Devices. If Exceptions are disabled, the return value of a command can be queries with the GetStatusOfLastCommand call instead.
- bool IsExceptionsEnabled ()
- uint32_t GetStatusOfLastCommand ()

  Gets the status of the last call to the McsUsb Library.
- uint32_t CyclePort ()
- void AssociateToThis (CMcsUsbNet^ device)

Static Public Member Functions

- static String ^ GetErrorText (unsigned int Status)

  Gets the error text string that belongs to a status number.

Static Public Attributes

- static const uint32_t Status_Crc = (0xE0100001L)
- static const uint32_t Status_Btstuff = (0xE0100002L)
- static const uint32_t Status_DataToggleMismatch = (0xE0100003L)
- static const uint32_t Status_Stall = (0xE0100004L)
- static const uint32_t Status_DevNotResponding = (0xE0100005L)
- static const uint32_t Status_PidCheckFailure = (0xE0100006L)
- static const uint32_t Status_UnexpectedPid = (0xE0100007L)
- static const uint32_t Status_DataOverrun = (0xE0100008L)
- static const uint32_t Status_DataUnderrun = (0xE0100009L)
- static const uint32_t Status_BufferOverrun = (0xE010000CL)
- static const uint32_t Status_BufferUnderrun = (0xE010000DL)
- static const uint32_t Status_NotAccessed = (0xE010000FL)
- static const uint32_t Status_Fifo = (0xE0100010L)
- static const uint32_t Status_EndpointHalted = (0xE0100030L)
- static const uint32_t Status_NoMemory = (0xE0100100L)
- static const uint32_t Status_InvalidUrbFunction = (0xE0100200L)
- static const uint32_t Status_InvalidParameter = (0xE0100300L)
- static const uint32_t Status_InvalidDeviceHandle = (0xE0100013L)
- static const uint32_t Status_InvalidHandle = (0xE0100012L)
- static const uint32_t Status_ErrorBusy = (0xE0100400L)
- static const uint32_t Status_RequestFailed = (0xE0100500L)
- static const uint32_t Status_InvalidPipeHandle = (0xE0100600L)
- static const uint32_t Status_NoBandwidth = (0xE0100700L)
- static const uint32_t Status_InternalHcError = (0xE0100800L)
- static const uint32_t Status_ErrorShortTransfer = (0xE0100900L)
- static const uint32_t Status_BadStartFrame = (0xE0100A00L)
- static const uint32_t Status_IsochRequestFailed = (0xE0100B00L)
- static const uint32_t Status_FrameControlOwned = (0xE0100C00L)
- static const uint32_t Status_ControlNotOwned = (0xE0100D00L)
- static const uint32_t Status_Canceled = (0xE0110000L)
- static const uint32_t Status_Canceling = (0xE0120000L)
- static const uint32_t Status_AlreadyConfigured = (0xE0110001L)
- static const uint32_t Status_Unconfigured = (0xE0110002L)
- static const uint32_t Status_NoSuchDevice = (0xE01F0002L)
- static const uint32_t Status_DeviceNotFound = (0xE01F0003L)
- static const uint32_t Status_NotSupported = (0xE01F0005L)
- static const uint32_t Status_IoPending = (0xE01F0006L)
- static const uint32_t Status_IoTimeout = (0xE01F0007L)
- static const uint32_t Status_DeviceRemoved = (0xE01F0008L)
- static const uint32_t Status_PipeNotLinked = (0xE01F0009L)
- static const uint32_t Status_ConnectedPipes = (0xE01F000AL)
- static const uint32_t Status_DeviceLocked = (0xE01F0010L)
- static const uint32_t Status_RequestMutexTimeout = (0xE01F0020L)
- static const uint32_t Status_RequestMutexFailed = (0xE01F0021L)
- static const uint32_t Status_LastUsbErrorMismatch = (0xE01F0022L)
- static const uint32_t WPAError_ScanningIsPending = ((0xA0220000L) | 0x0036)

Properties

- virtual String^ SerialNumber `[get]`

11.58.1 Detailed Description

Base class to handle MCS USB devices. All device classes are derived from this class. Functionality that is provided by all MCS devices is handled by this class.

11.58.2 Constructor & Destructor Documentation

11.58.2.1 CMcsUsbNet() [1/2] CMcsUsbNet ( )

Initializes a new instance of the base class to handle MCS USB devices.

11.58.2.2 CMcsUsbNet() [2/2] CMcsUsbNet (McsBusTypeEnumNet *bustype*)

Initializes a new instance of the base class to handle MCS USB devices.

Parameters

bustype	Type of device to use, either USB or PCI.

11.58.2.3 ~CMcsUsbNet() virtual ~CMcsUsbNet ( ) [virtual]

11.58.2.4 "!CMcsUsbNet() !CMcsUsbNet ( )

11.58.3 Member Function Documentation

11.58.3.1 AddSoftwareKey() void AddSoftwareKey (String^ *key*)

11.58.3.2 AssociateToThis() void AssociateToThis (CMcsUsbNet^ *device*)

11.58.3.3 Connect() [1/4] virtual uint32_t Connect ( ) [virtual]

Opens a connection to the device.

Returns

Error Status. 0 on success.

11.58.3.4 Connect() [2/4] virtual uint32_t Connect (CMcsUsbListEntryNet^ *entry*) [virtual]

Opens a connection to the device.

Parameters

entry	The Device List Entry for the device to be connected.

Returns

Error Status. 0 on success.

11.58.3.5 Connect() [3/4] virtual uint32_t Connect (CMcsUsbListEntryNet^ *entry*, unsigned int *LockMask*) [virtual]

Opens a connection to the device.

Parameters

entry	The Device List Entry for the device to be connected.
LockMask	The Lock Mask for this connection.

Returns

Error Status. 0 on success.

11.58.3.6 Connect() [4/4] virtual uint32_t Connect (unsigned int *LockMask*) [virtual]

Opens a connection to the device.

Parameters

LockMask	The Lock Mask for this connection.

Returns

Error Status. 0 on success.

11.58.3.7 CyclePort() `uint32_t CyclePort ( )`

11.58.3.8 Disconnect() `virtual void Disconnect ( ) [virtual]`

Disconnect from a device.

11.58.3.9 EmptyKey() `bool EmptyKey ( String^ key )`

11.58.3.10 EnableExceptions() `void EnableExceptions ( bool enable )`

Enables or Disables Exceptions for calls to McsUsb Devices. If Exceptions are disabled, the return value of a command can be queries with the GetStatusOfLastCommand call instead.

Parameters

enable	True to enable Exceptions, False to disable.

11.58.3.11 EraseEepromRegisterPreconfig() [1/3] `void EraseEepromRegisterPreconfig ( uint32_t EEPROMBase, uint32_t DMA_reg )`

11.58.3.12 EraseEepromRegisterPreconfig() [2/3] `void EraseEepromRegisterPreconfig ( uint32_t EEPROMBase, uint32_t DMA_reg, uint32_t EEPROMSize )`

11.58.3.13 EraseEepromRegisterPreconfig() [3/3]

```
void EraseEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    uint32_t EEPROMSize,
    uint32_t EepromStartAddress )
```

11.58.3.14 GetConfiguration()

```
uint8_t GetConfiguration ( )
```

11.58.3.15 GetDeviceCannotStallOutRequests()

```
bool GetDeviceCannotStallOutRequests ( )
```

11.58.3.16 GetDeviceCapableSpeed()

```
McsUsbSpeedEnumNet GetDeviceCapableSpeed ( )
```

11.58.3.17 GetDeviceEnum()

```
DeviceEnumNet GetDeviceEnum ( )
```

11.58.3.18 GetDeviceId()

```
DeviceIdNet ^ GetDeviceId ( )
```

11.58.3.19 GetDeviceRootHubVendorEnum()

```
UsbVendorIdEnumNet GetDeviceRootHubVendorEnum ( )
```

Gets the Vendor ID of the USB root hub the device is connected to.

Returns

An enum which enumerates the PCI Vendor ID.

11.58.3.20 GetDeviceRootHubVendorID()

```
uint32_t GetDeviceRootHubVendorID ( )
```

Gets the Vendor ID of the USB root hub the device is connected to.

Returns

The PCI Vendor ID, 0x8086 for Intel, 0x1912 for Renesas, 0x1b21 for ASMedia.

11.58.3.21 GetDeviceRootHubVendorName() `String ^ GetDeviceRootHubVendorName ( )`

Gets the Vendor Name of the USB root hub the device is connected to.

Returns

The PCI Vendor Name, either "Intel", "Renesas", "ASMedia" or "unknown".

11.58.3.22 GetDeviceSpeed() `McsUsbSpeedEnumNet GetDeviceSpeed ( )`

Query the Connection Speed of the device.

Returns

0 for Low-Speed, 1 for Full-Speed, 2 for High-Speed and 3 for SuperSpeed.

11.58.3.23 GetErrorText() `static String ^ GetErrorText ( unsigned int Status ) [static]`

Gets the error text string that belongs to a status number.

Parameters

Status	The status number you want the text for.

Returns

The error text string that belongs to the status number.

11.58.3.24 GetFirmwareVersion() `unsigned int GetFirmwareVersion ( CFirmwareDestinationNet destination )`

Gets the firmware version for the destination.

Parameters

destination	The destination to be queried.

Returns

The firmware version as a 32 bit number, the upper 16 bit contain the majaor version number, the lower 16 bit the minor version number.

11.58.3.25 GetHardwareRevision() `String ^ GetHardwareRevision ( )`

11.58.3.26 GetHeadstageActive() `bool GetHeadstageActive ( uint32_t headstage )`

queries whether a headstage is active

Parameters

in	*headstage*	the headstage number (0 or 1)

Returns

true if the headstage is active

11.58.3.27 GetHeadstageID() `HeadstageIdEnumNet GetHeadstageID ( uint32_t headstage )`

Gets the ID of a connected headstage.

Parameters

in	*headstage*	the headstage number (0 or 1)

Returns

enumerated Headstage ID

11.58.3.28 GetHeadstagePresent() `bool GetHeadstagePresent ( uint32_t headstage )`

queries whether a headstage is present

Parameters

in	*headstage*	the headstage number (0 or 1)

Returns

true if the headstage is present

11.58.3.29 GetLastUSBError() `unsigned int GetLastUSBError ( )`

11.58.3.30 GetMea21UsbPort() `uint32_t GetMea21UsbPort ( )`

Gets the USB port if an IFB that is used by this connection

Returns

number of used port; range: 0..1

11.58.3.31 GetNumConfigurations() `uint8_t GetNumConfigurations ( )`

11.58.3.32 GetSerialNumber() `virtual String ^ GetSerialNumber ( ) [virtual]`

Query the Serial Number of the device.

Returns

The Serial Number.

11.58.3.33 GetSoftwareKey() `array<BYTE> ^ GetSoftwareKey ( unsigned int index )`

11.58.3.34 GetSoftwareKeyString() [1/2] `String ^ GetSoftwareKeyString ( SoftwareKeyProgrammIdsNet::ProgrammIdsNet ProgrammID, uint8_t majorversion )`

11.58.3.35 GetSoftwareKeyString() [2/2] `String ^ GetSoftwareKeyString ( uint8_t ProgrammID, uint8_t majorversion )`

11.58.3.36 GetStatus() `virtual uint32_t GetStatus ( [System::Runtime::InteropServices::Out] uint32_t% iStatus ) [virtual]`

11.58.3.37 GetStatusOfLastCommand() uint32_t GetStatusOfLastCommand ( )

Gets the status of the last call to the McsUsb Library.

Returns

The Error Status of the last McsUsb command. 0 on success.

11.58.3.38 GetUsbListEntry() CMcsUsbListEntryNet ^ GetUsbListEntry ( )

11.58.3.39 GetVersion() [1/2] DriverVersionNet ^ GetVersion ( )

11.58.3.40 GetVersion() [2/2] DriverVersionNet ^ GetVersion (CFirmwareDestinationNet *dest*)

11.58.3.41 HasSoftwareKey() [1/2] bool HasSoftwareKey (SoftwareKeyProgrammIdsNet::ProgrammIdsNet *ProgrammID*, uint8_t *majorversion*)

11.58.3.42 HasSoftwareKey() [2/2] bool HasSoftwareKey (uint8_t *ProgrammID*, uint8_t *majorversion*)

11.58.3.43 IsConnected() virtual bool IsConnected ( ) [virtual]

Check if a device is Connected.

Returns

true if the device is connected.

11.58.3.44 IsDeviceHighSpeed() bool IsDeviceHighSpeed ( )

11.58.3.45 IsDeviceHighSpeedCapable() `bool IsDeviceHighSpeedCapable ( )`

11.58.3.46 IsExceptionsEnabled() `bool IsExceptionsEnabled ( )`

11.58.3.47 MultibootGetCypressImageId() `uint32_t MultibootGetCypressImageId ( unsigned int sector )`

Query the multiboot image id of the device located in specified sector (range: 0..9 0..9) of IFB2 Cypress.

Returns

The magic ident code of the image.

11.58.3.48 MultibootGetImageId() `String ^ MultibootGetImageId ( unsigned int sector )`

Query the multiboot image id of the device located in specified sector (range: 0..2 / 0..9) of IFB1 / IFB2 FPGA.

Returns

The magic ident code of the image.

11.58.3.49 MultibootGetSelectedImage() `uint32_t MultibootGetSelectedImage ( )`

Gets sector index of selected FPGA boot image on IFB

Returns

Sector index of image; range: 0..2

11.58.3.50 MultibootSelectImage() `void MultibootSelectImage ( unsigned int sector )`

Select the multiboot image specified by "sector" (range: 0..2) for IFB FPGA.

Returns

Throws exception on error.

11.58.3.51 ReadEepromRegisterPreconfig() [1/3]

```
bool ReadEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    [System::Runtime::InteropServices::Out] uint32_t% DMA_value )
```

11.58.3.52 ReadEepromRegisterPreconfig() [2/3]

```
bool ReadEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    [System::Runtime::InteropServices::Out] uint32_t% DMA_value,
    uint32_t EEPROMSize )
```

11.58.3.53 ReadEepromRegisterPreconfig() [3/3]

```
bool ReadEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    [System::Runtime::InteropServices::Out] uint32_t% DMA_value,
    uint32_t EEPROMSize,
    uint32_t EepromStartAddress )
```

11.58.3.54 ReadRegister() [1/2]

```
unsigned int ReadRegister (
    unsigned int reg )
```

11.58.3.55 ReadRegister() [2/2]

```
array<uint32_t> ^ ReadRegister (
    unsigned int reg,
    int length )
```

11.58.3.56 ReadRegister32()

```
unsigned int ReadRegister32 (
    unsigned int adr )
```

11.58.3.57 ReadRegisterTimeSlot()

```
unsigned int ReadRegisterTimeSlot (
    unsigned int reg,
    int TimeSlot )
```

11.58.3.58 RemoveSoftwareKey()

```
void RemoveSoftwareKey (
    unsigned int index )
```

11.58.3.59 RescanHeadstage()

```
void RescanHeadstage (
    uint32_t headstage )
```

rescans and activates a headstage

Parameters

in	*headstage*	the headstage number (0 or 1)

11.58.3.60 SetConfiguration()

```
void SetConfiguration (
    uint8_t config )
```

11.58.3.61 SetSoftwareKey()

```
void SetSoftwareKey (
    unsigned int index,
    array< BYTE >^ buffer )
```

11.58.3.62 ThrowCUsbExceptionNetOnError()

```
void ThrowCUsbExceptionNetOnError (
    uint32_t status )
```

11.58.3.63 TxnGetSerialNumber()

```
unsigned int TxnGetSerialNumber ( )
```

11.58.3.64 TxnSetSerialNumber()

```
void TxnSetSerialNumber (
    unsigned int number )
```

11.58.3.65 TxnTestMemoryReadAndCheck()

```
unsigned int TxnTestMemoryReadAndCheck (
    unsigned short index )
```

11.58.3.66 TxnTestMemoryWrite()

```
unsigned int TxnTestMemoryWrite (
    unsigned short index )
```

11.58.3.67 ValidKey() [1/2]

```
bool ValidKey (
    String^ key,
    [System::Runtime::InteropServices::Out] String^% serial_number )
```

11.58.3.68 ValidKey() [2/2]

```
bool ValidKey (
    String^ key,
    uint8_t ProgrammID,
    uint8_t majorversion,
    [System::Runtime::InteropServices::Out] String^% serial_number )
```

11.58.3.69 WriteEepromRegisterPreconfig() [1/3]

```
void WriteEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    uint32_t DMA_value )
```

11.58.3.70 WriteEepromRegisterPreconfig() [2/3]

```
void WriteEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    uint32_t DMA_value,
    uint32_t EEPROMSize )
```

11.58.3.71 WriteEepromRegisterPreconfig() [3/3]

```
void WriteEepromRegisterPreconfig (
    uint32_t EEPROMBase,
    uint32_t DMA_reg,
    uint32_t DMA_value,
    uint32_t EEPROMSize,
    uint32_t EepromStartAddress )
```

11.58.3.72 WriteRegister() [1/2]

```
void WriteRegister (
    unsigned int reg,
    array< unsigned int >^ values )
```

11.58.3.73 WriteRegister() [2/2]

```
void WriteRegister (
    unsigned int reg,
    unsigned int value )
```

11.58.3.74 WriteRegister32()

```
void WriteRegister32 (
    unsigned int adr,
    unsigned int value )
```

11.58.3.75 WriteRegisterArray()

```
void WriteRegisterArray (
    unsigned int reg,
    array< unsigned int >^ values )
```

11.58.3.76 WriteRegisterTimeSlot() [1/2]

```
void WriteRegisterTimeSlot (
    unsigned int reg,
    array< unsigned int >^ values,
    int TimeSlot )
```

11.58.3.77 WriteRegisterTimeSlot() [2/2]

```
void WriteRegisterTimeSlot (
    unsigned int reg,
    unsigned int value,
    int TimeSlot )
```

11.58.3.78 WriteRegisterValue()

```
void WriteRegisterValue (
    unsigned int reg,
    unsigned int value )
```

11.58.4 Member Data Documentation

11.58.4.1 Status_AlreadyConfigured

```
const uint32_t Status_AlreadyConfigured = (0xE0110001L) [static]
```

11.58.4.2 Status_BadStartFrame

```
const uint32_t Status_BadStartFrame = (0xE0100A00L) [static]
```

11.58.4.3 Status_Btstuff

```
const uint32_t Status_Btstuff = (0xE0100002L) [static]
```

11.58.4.4 Status_BufferOverrun

```
const uint32_t Status_BufferOverrun = (0xE010000CL) [static]
```

11.58.4.5 Status_BufferUnderrun

```
const uint32_t Status_BufferUnderrun = (0xE010000DL) [static]
```

11.58.4.6 Status_Canceled

```
const uint32_t Status_Canceled = (0xE0110000L) [static]
```

11.58.4.7 Status_Canceling

```
const uint32_t Status_Canceling = (0xE0120000L) [static]
```

11.58.4.8 Status_ConnectedPipes

```
const uint32_t Status_ConnectedPipes = (0xE01F000AL) [static]
```

11.58.4.9 Status_ControlNotOwned

```
const uint32_t Status_ControlNotOwned = (0xE0100D00L) [static]
```

11.58.4.10 Status_Crc

```
const uint32_t Status_Crc = (0xE0100001L) [static]
```

11.58.4.11 Status_DataOverrun

```
const uint32_t Status_DataOverrun = (0xE0100008L) [static]
```

11.58.4.12 Status_DataToggleMismatch

```
const uint32_t Status_DataToggleMismatch = (0xE0100003L)
[static]
```

11.58.4.13 Status_DataUnderrun

```
const uint32_t Status_DataUnderrun = (0xE0100009L) [static]
```

11.58.4.14 Status_DeviceLocked

```
const uint32_t Status_DeviceLocked = (0xE01F0010L) [static]
```

11.58.4.15 Status_DeviceNotFound

```
const uint32_t Status_DeviceNotFound = (0xE01F0003L) [static]
```

11.58.4.16 Status_DeviceRemoved

```
const uint32_t Status_DeviceRemoved = (0xE01F0008L) [static]
```

11.58.4.17 Status_DevNotResponding

```
const uint32_t Status_DevNotResponding = (0xE0100005L) [static]
```

11.58.4.18 Status_EndpointHalted

```
const uint32_t Status_EndpointHalted = (0xE0100030L) [static]
```

11.58.4.19 Status_ErrorBusy

```
const uint32_t Status_ErrorBusy = (0xE0100400L) [static]
```

11.58.4.20 Status_ErrorShortTransfer

```
const uint32_t Status_ErrorShortTransfer = (0xE0100900L) [static]
```

11.58.4.21 Status_Fifo

```
const uint32_t Status_Fifo = (0xE0100010L) [static]
```

11.58.4.22 Status_FrameControlOwned

```
const uint32_t Status_FrameControlOwned = (0xE0100C00L) [static]
```

11.58.4.23 Status_InternalHcError

```
const uint32_t Status_InternalHcError = (0xE0100800L) [static]
```

11.58.4.24 Status_InvalidDeviceHandle

```
const uint32_t Status_InvalidDeviceHandle = (0xE0100013L) [static]
```

11.58.4.25 Status_InvalidHandle

```
const uint32_t Status_InvalidHandle = (0xE0100012L) [static]
```

11.58.4.26 Status_InvalidParameter

```
const uint32_t Status_InvalidParameter = (0xE0100300L) [static]
```

11.58.4.27 Status_InvalidPipeHandle

```
const uint32_t Status_InvalidPipeHandle = (0xE0100600L) [static]
```

11.58.4.28 Status_InvalidUrbFunction

```
const uint32_t Status_InvalidUrbFunction = (0xE0100200L) [static]
```

11.58.4.29 Status_IoPending

```
const uint32_t Status_IoPending = (0xE01F0006L) [static]
```

11.58.4.30 Status_IoTimeout

```
const uint32_t Status_IoTimeout = (0xE01F0007L) [static]
```

11.58.4.31 Status_IsochRequestFailed

```
const uint32_t Status_IsochRequestFailed = (0xE0100B00L) [static]
```

11.58.4.32 Status_LastUsbErrorMismatch

```
const uint32_t Status_LastUsbErrorMismatch = (0xE01↩
F0022L) [static]
```

11.58.4.33 Status_NoBandwidth

```
const uint32_t Status_NoBandwidth = (0xE0100700L) [static]
```

11.58.4.34 Status_NoMemory

```
const uint32_t Status_NoMemory = (0xE0100100L) [static]
```

11.58.4.35 Status_NoSuchDevice

```
const uint32_t Status_NoSuchDevice = (0xE01F0002L) [static]
```

11.58.4.36 Status_NotAccessed

```
const uint32_t Status_NotAccessed = (0xE010000FL) [static]
```

11.58.4.37 Status_NotSupported

```
const uint32_t Status_NotSupported = (0xE01F0005L) [static]
```

11.58.4.38 Status_PidCheckFailure

```
const uint32_t Status_PidCheckFailure = (0xE0100006L) [static]
```

11.58.4.39 Status_PipeNotLinked

```
const uint32_t Status_PipeNotLinked = (0xE01F0009L) [static]
```

11.58.4.40 Status_RequestFailed

```
const uint32_t Status_RequestFailed = (0xE0100500L) [static]
```

11.58.4.41 Status_RequestMutexFailed

```
const uint32_t Status_RequestMutexFailed = (0xE01F0021L) [static]
```

11.58.4.42 Status_RequestMutexTimeout

```
const uint32_t Status_RequestMutexTimeout = (0xE01↩
F0020L) [static]
```

11.58.4.43 Status_Stall

```
const uint32_t Status_Stall = (0xE0100004L) [static]
```

11.58.4.44 Status_Unconfigured

```
const uint32_t Status_Unconfigured = (0xE0110002L) [static]
```

11.58.4.45 Status_UnexpectedPid

```
const uint32_t Status_UnexpectedPid = (0xE0100007L) [static]
```

11.58.4.46 WPAError_ScanningIsPending

```
const uint32_t WPAError_ScanningIsPending = ( (0x↩
A0220000L) | 0x0036 ) [static]
```

11.58.5 Property Documentation

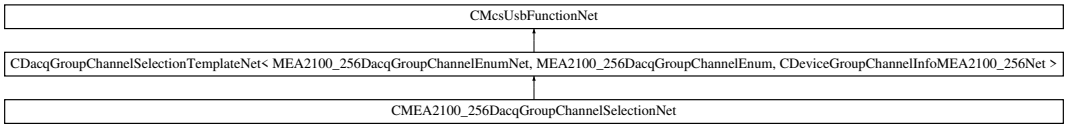
11.58.5.1 SerialNumber

```
virtual String^ SerialNumber [get]
```

11.59 CMcsUsbPointerContainer Class Reference

11.60 CMEA2100_256DacqGroupChannelSelectionNet Class Reference

Inheritance diagram for CMEA2100_256DacqGroupChannelSelectionNet:



Public Member Functions

- CMEA2100_256DacqGroupChannelSelectionNet (CMcsUsbNet^ mcsusb)

Additional Inherited Members

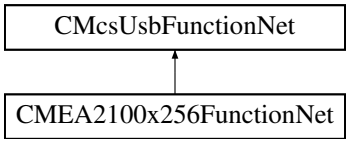
11.60.1 Constructor & Destructor Documentation

11.60.1.1 CMEA2100_256DacqGroupChannelSelectionNet() CMEA2100_256DacqGroupChannelSelectionNet (CMcsUsbNet^ *mcsusb*)

11.61 CMEA2100x256FunctionNet Class Reference

CMEA2100x256FunctionNet is the class to control the MEA2100-256 device needs #include "Stg200xNet.h" to resolve documentation reference

Inheritance diagram for CMEA2100x256FunctionNet:



Public Member Functions

- CMEA2100x256FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pMEA2100x256↩ FunctionPointerContainer)

  Initializes a new instance of the CMEA2100x256FunctionNet class.
- CMEA2100x256FunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CMEA2100x256FunctionNet ()
- !CMEA2100x256FunctionNet ()
- StimulationLayoutConfigurationEnumNet GetLayoutConfiguration ()

  Gets the stimulation layout configuration. Can be single well, 6-well or 9-well. The number of DAC channels available per well is Mcs::Usb::CStg200xBasicNet::GetNumberOfAnalogChannels divided by Mcs::Usb::CStg200xBasicNet::GetNumberOfStimulat
- void SetLayoutConfiguration (StimulationLayoutConfigurationEnumNet LayoutConfiguration)

  Sets the stimulation layout configuration. Can be single well, 6-well or 9-well. The number of DAC channels available per well is Mcs::Usb::CStg200xBasicNet::GetNumberOfAnalogChannels divided by Mcs::Usb::CStg200xBasicNet::GetNumberOfStimulat

Additional Inherited Members

11.61.1 Detailed Description

CMEA2100x256FunctionNet is the class to control the MEA2100-256 device needs #include "Stg200xNet.h" to resolve documentation reference

11.61.2 Constructor & Destructor Documentation

11.61.2.1 CMEA2100x256FunctionNet() [1/2]

```
CMEA2100x256FunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pMEA2100x256FunctionPointerContainer )
```

Initializes a new instance of the CMEA2100x256FunctionNet class.

11.61.2.2 CMEA2100x256FunctionNet() [2/2]

```
CMEA2100x256FunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.61.2.3 ~CMEA2100x256FunctionNet()

```
virtual ~CMEA2100x256FunctionNet ( ) [virtual]
```

11.61.2.4 "!CMEA2100x256FunctionNet()

```
!CMEA2100x256FunctionNet ( )
```

11.61.3 Member Function Documentation

11.61.3.1 GetLayoutConfiguration()

```
StimulationLayoutConfigurationEnumNet GetLayoutConfiguration
( )
```

Gets the stimulation layout configuration. Can be single well, 6-well or 9-well. The number of DAC channels available per well is Mcs::Usb::CStg200xBasicNet::GetNumberOfAnalogChannels divided by Mcs::Usb::CStg200xBasicNet::GetNumberOfStimulationSourcesPerElectrode.

Returns

The currently active stimulation layout configuration.

11.61.3.2 SetLayoutConfiguration()

```
void SetLayoutConfiguration (
    StimulationLayoutConfigurationEnumNet LayoutConfiguration )
```

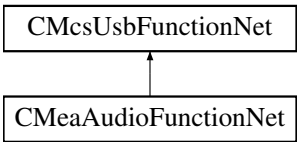
Sets the stimulation layout configuration. Can be single well, 6-well or 9-well. The number of DAC channels available per well is Mcs::Usb::CStg200xBasicNet::GetNumberOfAnalogChannels divided by Mcs::Usb::CStg200xBasicNet::GetNumberOfStimulationSourcesPerElectrode.

Parameters

LayoutConfiguration	The new stimulation layout configuration.

11.62 CMeaAudioFunctionNet Class Reference

Inheritance diagram for CMeaAudioFunctionNet:



Classes

- struct s_setaudionet

Public Member Functions

- CMeaAudioFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ meaAudioFunction↩ PointerContainer)
- CMeaAudioFunctionNet (CMcsUsbNet^ mcsusb)
- virtual uint32_t GetNumberOfAudioChannels ()

  Gets the number of available audio channels.
- virtual uint32_t SetAudioChannels (array< s_setaudionet^ >^ channels)

  Sets the electrode to monitor and amplification for the audio channels.
- virtual uint32_t SetAudioChannels (array< s_setaudionet^ >^ channels, unsigned int virtualDevice)

  Sets the electrode to monitor and amplification for the audio channels.
- virtual uint32_t GetAudioChannels ([System::Runtime::InteropServices::Out]array< s_setaudionet^ >^% channels)

  Gets the electrode to monitor and amplification for the audio channels.
- virtual uint32_t GetAudioChannels ([System::Runtime::InteropServices::Out]array< s_setaudionet^ >^% channels, unsigned int virtualDevice)

  Gets the electrode to monitor and amplification for the audio channels.

Additional Inherited Members

11.62.1 Constructor & Destructor Documentation

11.62.1.1 CMeaAudioFunctionNet() [1/2]

```
CMeaAudioFunctionNet (
        CMcsUsbNet^ mcsusb,
        CMcsUsbFunctionPointerContainer^ meaAudioFunctionPointerContainer )
```

11.62.1.2 CMeaAudioFunctionNet() [2/2] CMeaAudioFunctionNet (CMcsUsbNet^ *mcsusb*)

11.62.2 Member Function Documentation

11.62.2.1 GetAudioChannels() [1/2] virtual uint32_t GetAudioChannels ([System::Runtime::InteropServices::Out] array< s_setaudionet^>^% *channels*) [virtual]

Gets the electrode to monitor and amplification for the audio channels.

Parameters

channels	Struct which contains the electrode (channel) and amplification on return.

Returns

Error Status. 0 on success.

11.62.2.2 GetAudioChannels() [2/2] virtual uint32_t GetAudioChannels ([System::Runtime::InteropServices::Out] array< s_setaudionet^>^% *channels*, unsigned int *virtualDevice*) [virtual]

Gets the electrode to monitor and amplification for the audio channels.

Parameters

channels	Struct which contains the electrode (channel) and amplification on return.

Parameters

virtualDevice	Virtual device to use.

Returns

Error Status. 0 on success.

11.62.2.3 GetNumberOfAudioChannels() virtual uint32_t GetNumberOfAudioChannels ( ) [virtual]

Gets the number of available audio channels.

Returns

The number of audio channels available, 0 when there are none.

11.62.2.4 SetAudioChannels() [1/2] virtual uint32_t SetAudioChannels (array< s_setaudionet^>^ *channels*) [virtual]

Sets the electrode to monitor and amplification for the audio channels.

Parameters

channels	Struct which defines the electrode (channel) and amplification.

Returns

Error Status. 0 on success.

11.62.2.5 SetAudioChannels() [2/2] virtual uint32_t SetAudioChannels (array< s_setaudionet^>^ *channels*, unsigned int *virtualDevice*) [virtual]

Sets the electrode to monitor and amplification for the audio channels.

Parameters

channels	Struct which defines the electrode (channel) and amplification.

Parameters

virtualDevice	Virtual device to use.

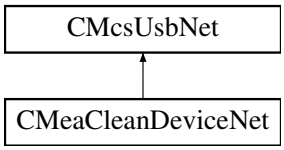
Returns

Error Status. 0 on success.

11.63 CMeaCleanDeviceNet Class Reference

CMeaCleanDeviceNet is the class to access the MEA Clean device.

Inheritance diagram for CMeaCleanDeviceNet:



Public Member Functions

- CMeaCleanDeviceNet ()

  Initializes a new instance of the CMeaCleanDeviceNet class.
- virtual ~CMeaCleanDeviceNet ()
- !CMeaCleanDeviceNet ()
- void Start ()

  Starts a MEA Clean run.
- void Stop ()

  Stops a MEA Clean run.
- void SetSlope (uint32_t voltageSlope)

  Sets the voltage slope.
- void SetCycles (uint32_t cycles)

  Sets the number of cycles.
- void SetMinVoltage (int32_t voltageMin)

  Sets the lower voltage level.
- void SetMaxVoltage (int32_t voltageMax)

  Sets the upper voltage level.
- bool IsRunning ()

  Gets if the MEA Clean device is running.
- uint32_t GetSlope ()

  Gets the voltage slope.
- uint32_t GetCycles ()

  Gets the number of cycles.
- int32_t GetMinVoltage ()

  Gets the lower voltage level.
- int32_t GetMaxVoltage ()

  Gets the upper voltage level
- int32_t GetOutputVoltage ()

  Gets the output voltage.
- int32_t GetCycle ()

  Gets the current cycle.

Additional Inherited Members

11.63.1 Detailed Description

CMeaCleanDeviceNet is the class to access the MEA Clean device.

11.63.2 Constructor & Destructor Documentation

11.63.2.1 CMeaCleanDeviceNet() `CMeaCleanDeviceNet ( )`

Initializes a new instance of the CMeaCleanDeviceNet class.

11.63.2.2 ~CMeaCleanDeviceNet() `virtual ~CMeaCleanDeviceNet ( ) [virtual]`

11.63.2.3 "!CMeaCleanDeviceNet() `!CMeaCleanDeviceNet ( )`

11.63.3 Member Function Documentation

11.63.3.1 GetCycle() `int32_t GetCycle ( )`

Gets the current cycle.

Returns

The cycle number.

11.63.3.2 GetCycles() `uint32_t GetCycles ( )`

Gets the number of cycles.

Returns

The number of cycles to run for.

11.63.3.3 GetMaxVoltage() `int32_t GetMaxVoltage ( )`

Gets the upper voltage level

Returns

The upper voltage level in mV.

11.63.3.4 GetMinVoltage() `int32_t GetMinVoltage ( )`

Gets the lower voltage level.

Returns

The lower voltage level in mV.

11.63.3.5 GetOutputVoltage() `int32_t GetOutputVoltage ( )`

Gets the output voltage.

Returns

The output voltage in mV.

11.63.3.6 GetSlope() `uint32_t GetSlope ( )`

Gets the voltage slope.

Returns

The voltage slope in mV/s.

11.63.3.7 IsRunning() `bool IsRunning ( )`

Gets if the MEA Clean device is running.

Returns

"true" when a run is in progress, otherwise "false".

11.63.3.8 SetCycles() `void SetCycles ( uint32_t cycles )`

Sets the number of cycles.

Parameters

cycles	The number of cycles to run for (0 .. 99).

11.63.3.9 SetMaxVoltage() `void SetMaxVoltage ( int32_t voltageMax )`

Sets the upper voltage level.

Parameters

voltageMax	The upper voltage level in mV (-1.6 .. 1.6 V).

11.63.3.10 SetMinVoltage() `void SetMinVoltage ( int32_t voltageMin )`

Sets the lower voltage level.

Parameters

voltageMin	The lower voltage level in mV (-1.6 .. 1.6 V).

11.63.3.11 SetSlope() `void SetSlope ( uint32_t voltageSlope )`

Sets the voltage slope.

Parameters

voltageSlope	The voltage slope in mV/s (range 0 .. 60 V/s).

11.63.3.12 Start() `void Start ( )`

Starts a MEA Clean run.

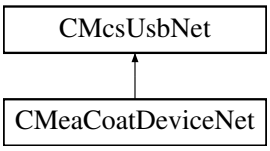
11.63.3.13 Stop() `void Stop ( )`

Stops a MEA Clean run.

11.64 CMeaCoatDeviceNet Class Reference

CMeaCoatDeviceNet is the class to access the MEA Coat device.

Inheritance diagram for CMeaCoatDeviceNet:



Public Member Functions

- CMeaCoatDeviceNet ()

  Initializes a new instance of the CMeaCoatDeviceNet class.
- virtual ~CMeaCoatDeviceNet ()
- !CMeaCoatDeviceNet ()
- void Start ()

  Starts a MEA Coat run.
- void Stop ()

  Stops a MEA Coat run.
- void SetSlope (int32_t currentSlope)

  Sets the current slope.
- void SetDuration (uint32_t duration)

  Sets the duration of a MEA Coat run.
- void SetMaxCurrent (uint32_t currentMax)

  Sets the limit of the current ramp (absolute value).
- void SetOffsetCurrent (int32_t currentOffset)

  Sets the offset of the current.
- bool IsRunning ()

  Gets if the MEA Clean device is running.
- int32_t GetSlope ()

  Gets the current slope.
- uint32_t GetDuration ()

  Gets the duration of a MEA Coat run.
- uint32_t GetMaxCurrent ()

  Gets the limit of the current ramp (absolute value).
- int32_t GetOffsetCurrent ()

  Gets the offset of the current.
- int32_t GetOutputCurrent ()

  Gets the output current.
- int32_t GetTimeInPlateau ()

  Gets the time in the plateau.
- void SetPauseDuration (uint32_t pauseDuration)

  Sets the duration of the pause between MEA Coat pulses.
- uint32_t GetPauseDuration ()

  Gets the duration of the pause between MEA Coat pulses.
- int32_t GetTimeInPause ()

  Gets the time in the pause.

- void SetCycles (uint32_t cycles)

  Sets the number of cycles.
- uint32_t GetCycles ()

  Gets the number of cycles.
- int32_t GetCurrentCycle ()

  Gets the current cycle.

Additional Inherited Members

11.64.1 Detailed Description

CMeaCoatDeviceNet is the class to access the MEA Coat device.

11.64.2 Constructor & Destructor Documentation

11.64.2.1 CMeaCoatDeviceNet() `CMeaCoatDeviceNet ( )`

Initializes a new instance of the CMeaCoatDeviceNet class.

11.64.2.2 ~CMeaCoatDeviceNet() `virtual ~CMeaCoatDeviceNet ( ) [virtual]`

11.64.2.3 "!CMeaCoatDeviceNet() `!CMeaCoatDeviceNet ( )`

11.64.3 Member Function Documentation

11.64.3.1 GetCurrentCycle() `int32_t GetCurrentCycle ( )`

Gets the current cycle.

Returns

The cycle number.

11.64.3.2 GetCycles() `uint32_t GetCycles ( )`

Gets the number of cycles.

Returns

The number of cycles to run for.

11.64.3.3 GetDuration() `uint32_t GetDuration ( )`

Gets the duration of a MEA Coat run.

Returns

The duration in ms.

11.64.3.4 GetMaxCurrent() `uint32_t GetMaxCurrent ( )`

Gets the limit of the current ramp (absolute value).

Returns

The limit of the current ramp in pA (absolute value).

11.64.3.5 GetOffsetCurrent() `int32_t GetOffsetCurrent ( )`

Gets the offset of the current.

Returns

The offset of the current in pA.

11.64.3.6 GetOutputCurrent() `int32_t GetOutputCurrent ( )`

Gets the output current.

Returns

The output current in pA.

11.64.3.7 GetPauseDuration() uint32_t GetPauseDuration ( )

Gets the duration of the pause between MEA Coat pulses.

Returns

The duration in ms.

11.64.3.8 GetSlope() int32_t GetSlope ( )

Gets the current slope.

Returns

The current slope in pA/s.

11.64.3.9 GetTimeInPause() int32_t GetTimeInPause ( )

Gets the time in the pause.

Returns

The time in the pause in ms.

11.64.3.10 GetTimeInPlateau() int32_t GetTimeInPlateau ( )

Gets the time in the plateau.

Returns

The time in the plateau in ms.

11.64.3.11 IsRunning() bool IsRunning ( )

Gets if the MEA Clean device is running.

Returns

"true" when a run is in progress, otherwise "false".

11.64.3.12 SetCycles() void SetCycles (uint32_t *cycles*)

Sets the number of cycles.

Parameters

cycles	The number of cycles to run for (0 .. 99).

11.64.3.13 SetDuration() `void SetDuration ( uint32_t duration )`

Sets the duration of a MEA Coat run.

Parameters

duration	The duration in ms (range 0 .. 65 s).

11.64.3.14 SetMaxCurrent() `void SetMaxCurrent ( uint32_t currentMax )`

Sets the limit of the current ramp (absolute value).

Parameters

currentMax	The limit of the current ramp in pA (absolute value, 0 .. 18 nA).

11.64.3.15 SetOffsetCurrent() `void SetOffsetCurrent ( int32_t currentOffset )`

Sets the offset of the current.

Parameters

currentOffset	The offset of the current in pA (-10 .. 10 nA).

11.64.3.16 SetPauseDuration() `void SetPauseDuration ( uint32_t pauseDuration )`

Sets the duration of the pause between MEA Coat pulses.

Parameters

pauseDuration	The duration in ms (range 0 .. 65 s).

11.64.3.17 SetSlope() `void SetSlope ( int32_t currentSlope )`

Sets the current slope.

Parameters

currentSlope	The current slope in pA/s (range -65 .. 65 nA/s).

11.64.3.18 Start() `void Start ( )`

Starts a MEA Coat run.

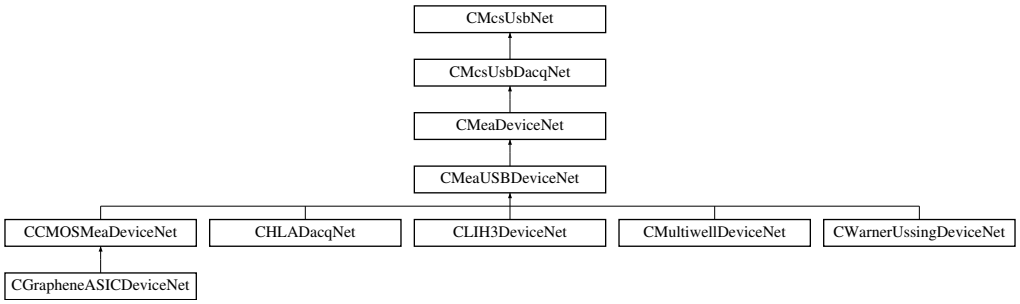
11.64.3.19 Stop() `void Stop ( )`

Stops a MEA Coat run.

11.65 CMeaDeviceNet Class Reference

Base class for MEA data acquisition devices.

Inheritance diagram for CMeaDeviceNet:



Public Member Functions

- CMeaDeviceNet (McsBusTypeEnumNet bustype)

  Initializes a new instance of CMeaDeviceNet class.
- CMeaDeviceNet (McsBusTypeEnumNet bustype, OnChannelData^ channelData, OnError^ error)

  Initializes a new instance of CMeaDeviceNet class.
- ~CMeaDeviceNet ()
- virtual int32_t GetGain ()

  Gets the amplifier gain of the device.

- int32_t GetEnumerationSpeed ()
- virtual int32_t GetAnalogGain ()

  Gets the gain of the analog inputs of the device.
- virtual uint32_t EnableDigitalIn (bool enable, unsigned int virtualDevice)

  Enable the digital data word in the datastream.
- virtual uint32_t EnableDigitalIn (DigitalDatastreamEnableEnumNet enable, unsigned int virtualDevice)

  Enable digital data words in the datastream.
- virtual uint32_t EnableTimestamp (bool enable, unsigned int virtualDevice)

  Enable the timestamp data word in the datastream. The timestamp is a 64 bit counter.
- virtual uint32_t EnableChecksum (bool enable, unsigned int virtualDevice)

  Enable the checksum data word in the datastream. The checksum is a 32 bit counter and 2x16 bit magic numbers.
- virtual void SetDigitalOut (unsigned int digout_value, int pulselength)

  Generate a pulse on the digital output.
- virtual uint32_t SetNumberOfChannels (int NumberOfChannels)

  Sets the number of analog channels in the datastream.
- virtual uint32_t SetNumberOfChannels (int NumberOfChannels, unsigned int virtualDevice)

  Sets the number of analog channels in the datastream.
- virtual uint32_t SetNumberOfAnalogChannels (unsigned int NumberOfChannels_HS1, unsigned int NumberOfChannels_HS2, unsigned int NumberOfChannels_DSP, unsigned int NumberOfChannels_IF, unsigned int virtualDevice)

  Sets the number of analog channels in the datastream for the MEA2100 device.
- virtual uint32_t SetTriggerPeriod (int samples, unsigned int virtualDevice)

  Sets the maximum number of samples per trigger.
- virtual uint32_t SetTriggerMaskValue (unsigned int mask, unsigned int value, unsigned int virtualDevice)

  Defines a pattern on the digital dataword which will start a trigger when found.

Properties

- CMeFunctionNet^ MeFunctionNet `[get]`
- CWClassicFunctionNet^ WClassicFunctionNet `[get]`
- CW2100_FunctionNet^ W2100_FunctionNet `[get]`
- CMeaAudioFunctionNet^ MeaAudioFunctionNet `[get]`
- CMeaDigitalDataFunctionNet^ MeaDigitalDataFunctionNet `[get]`
- CMeaFeedbackFunctionNet^ MeaFeedbackFunctionNet `[get]`
- virtual int Gain `[get]`

  The amplifier gain of the device. Value is gain times 1000, a value of 1000 corresponds to a gain of 1.0.
- virtual int AnalogGain `[get]`

  The gain of the analog inputs of the device. Value is gain times 1000, a value of 1000 corresponds to a gain of 1.0.

Additional Inherited Members

11.65.1 Detailed Description

Base class for MEA data acquisition devices.

There are two different device types for MEA data aquistion devices. There are the USB-MEA devices and the MC↩ _Card. In .NET both classes can be accessed by the contructor of the base class CMeaDeviceNet, which contructs the correct underlying C++ class for the USB-MEA device on the one hand or the MC_Card device on the other hand. Through this interface both device types USB-MEA devices and MC_Card devices can be accessed

11.65.2 Constructor & Destructor Documentation

11.65.2.1 CMeaDeviceNet() [1/2] CMeaDeviceNet (McsBusTypeEnumNet *bustype*)

Initializes a new instance of CMeaDeviceNet class.

Parameters

bustype	Type of device to use, either USB or PCI.

11.65.2.2 CMeaDeviceNet() [2/2] CMeaDeviceNet (McsBusTypeEnumNet *bustype*, OnChannelData^ *channelData*, OnError^ *error*)

Initializes a new instance of CMeaDeviceNet class.

Parameters

bustype	Type of device to use, either USB or PCI.

Parameters

channelData	Callback to call when new data is available.

Parameters

error	Callback to call when an error occurred.

11.65.2.3 ~CMeaDeviceNet() ~CMeaDeviceNet ( )

11.65.3 Member Function Documentation

11.65.3.1 EnableChecksum() virtual uint32_t EnableChecksum (bool *enable*, unsigned int *virtualDevice*) [virtual]

Enable the checksum data word in the datastream. The checksum is a 32 bit counter and 2x16 bit magic numbers.

Parameters

enable	True to enable, False to disable.
virtualDevice	virtual device to use.

Returns

Error Status. 0 on success.

11.65.3.2 EnableDigitalIn() [1/2] virtual uint32_t EnableDigitalIn (bool *enable*, unsigned int *virtualDevice*) [virtual]

Enable the digital data word in the datastream.

Parameters

enable	True to enable, False to disable.
virtualDevice	virtual device to use.

Returns

Error Status. 0 on success.

11.65.3.3 EnableDigitalIn() [2/2] virtual uint32_t EnableDigitalIn (DigitalDatastreamEnableEnumNet *enable*, unsigned int *virtualDevice*) [virtual]

Enable digital data words in the datastream.

Parameters

enable	True to enable, False to disable.
virtualDevice	virtual device to use.

Returns

Error Status. 0 on success.

11.65.3.4 EnableTimestamp() `virtual uint32_t EnableTimestamp ( bool enable, unsigned int virtualDevice ) [virtual]`

Enable the timestamp data word in the datastream. The timestamp is a 64 bit counter.

Parameters

enable	True to enable, False to disable.
virtualDevice	virtual device to use.

Returns

Error Status. 0 on success.

11.65.3.5 GetAnalogGain() `virtual int32_t GetAnalogGain ( ) [virtual]`

Gets the gain of the analog inputs of the device.

Returns

Gain times 1000, a value of 1000 corresponds to a gain of 1.0.

11.65.3.6 GetEnumerationSpeed() `int32_t GetEnumerationSpeed ( )`

11.65.3.7 GetGain() `virtual int32_t GetGain ( ) [virtual]`

Gets the amplifier gain of the device.

Returns

Gain times 1000, a value of 1000 corresponds to a gain of 1.0.

11.65.3.8 SetDigitalOut() `virtual void SetDigitalOut ( unsigned int digout_value, int pulselength ) [virtual]`

Generate a pulse on the digital output.

Parameters

digout_value	Bitmask to set on the digital out.

Parameters

pulselength	Pulselength in ms.

11.65.3.9 SetNumberOfAnalogChannels()

```
virtual uint32_t SetNumberOfAnalogChannels (
    unsigned int NumberOfChannels_HS1,
    unsigned int NumberOfChannels_HS2,
    unsigned int NumberOfChannels_DSP,
    unsigned int NumberOfChannels_IF,
    unsigned int virtualDevice ) [virtual]
```

Sets the number of analog channels in the datastream for the MEA2100 device.

Parameters

NumberOfChannels_HS1	Number of analog channels from the Headstage 1.

Parameters

NumberOfChannels_HS2	Number of analog channels from the Headstage 2.

Parameters

NumberOfChannels_DSP	Number of data words from the DSP.

Parameters

NumberOfChannels_IF	Number of analog channels from the Interfaceboard.

Parameters

virtualDevice	virtualDevice to use.

Returns

Error Status. 0 on success.

11.65.3.10 SetNumberOfChannels() [1/2] virtual uint32_t SetNumberOfChannels (int *NumberOfChannels*) [virtual]

Sets the number of analog channels in the datastream.

Parameters

NumberOfChannels	Number of analog channels.

Returns

Error Status. 0 on success.

11.65.3.11 SetNumberOfChannels() [2/2] virtual uint32_t SetNumberOfChannels (int *NumberOfChannels*, unsigned int *virtualDevice*) [virtual]

Sets the number of analog channels in the datastream.

Parameters

NumberOfChannels	Number of analog channels.
virtualDevice	virtual device to use.

Returns

Error Status. 0 on success.

11.65.3.12 SetTriggerMaskValue() virtual uint32_t SetTriggerMaskValue (unsigned int *mask*, unsigned int *value*, unsigned int *virtualDevice*) [virtual]

Defines a pattern on the digital dataword which will start a trigger when found.

Parameters

mask	Bits in the digital dataword which are monitored for a match with value.

Parameters

value	Pattern which must match for the trigger to start.

Returns

Error Status. 0 on success.

11.65.3.13 SetTriggerPeriod() virtual uint32_t SetTriggerPeriod (int *samples*, unsigned int *virtualDevice*) [virtual]

Sets the maximum number of samples per trigger.

Parameters

samples	Number of samples to acquire after the trigger condition is met.

Returns

Error Status. 0 on success.

11.65.4 Property Documentation

11.65.4.1 AnalogGain virtual int AnalogGain [get]

The gain of the analog inputs of the device. Value is gain times 1000, a value of 1000 corresponds to a gain of 1.0.

11.65.4.2 Gain virtual int Gain [get]

The amplifier gain of the device. Value is gain times 1000, a value of 1000 corresponds to a gain of 1.0.

11.65.4.3 MeaAudioFunctionNet CMeaAudioFunctionNet^ MeaAudioFunctionNet [get]

11.65.4.4 MeaDigitalDataFunctionNet CMeaDigitalDataFunctionNet^ MeaDigitalDataFunctionNet [get]

11.65.4.5 MeaFeedbackFunctionNet CMeaFeedbackFunctionNet^ MeaFeedbackFunctionNet [get]

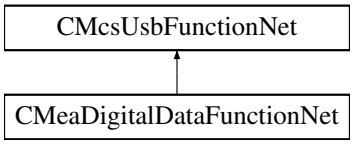
11.65.4.6 MeFunctionNet CMeFunctionNet^ MeFunctionNet [get]

11.65.4.7 W2100_FunctionNet CW2100_FunctionNet^ W2100_FunctionNet [get]

11.65.4.8 WClassicFunctionNet CWClassicFunctionNet^ WClassicFunctionNet [get]

11.66 CMeaDigitalDataFunctionNet Class Reference

Inheritance diagram for CMeaDigitalDataFunctionNet:



Public Member Functions

- CMeaDigitalDataFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ meaDigital↩ FunctionPointerContainer)
- CMeaDigitalDataFunctionNet (CMcsUsbNet^ mcsusb)
- void SetDigitalData (unsigned int digital_value, unsigned int digital_value_mask)

  Generate a value on the digital output.
- void SetDigitalData (unsigned int bit_number, bool value)

  Generate a value on the digital output.
- unsigned int GetDigitalData ()

  Get the value of the digital output.

Additional Inherited Members

11.66.1 Constructor & Destructor Documentation

11.66.1.1 CMeaDigitalDataFunctionNet() [1/2]

```
CMeaDigitalDataFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ meaDigitalFunctionPointerContainer )
```

11.66.1.2 CMeaDigitalDataFunctionNet() [2/2]

```
CMeaDigitalDataFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.66.2 Member Function Documentation

11.66.2.1 GetDigitalData()

```
unsigned int GetDigitalData ( )
```

Get the value of the digital output.

Returns

Value on the digital data register.

11.66.2.2 SetDigitalData() [1/2]

```
void SetDigitalData (
    unsigned int bit_number,
    bool value )
```

Generate a value on the digital output.

Parameters

bit_number	Bit number to change.

Parameters

value	Bit value.

11.66.2.3 SetDigitalData() [2/2]

```
void SetDigitalData (
    unsigned int digital_value,
    unsigned int digital_value_mask )
```

Generate a value on the digital output.

Parameters

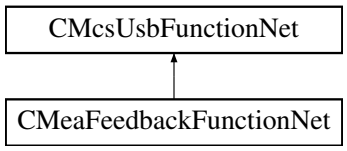
digital_value	Value to set.

Parameters

digital_value_mask	Mask for change.

11.67 CMeaFeedbackFunctionNet Class Reference

Inheritance diagram for CMeaFeedbackFunctionNet:



Public Member Functions

- CMeaFeedbackFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ meaFeedback↩ FunctionNet)
- CMeaFeedbackFunctionNet (CMcsUsbNet^ mcsusb)
- void FeedbackSetFeedback (unsigned char on, unsigned short digoutmask, unsigned short diginmask)
- unsigned int FeedbackGetSampleTimerCount ([System::Runtime::InteropServices::Out]unsigned int% CurrentCount, [System::Runtime::InteropServices::Out]unsigned int% LastKnownCount, [System::Runtime↩ ::InteropServices::Out]bool% On)
- void FeedbackSetDigitalMapping (unsigned short channel, unsigned short outmapping, unsigned short in-mapping)
- void FeedbackSetFilterParameter (unsigned char filter, array< short >^ parameters)
- void FeedbackSetFilterParameter32 (unsigned char filter, array< int >^ parameters)
- void FeedbackSetIIRFilterParameter (unsigned char filter, int length, array< double >^ parameters)
- void FeedbackSetMkFilter (unsigned char filter, String^ filtertype, double cheb_ribble, String^ passtype, int order, double alpha1, double alpha2)
- void FeedbackSetChannelFilter (short channel, char filter)
- void FeedbackSetGlobalChannelFilter (char filter, unsigned short firstchannel, unsigned short lastchannel)

- void FeedbackSetFilterOff ()
- void FeedbackSetNumberOfSpikeDetectors (unsigned short number)
- void FeedbackSetSpikeDetectorThreshold (unsigned short position, unsigned short sourcechannel, unsigned short resultchannel, unsigned short trigger, unsigned short totzeit, int threshold1, int threshold2, short slope)
- void FeedbackSetNumberOfRateCounter (unsigned short number)
- void FeedbackSetRateCounter (unsigned short position, unsigned short sourcechannel, unsigned short resultchannel)
- void FeedbackSetNumberOfRateDetectors (unsigned short number)
- void FeedbackSetRateDetector (unsigned short position, unsigned short resultchannel, unsigned short trigger, unsigned short totzeit, unsigned short pulses, unsigned int duration1, unsigned int duration2)
- void FeedbackSetNumberOfLogics (unsigned short number)
- void FeedbackSetLogic (unsigned short position, array< unsigned short >^ sourcechannel, unsigned short resultchannel, unsigned int lookup)
- void FeedbackSetNumberOfTriggers (unsigned short number)
- void FeedbackSetTrigger (unsigned short position, unsigned short sourcechannel, unsigned short resultchannel, unsigned short trigger, unsigned short totzeit)
- void FeedbackSetAnalogSource (AnalogSourceEnumNet AnalogSource, unsigned int Channels, unsigned int Offset)

Additional Inherited Members

11.67.1 Constructor & Destructor Documentation

11.67.1.1 CMeaFeedbackFunctionNet() [1/2]

```
CMeaFeedbackFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ meaFeedbackFunctionNet )
```

11.67.1.2 CMeaFeedbackFunctionNet() [2/2]

```
CMeaFeedbackFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.67.2 Member Function Documentation

11.67.2.1 FeedbackGetSampleTimerCount()

```
unsigned int FeedbackGetSampleTimerCount (
    [System::Runtime::InteropServices::Out] unsigned int% CurrentCount,
    [System::Runtime::InteropServices::Out] unsigned int% LastKnownCount,
    [System::Runtime::InteropServices::Out] bool% On )
```

11.67.2.2 FeedbackSetAnalogSource()

```
void FeedbackSetAnalogSource (
    AnalogSourceEnumNet AnalogSource,
    unsigned int Channels,
    unsigned int Offset )
```

11.67.2.3 FeedbackSetChannelFilter()

```
void FeedbackSetChannelFilter (
    short channel,
    char filter )
```

11.67.2.4 FeedbackSetDigitalMapping()

```
void FeedbackSetDigitalMapping (
    unsigned short channel,
    unsigned short outmapping,
    unsigned short inmapping )
```

11.67.2.5 FeedbackSetFeedback()

```
void FeedbackSetFeedback (
    unsigned char on,
    unsigned short digoutmask,
    unsigned short diginmask )
```

11.67.2.6 FeedbackSetFilterOff()

```
void FeedbackSetFilterOff ( )
```

11.67.2.7 FeedbackSetFilterParameter()

```
void FeedbackSetFilterParameter (
    unsigned char filter,
    array< short >^ parameters )
```

11.67.2.8 FeedbackSetFilterParameter32()

```
void FeedbackSetFilterParameter32 (
    unsigned char filter,
    array< int >^ parameters )
```

11.67.2.9 FeedbackSetGlobalChannelFilter()

```
void FeedbackSetGlobalChannelFilter (
    char filter,
    unsigned short firstchannel,
    unsigned short lastchannel )
```

11.67.2.10 FeedbackSetIIRFilterParameter()

```
void FeedbackSetIIRFilterParameter (
    unsigned char filter,
    int length,
    array< double >^ parameters )
```

11.67.2.11 FeedbackSetLogic()

```
void FeedbackSetLogic (
  unsigned short position,
  array< unsigned short >^ sourcechannel,
  unsigned short resultchannel,
  unsigned int lookup )
```

11.67.2.12 FeedbackSetMkFilter()

```
void FeedbackSetMkFilter (
  unsigned char filter,
  String^ filtertype,
  double cheb_ribble,
  String^ passtype,
  int order,
  double alpha1,
  double alpha2 )
```

11.67.2.13 FeedbackSetNumberOfLogics()

```
void FeedbackSetNumberOfLogics (
  unsigned short number )
```

11.67.2.14 FeedbackSetNumberOfRateCounter()

```
void FeedbackSetNumberOfRateCounter (
  unsigned short number )
```

11.67.2.15 FeedbackSetNumberOfRateDetectors()

```
void FeedbackSetNumberOfRateDetectors (
  unsigned short number )
```

11.67.2.16 FeedbackSetNumberOfSpikeDetectors()

```
void FeedbackSetNumberOfSpikeDetectors (
  unsigned short number )
```

11.67.2.17 FeedbackSetNumberOfTriggers()

```
void FeedbackSetNumberOfTriggers (
  unsigned short number )
```

11.67.2.18 FeedbackSetRateCounter()

```
void FeedbackSetRateCounter (
  unsigned short position,
  unsigned short sourcechannel,
  unsigned short resultchannel )
```

11.67.2.19 FeedbackSetRateDetector()

```
void FeedbackSetRateDetector (
    unsigned short position,
    unsigned short resultchannel,
    unsigned short trigger,
    unsigned short totzeit,
    unsigned short pulses,
    unsigned int duration1,
    unsigned int duration2 )
```

11.67.2.20 FeedbackSetSpikeDetectorThreshold()

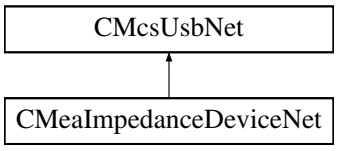
```
void FeedbackSetSpikeDetectorThreshold (
    unsigned short position,
    unsigned short sourcechannel,
    unsigned short resultchannel,
    unsigned short trigger,
    unsigned short totzeit,
    int threshold1,
    int threshold2,
    short slope )
```

11.67.2.21 FeedbackSetTrigger()

```
void FeedbackSetTrigger (
    unsigned short position,
    unsigned short sourcechannel,
    unsigned short resultchannel,
    unsigned short trigger,
    unsigned short totzeit )
```

11.68 CMeaImpedanceDeviceNet Class Reference

Inheritance diagram for CMeaImpedanceDeviceNet:



Public Member Functions

- CMeaImpedanceDeviceNet ()
- ~CMeaImpedanceDeviceNet ()
- virtual void StartMeasurement (unsigned short channel)
- virtual unsigned short GetReady ()
- virtual unsigned short GetArraySize ()
- virtual array< unsigned short > ^ GetResult ()
- unsigned short GetAdapterCode ()
- virtual unsigned int GetImpedanceTestFrequency ()
- virtual void SetImpedanceTestFrequency (unsigned int TestFrequency_Hertz)

Additional Inherited Members

11.68.1 Constructor & Destructor Documentation

11.68.1.1 CMeaImpedanceDeviceNet() `CMeaImpedanceDeviceNet ( )`

11.68.1.2 ~CMeaImpedanceDeviceNet() `~CMeaImpedanceDeviceNet ( )`

11.68.2 Member Function Documentation

11.68.2.1 GetAdapterCode() `unsigned short GetAdapterCode ( )`

11.68.2.2 GetArraySize() `virtual unsigned short GetArraySize ( ) [virtual]`

11.68.2.3 GetImpedanceTestFrequency() `virtual unsigned int GetImpedanceTestFrequency ( ) [virtual]`

11.68.2.4 GetReady() `virtual unsigned short GetReady ( ) [virtual]`

11.68.2.5 GetResult() `virtual array<unsigned short> ^ GetResult ( ) [virtual]`

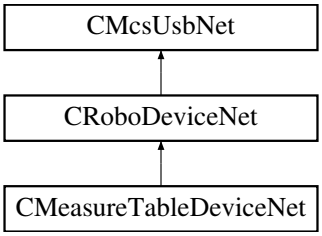
11.68.2.6 SetImpedanceTestFrequency() `virtual void SetImpedanceTestFrequency ( unsigned int TestFrequency_Hertz ) [virtual]`

11.68.2.7 StartMeasurement() `virtual void StartMeasurement ( unsigned short channel ) [virtual]`

11.69 CMeasureTableDeviceNet Class Reference

CMeasureTableDeviceNet is the to control the MCS HLA device

Inheritance diagram for CMeasureTableDeviceNet:



Public Member Functions

- CMeasureTableDeviceNet (void)

Properties

- CMcsBus_SensorNet^ Sensor [get]

Additional Inherited Members

11.69.1 Detailed Description

CMeasureTableDeviceNet is the to control the MCS HLA device

11.69.2 Constructor & Destructor Documentation

11.69.2.1 CMeasureTableDeviceNet() CMeasureTableDeviceNet (void)

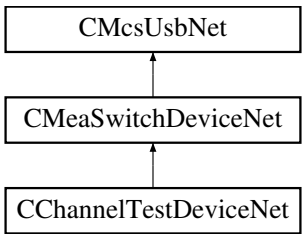
11.69.3 Property Documentation

11.69.3.1 Sensor CMcsBus_SensorNet^ Sensor [get]

11.70 CMeaSwitchDeviceNet Class Reference

The class to control the USB-MEA-Switch.

Inheritance diagram for CMeaSwitchDeviceNet:



Public Member Functions

- CMeaSwitchDeviceNet ()
  Constructor.
- ~CMeaSwitchDeviceNet ()
  Destructor.
- unsigned short GetNumber ()
  Gets the number of boards in the device.
- array< unsigned char >^ GetPattern ()
  Gets the pattern of the switches that are currently set in the device as char array.
- array< bool >^ GetPatternBool ()
  Gets the pattern of the switches that are currently set in he device as bools.
- void SetPattern (array< unsigned char >^ pattern)
  Sets the pattern of switches from a char array.
- void SetPatternBool (array< bool >^ pattern)
  Sets the pattern of switches from a.

Additional Inherited Members

11.70.1 Detailed Description

The class to control the USB-MEA-Switch.

This class controls the settings of the USB-MEA-Switch. The box has two inputs for signals from a MEA amplifier. Each of the 64 outputs can be connected to one of the MEAs at the same channel.

11.70.2 Constructor & Destructor Documentation

11.70.2.1 CMeaSwitchDeviceNet() `CMeaSwitchDeviceNet ( )`

Constructor.

11.70.2.2 ~CMeaSwitchDeviceNet() ~CMeaSwitchDeviceNet ( )

Destructor.

11.70.3 Member Function Documentation

11.70.3.1 GetNumber() unsigned short GetNumber ( )

Gets the number of boards in the device.

The MEA-Switch are delivered with 64 or 128 channels

11.70.3.2 GetPattern() array<unsigned char> ^ GetPattern ( )

Gets the pattern of the switches that are currently set in the device as char array.

11.70.3.3 GetPatternBool() array<bool> ^ GetPatternBool ( )

Gets the pattern of the switches that are currently set in he device as bools.

11.70.3.4 SetPattern() void SetPattern (array< unsigned char >^ *pattern*)

Sets the pattern of switches from a char array.

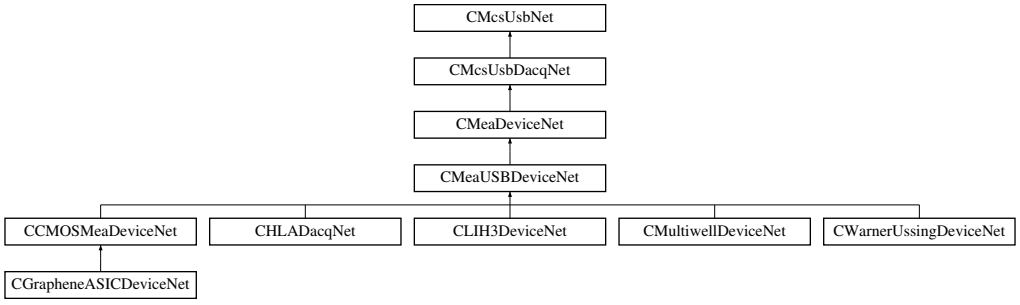
11.70.3.5 SetPatternBool() void SetPatternBool (array< bool >^ *pattern*)

Sets the pattern of switches from a.

11.71 CMeaUSBDeviceNet Class Reference

Class for data acquisition via ME and MEA USB amplifiers

Inheritance diagram for CMeaUSBDeviceNet:



Public Member Functions

- CMeaUSBDeviceNet (OnChannelData^ channelData, OnError^ error)

  Initializes a new instance of CMeaDeviceNet class.
- CMeaUSBDeviceNet ()

  Initializes a new instance of CMeaDeviceNet class.
- ~CMeaUSBDeviceNet ()
- void SetVoltageRangeForIndex (uint16_t index, uint32_t range)

Additional Inherited Members

11.71.1 Detailed Description

Class for data acquisition via ME and MEA USB amplifiers

11.71.2 Constructor & Destructor Documentation

11.71.2.1 CMeaUSBDeviceNet() [1/2] CMeaUSBDeviceNet (OnChannelData^ *channelData*, OnError^ *error*)

Initializes a new instance of CMeaDeviceNet class.

Parameters

channelData	Handler to call when new data is available.

Parameters

error	Handler to call when an error occurs.

11.71.2.2 CMeaUSBDeviceNet() [2/2] CMeaUSBDeviceNet ( )

Initializes a new instance of CMeaDeviceNet class.

11.71.2.3 ~CMeaUSBDeviceNet() ~CMeaUSBDeviceNet ( )

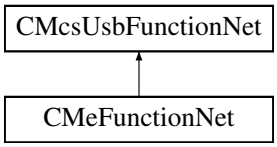
11.71.3 Member Function Documentation

11.71.3.1 SetVoltageRangeForIndex() `void SetVoltageRangeForIndex (`

```
uint16_t index,
uint32_t range )
```

11.72 CMeFunctionNet Class Reference

Inheritance diagram for CMeFunctionNet:



Public Member Functions

- CMeFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ meFunctionPointer↩ Container)

  Initializes a new instance of the CDacCalibrationFunctionNet class.
- CMeFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CMeFunctionNet (void)
- !CMeFunctionNet (void)
- void SetTransformer (unsigned int index, bool onoff)

Additional Inherited Members

11.72.1 Detailed Description

11.72.2 Constructor & Destructor Documentation

11.72.2.1 CMeFunctionNet() [1/2] `CMeFunctionNet (`

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ meFunctionPointerContainer )
```

Initializes a new instance of the CDacCalibrationFunctionNet class.

11.72.2.2 CMeFunctionNet() [2/2] `CMeFunctionNet (`

```
CMcsUsbNet^ mcsusb )
```

11.72.2.3 ~CMeFunctionNet() `virtual ~CMeFunctionNet (`

```
void ) [virtual]
```

11.72.2.4 "!CMeFunctionNet() `!CMeFunctionNet (`

```
void )
```

11.72.3 Member Function Documentation

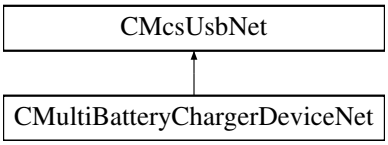
11.72.3.1 SetTransformer() `void SetTransformer (`

```
unsigned int index,
bool onoff )
```

11.73 CMultiBatteryChargerDeviceNet Class Reference

CMultiBatteryChargerDeviceNet is the class to access the MBC-08 device.

Inheritance diagram for CMultiBatteryChargerDeviceNet:



Public Member Functions

- CMultiBatteryChargerDeviceNet ()

  Initializes a new instance of the CMultiBatteryChargerDeviceNet class.
- virtual ~CMultiBatteryChargerDeviceNet ()
- !CMultiBatteryChargerDeviceNet ()
- uint32_t GetChargeCurrent (uint32_t NrChannel)

  gets the charge current; unit: mA
- uint32_t GetDischargeCurrent (uint32_t NrChannel)

  gets the discharge current; unit: mA
- void SetDischargeCurrentSetPoint (uint32_t NrChannel, uint32_t DischargeCurrent_mA)

  sets the setpoint for the discharge current; unit: mA
- uint32_t GetDischargeCurrentSetPoint (uint32_t NrChannel)

  gets the setpoint for the discharge current; unit: mA
- void SetFinalDischargeVoltage (uint32_t NrChannel, uint32_t FinalDischargeVoltage_mV)

  sets the final discharge voltage; unit: mV
- uint32_t GetFinalDischargeVoltage (uint32_t NrChannel)

  gets the final discharge voltage; unit: mV
- uint32_t GetDischargeCapacity (uint32_t NrChannel)

  gets the discharge capacity; unit: µAh

- uint32_t GetChargeCapacity (uint32_t NrChannel)

  gets the charge capacity; unit: µAh
- uint32_t GetBatteryVoltage (uint32_t NrChannel)

  gets the battery voltage; unit: mV
- uint32_t GetChannels ()

  gets number of channels
- void SetRatedCapacityVolatile (uint32_t NrChannel, MbcRatedCapacityEnumNet NewRatedCapacity)

  sets the rated capacity (i.e. charge current) without storing it persistently
- void SetChargingMode (uint32_t NrChannel, MbcChargingModeEnumNet NewOperatingMode)

  sets the charging mode: StorageCharge, LowCurrentCharge and HighCurrentCharge
- MbcChargingModeEnumNet GetChargingMode (uint32_t NrChannel)

  gets the charging mode: StorageCharge, LowCurrentCharge and HighCurrentCharge
- MbcChannelStateEnumNet GetChannelState (uint32_t NrChannel)

  gets the channel state: IdleNoBattery, IdleChargeFinished, CapacityTestPreCharge, CapacityTestDischarge, StorageCharge, LowCurrentCharge, HighCurrentCharge
- void CapacityTest (uint32_t NrChannel)

  start capacity test on channel
- void ChannelReset (uint32_t NrChannel)

  cancel charging and capacity test functions; check if battery is connected
- void SetChargingPCoefficient (uint32_t pCoefficient)

  sets the p-coefficient for charging in mA/V / nominal charging current
- uint32_t GetChargingPCoefficient ()

  gets the p-coefficient for charging in mA/V / nominal charging current
- void SetRatedCapacity (uint32_t NrChannel, MbcRatedCapacityEnumNet NewRatedCapacity)

  sets the rated capacity
- MbcRatedCapacityEnumNet GetRatedCapacity (uint32_t NrChannel)

  gets the rated capacity

Additional Inherited Members

11.73.1 Detailed Description

CMultiBatteryChargerDeviceNet is the class to access the MBC-08 device.

11.73.2 Constructor & Destructor Documentation

11.73.2.1 CMultiBatteryChargerDeviceNet() `CMultiBatteryChargerDeviceNet ( )`

Initializes a new instance of the CMultiBatteryChargerDeviceNet class.

11.73.2.2 ~CMultiBatteryChargerDeviceNet() `virtual ~CMultiBatteryChargerDeviceNet ( ) [virtual]`

11.73.2.3 "!CMultiBatteryChargerDeviceNet() !CMultiBatteryChargerDeviceNet ( )

11.73.3 Member Function Documentation

11.73.3.1 CapacityTest() void CapacityTest (uint32_t *NrChannel*)

start capacity test on channel

Parameters

NrChannel	the channel number

11.73.3.2 ChannelReset() void ChannelReset (uint32_t *NrChannel*)

cancel charging and capacity test functions; check if battery is connected

Parameters

NrChannel	the channel number

11.73.3.3 GetBatteryVoltage() uint32_t GetBatteryVoltage (uint32_t *NrChannel*)

gets the battery voltage; unit: mV

Parameters

NrChannel	the channel number

Returns

the battery voltage in mV

11.73.3.4 GetChannels() uint32_t GetChannels ( )

gets number of channels

Returns

number of channels

11.73.3.5 GetChannelState() `MbcChannelStateEnumNet GetChannelState ( uint32_t NrChannel )`

gets the channel state: IdleNoBattery, IdleChargeFinished, CapacityTestPreCharge, CapacityTestDischarge, StorageCharge, LowCurrentCharge, HighCurrentCharge

Parameters

NrChannel	the channel number

Returns

the current state

11.73.3.6 GetChargeCapacity() `uint32_t GetChargeCapacity ( uint32_t NrChannel )`

gets the charge capacity; unit: µAh

Parameters

NrChannel	the channel number

Returns

the capacity in uAh

11.73.3.7 GetChargeCurrent() `uint32_t GetChargeCurrent ( uint32_t NrChannel )`

gets the charge current; unit: mA

Parameters

NrChannel	the channel number

Returns

the measured charge current in mA

11.73.3.8 GetChargingMode() `MbcChargingModeEnumNet GetChargingMode ( uint32_t NrChannel )`

gets the charging mode: StorageCharge, LowCurrentCharge and HighCurrentCharge

Parameters

NrChannel	the channel number

Returns

the charging mode

11.73.3.9 GetChargingPCoefficient() `uint32_t GetChargingPCoefficient ( )`

gets the p-coefficient for charging in mA/V / nominal charging current

Returns

the p-coefficient

11.73.3.10 GetDischargeCapacity() `uint32_t GetDischargeCapacity ( uint32_t NrChannel )`

gets the discharge capacity; unit: µAh

Parameters

NrChannel	the channel number

Returns

the capacity in uAh

11.73.3.11 GetDischargeCurrent() `uint32_t GetDischargeCurrent ( uint32_t NrChannel )`

gets the discharge current; unit: mA

Parameters

NrChannel	the channel number

Returns

the measured discharge current in mA

11.73.3.12 GetDischargeCurrentSetPoint() `uint32_t GetDischargeCurrentSetPoint ( uint32_t NrChannel )`

gets the setpoint for the discharge current; unit: mA

Parameters

NrChannel	the channel number

Returns

the discharge current in mA

11.73.3.13 GetFinalDischargeVoltage() `uint32_t GetFinalDischargeVoltage ( uint32_t NrChannel )`

gets the final discharge voltage; unit: mV

Parameters

NrChannel	the channel number

Returns

the battery voltage in mV at the end of discharge

11.73.3.14 GetRatedCapacity() `MbcRatedCapacityEnumNet GetRatedCapacity ( uint32_t NrChannel )`

gets the rated capacity

Parameters

NrChannel	the channel number

Returns

the capacity

11.73.3.15 SetChargingMode()

```
void SetChargingMode (
    uint32_t NrChannel,
    MbcChargingModeEnumNet NewOperatingMode )
```

sets the charging mode: StorageCharge, LowCurrentCharge and HighCurrentCharge

Parameters

NrChannel	the channel number
NewOperatingMode	the charging mode

11.73.3.16 SetChargingPCoefficient()

```
void SetChargingPCoefficient (
    uint32_t pCoefficient )
```

sets the p-coefficient for charging in mA/V / nominal charging current

Parameters

pCoefficient	the p-coefficient

11.73.3.17 SetDischargeCurrentSetPoint()

```
void SetDischargeCurrentSetPoint (
    uint32_t NrChannel,
    uint32_t DischargeCurrent_mA )
```

sets the setpoint for the discharge current; unit: mA

Parameters

NrChannel	the channel number
DischargeCurrent_mA	the discharge current in mA

11.73.3.18 SetFinalDischargeVoltage()

```
void SetFinalDischargeVoltage (
    uint32_t NrChannel,
    uint32_t FinalDischargeVoltage_mV )
```

sets the final discharge voltage; unit: mV

Parameters

NrChannel	the channel number
FinalDischargeVoltage_mV	the battery voltage in mV at the end of discharge

11.73.3.19 SetRatedCapacity()

```
void SetRatedCapacity (
    uint32_t NrChannel,
    MbcRatedCapacityEnumNet NewRatedCapacity )
```

sets the rated capacity

Parameters

NrChannel	the channel number
NewRatedCapacity	the capacity

11.73.3.20 SetRatedCapacityVolatile()

```
void SetRatedCapacityVolatile (
    uint32_t NrChannel,
    MbcRatedCapacityEnumNet NewRatedCapacity )
```

sets the rated capacity (i.e. charge current) without storing it persistently

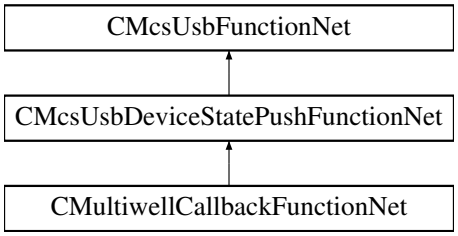
Parameters

NrChannel	the channel number
NewRatedCapacity	the capacity

11.74 CMultiwellCallbackFunctionNet Class Reference

CMultiwellCallbackFunctionNet is the class to access the Multiwell-Mini-Stimulator

Inheritance diagram for CMultiwellCallbackFunctionNet:



Public Member Functions

- delegate void OnGetPlateClampStateByHeadstage (uint32_t Headstage, PlateClampEnumNet plateState)
- CMultiwellCallbackFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pMultiwell↩ CallbackFunctionPointerContainer)

  Initializes a new instance of the CMultiwellCallbackFunctionNet class.
- CMultiwellCallbackFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CMultiwellCallbackFunctionNet ()
- !CMultiwellCallbackFunctionNet ()
- PlateClampEnumNet GetPlateClampStateByHeadstage (uint32_t Headstage)

  Gets the state of the plate

Events

- OnGetPlateClampStateByHeadstage^ GetPlateClampStateByHeadstageEvent `[add, remove, raise]`

  Event fires when the plate state for the headstage number has changed

Additional Inherited Members

11.74.1 Detailed Description

CMultiwellCallbackFunctionNet is the class to access the Multiwell-Mini-Stimulator

11.74.2 Constructor & Destructor Documentation

11.74.2.1 CMultiwellCallbackFunctionNet() [1/2]

```
CMultiwellCallbackFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pMultiwellCallbackFunctionPointerContainer )
```

Initializes a new instance of the CMultiwellCallbackFunctionNet class.

11.74.2.2 CMultiwellCallbackFunctionNet() [2/2]

```
CMultiwellCallbackFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.74.2.3 ~CMultiwellCallbackFunctionNet()

```
virtual ~CMultiwellCallbackFunctionNet ( ) [virtual]
```

11.74.2.4 "!CMultiwellCallbackFunctionNet()

```
!CMultiwellCallbackFunctionNet ( )
```

11.74.3 Member Function Documentation

11.74.3.1 GetPlateClampStateByHeadstage()

```
PlateClampEnumNet GetPlateClampStateByHeadstage (
    uint32_t Headstage )
```

Gets the state of the plate

Parameters

Headstage	The headstage number

Returns

The plate state

11.74.3.2 OnGetPlateClampStateByHeadstage() `delegate void OnGetPlateClampStateByHeadstage ( uint32_t Headstage, PlateClampEnumNet plateState )`

11.74.4 Event Documentation

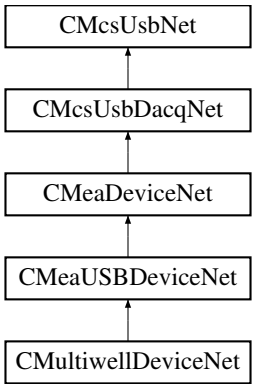
11.74.4.1 GetPlateClampStateByHeadstageEvent `OnGetPlateClampStateByHeadstage^ GetPlateClamp↩ StateByHeadstageEvent [add], [remove], [raise]`

Event fires when the plate state for the headstage number has changed

11.75 CMultiwellDeviceNet Class Reference

CMultiwellDeviceNet is the class to access the Multiwell device.

Inheritance diagram for CMultiwellDeviceNet:



Public Member Functions

- CMultiwellDeviceNet ()

  Initializes a new instance of the CMultiwellDeviceNet class.
- virtual ~CMultiwellDeviceNet ()
- !CMultiwellDeviceNet ()
- PlateClampEnumNet GetPlateClampState ()

  Gets the state of the Multiwell plate clamp.
- PlateClampEnumNet GetPlateClampState (uint32_t Headstage)

  Gets the state of the plate
- void OpenPlateClamp ()

  Opens the plate clamp.
- void ClosePlateClamp ()

  Closes the plate clamp.
- void StopPlateClamp ()

  Stops the plate clamp movement.
- uint32_t GetPlateClampLockState ()

  Gets the state of the plate clamp lock.
- void LockPlateClamp ()

  Locks the plate clamp.
- void UnlockPlateClamp ()

  Unlocks the plate clamp.
- MultiwellPlateTypeEnumNet GetPlateType ()

  Gets the plate type.
- MultiwellPlateTypeEnumNet GetPlateType (uint32_t Headstage)

  Gets the plate type.
- void SetPlateType (MultiwellPlateTypeEnumNet plateType)

  Sets the plate type.
- void SetPlateType (uint32_t Headstage, MultiwellPlateTypeEnumNet plateType)

  Sets the plate type.
- void SetPlateMux (uint32_t muxSelection)

  Selects a one quarter of the electrodes on a high density Multiwell plate.
- void SetPlateMux (uint32_t Headstage, uint32_t muxSelection)

  Selects a one quarter of the electrodes on a high density Multiwell plate.
- uint32_t GetPlateMux ()

  Gets the selected quarter of the electrodes on a high density Multiwell plate.
- uint32_t GetPlateMux (uint32_t Headstage)

  Gets the selected quarter of the electrodes on a high density Multiwell plate.
- bool IsPlateTypeValid ()

  Checks whether the plate type is valid, meaning all pins have contact.
- bool IsPlateTypeValid (uint32_t Headstage)

  Checks whether the plate type is valid, meaning all pins have contact.
- void SetPowerMuxPlate (uint32_t Headstage, bool powerOn)

  On the Multiwell Mini device, turn Power to the MUX Plate On or Off.
- bool GetPowerMuxPlate (uint32_t Headstage)

  On the Multiwell Mini device, Query if Power to the MUX Plate is On or Off.
- void SetTouchPadEnable (uint32_t Headstage, bool Enable)

  Enables or disables manual opening/closing of plate clamp via touch pad.
- bool GetTouchPadEnable (uint32_t Headstage)

  Manual opening/closing of plate clamp via touch pad can be disabled.
- void SetVolatileClampOffset (uint32_t Headstage, int32_t CoverLipThickness_um)

  The distance travelled to clamp the plate can be reduced e.g. to compensate for a cover.
- int32_t GetVolatileClampOffset (uint32_t Headstage)

  The distance travelled to clamp the plate can be reduced e.g. to compensate for a cover.

Additional Inherited Members

11.75.1 Detailed Description

CMultiwellDeviceNet is the class to access the Multiwell device.

11.75.2 Constructor & Destructor Documentation

11.75.2.1 CMultiwellDeviceNet() `CMultiwellDeviceNet ( )`

Initializes a new instance of the CMultiwellDeviceNet class.

11.75.2.2 ~CMultiwellDeviceNet() `virtual ~CMultiwellDeviceNet ( ) [virtual]`

11.75.2.3 "!CMultiwellDeviceNet() `!CMultiwellDeviceNet ( )`

11.75.3 Member Function Documentation

11.75.3.1 ClosePlateClamp() `void ClosePlateClamp ( )`

Closes the plate clamp.

11.75.3.2 GetPlateClampLockState() `uint32_t GetPlateClampLockState ( )`

Gets the state of the plate clamp lock.

Returns

the state of the plate lock (unlocked/locked)

11.75.3.3 GetPlateClampState() [1/2] `PlateClampEnumNet GetPlateClampState ( )`

Gets the state of the Multiwell plate clamp.

Returns

the state of the plate clamp (open/closed)

11.75.3.4 GetPlateClampState() [2/2] `PlateClampEnumNet GetPlateClampState ( uint32_t Headstage )`

Gets the state of the plate

Parameters

Headstage	The headstage number

Returns

The plate state

11.75.3.5 GetPlateMux() [1/2] uint32_t GetPlateMux ( )

Gets the selected quarter of the electrodes on a high density Multiwell plate.

Returns

the selected quarter

11.75.3.6 GetPlateMux() [2/2] uint32_t GetPlateMux (uint32_t *Headstage*)

Gets the selected quarter of the electrodes on a high density Multiwell plate.

Parameters

Headstage	The headstage to query.

Returns

the selected quarter

11.75.3.7 GetPlateType() [1/2] MultiwellPlateTypeEnumNet GetPlateType ( )

Gets the plate type.

Returns

the plate type

11.75.3.8 GetPlateType() [2/2] MultiwellPlateTypeEnumNet GetPlateType (uint32_t *Headstage*)

Gets the plate type.

Parameters

Headstage	The headstage to query.

Returns

the plate type

11.75.3.9 GetPowerMuxPlate() `bool GetPowerMuxPlate ( uint32_t Headstage )`

On the Multiwell Mini device, Query if Power to the MUX Plate is On or Off.

Parameters

Headstage	The headstage to query.

Returns

"true" Power is On, "false" Power is Off

11.75.3.10 GetTouchPadEnable() `bool GetTouchPadEnable ( uint32_t Headstage )`

Manual opening/closing of plate clamp via touch pad can be disabled.

Parameters

Headstage	The headstage to query.

Returns

"true" when plate clamp can be driven manually, otherwise "false".

11.75.3.11 GetVolatileClampOffset() `int32_t GetVolatileClampOffset ( uint32_t Headstage )`

The distance travelled to clamp the plate can be reduced e.g. to compensate for a cover.

Parameters

Headstage	The headstage to be affected.

Returns

Clamp distance reduction in um.

11.75.3.12 IsPlateTypeValid() [1/2] bool IsPlateTypeValid ( )

Checks whether the plate type is valid, meaning all pins have contact.

Returns

"true" when all pins have contact, otherwise "false".

11.75.3.13 IsPlateTypeValid() [2/2] bool IsPlateTypeValid (uint32_t *Headstage*)

Checks whether the plate type is valid, meaning all pins have contact.

Parameters

Headstage	The headstage to query.

Returns

"true" when all pins have contact, otherwise "false".

11.75.3.14 LockPlateClamp() void LockPlateClamp ( )

Locks the plate clamp.

11.75.3.15 OpenPlateClamp() void OpenPlateClamp ( )

Opens the plate clamp.

11.75.3.16 SetPlateMux() [1/2] void SetPlateMux (uint32_t *Headstage*, uint32_t *muxSelection*)

Selects a one quarter of the electrodes on a high density Multiwell plate.

Parameters

Headstage	The headstage to query.
muxSelection	the selected quarter

11.75.3.17 SetPlateMux() [2/2]

```
void SetPlateMux (
    uint32_t muxSelection )
```

Selects a one quarter of the electrodes on a high density Multiwell plate.

Parameters

muxSelection	the selected quarter

11.75.3.18 SetPlateType() [1/2]

```
void SetPlateType (
    MultiwellPlateTypeEnumNet plateType )
```

Sets the plate type.

Parameters

plateType	the plate type

11.75.3.19 SetPlateType() [2/2]

```
void SetPlateType (
    uint32_t Headstage,
    MultiwellPlateTypeEnumNet plateType )
```

Sets the plate type.

Parameters

Headstage	The headstage to query.
plateType	the plate type

11.75.3.20 SetPowerMuxPlate()

```
void SetPowerMuxPlate (
    uint32_t Headstage,
    bool powerOn )
```

On the Multiwell Mini device, turn Power to the MUX Plate On or Off.

Parameters

Headstage	The headstage to query.
powerOn	"true" to turn Power On, "false" to turn Power Off

11.75.3.21 SetTouchPadEnable() `void SetTouchPadEnable (`

```
uint32_t Headstage,
bool Enable )
```

Enables or disables manual opening/closing of plate clamp via touch pad.

Parameters

Headstage	The headstage to be affected.
Enable	"true" when plate clamp shall be driven manually, otherwise "false".

11.75.3.22 SetVolatileClampOffset() `void SetVolatileClampOffset (`

```
uint32_t Headstage,
int32_t CoverLipThickness_um )
```

The distance travelled to clamp the plate can be reduced e.g. to compensate for a cover.

Parameters

Headstage	The headstage to be affected.
CoverLipThickness_um	Clamp distance reduction in um. Range: 200um..400um; Typical value: 300um

11.75.3.23 StopPlateClamp() `void StopPlateClamp ( )`

Stops the plate clamp movement.

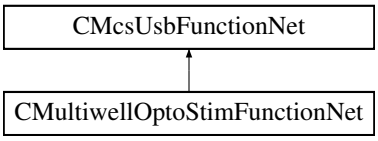
11.75.3.24 UnlockPlateClamp() `void UnlockPlateClamp ( )`

Unlocks the plate clamp.

11.76 CMultiwellOptoStimFunctionNet Class Reference

CMultiwellOptoStimFunctionNet is the class to access the optical properties of the Multiwell Optostim device

Inheritance diagram for CMultiwellOptoStimFunctionNet:



Public Member Functions

- CMultiwellOptoStimFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pMultiwell↩ OptoStimFunctionPointerContainer)

  Initializes a new instance of the CMultiwellOptoStimFunctionNet class.
- CMultiwellOptoStimFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CMultiwellOptoStimFunctionNet ()
- !CMultiwellOptoStimFunctionNet ()
- uint32_t GetWaveLengthInNanometer (uint16_t channel)
- uint32_t GetAbsMaxCurrentInMicroAmp (uint16_t channel)
- uint32_t GetMaxDurationHighCurrentInMicroSec (uint16_t channel)
- uint32_t GetMaxDutyCycleHighCurrent (uint16_t channel)
- uint32_t GetPermanentCurrentInMicroAmp (uint16_t channel)
- uint32_t GetColorRgb (uint16_t channel)
- String ^ GetColorStr (uint16_t channel)
- void SetWaveLengthInNanometer (uint16_t channel, uint32_t WaveLength_nm)
- void SetAbsMaxCurrentInMicroAmp (uint16_t channel, uint32_t AbsoluteMaxCurrent_uA)
- void SetMaxDurationHighCurrentInMicroSec (uint16_t channel, uint32_t AbsoluteMaxDuration_us)
- void SetMaxDutyCycleHighCurrent (uint16_t channel, uint32_t MaxDutyCycleHighCurrent)
- void SetPermanentCurrentInMicroAmp (uint16_t channel, uint32_t PermanentCurrent_uA)
- void SetColorRgb (uint16_t channel, uint32_t ColorRGB)
- void SetColorStr (uint16_t channel, String^ ColorString)

Additional Inherited Members

11.76.1 Detailed Description

CMultiwellOptoStimFunctionNet is the class to access the optical properties of the Multiwell Optostim device

11.76.2 Constructor & Destructor Documentation

11.76.2.1 CMultiwellOptoStimFunctionNet() [1/2]

```
CMultiwellOptoStimFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pMultiwellOptoStimFunctionPointerContainer )
```

Initializes a new instance of the CMultiwellOptoStimFunctionNet class.

11.76.2.2 CMultiwellOptoStimFunctionNet() [2/2] CMultiwellOptoStimFunctionNet (CMcsUsbNet^ *mcsusb*)

11.76.2.3 ~CMultiwellOptoStimFunctionNet() virtual ~CMultiwellOptoStimFunctionNet ( ) [virtual]

11.76.2.4 "!CMultiwellOptoStimFunctionNet() !CMultiwellOptoStimFunctionNet ( )

11.76.3 Member Function Documentation

11.76.3.1 GetAbsMaxCurrentInMicroAmp() uint32_t GetAbsMaxCurrentInMicroAmp (uint16_t *channel*)

Parameters

channel	the (analog) channel number

Returns

absolute max. current; unit: uA

11.76.3.2 GetColorRgb() uint32_t GetColorRgb (uint16_t *channel*)

Parameters

channel	the (analog) channel number

Returns

RGB-value of LED color

11.76.3.3 GetColorStr() String ^ GetColorStr (uint16_t *channel*)

Parameters

channel	the (analog) channel number

Returns

LED color as string

11.76.3.4 GetMaxDurationHighCurrentInMicroSec() `uint32_t GetMaxDurationHighCurrentInMicroSec ( uint16_t channel )`

Parameters

channel	the (analog) channel number

Returns

max. duration the LED can stand the abs. max current; unit: us

11.76.3.5 GetMaxDutyCycleHighCurrent() `uint32_t GetMaxDutyCycleHighCurrent ( uint16_t channel )`

Parameters

channel	the (analog) channel number

Returns

max. duty cycle at max. current; unit: 100∗%

11.76.3.6 GetPermanentCurrentInMicroAmp() `uint32_t GetPermanentCurrentInMicroAmp ( uint16_t channel )`

Parameters

channel	the (analog) channel number

Returns

max. current the LED can stand when always switched on; unit: uA

11.76.3.7 GetWaveLengthInNanometer() uint32_t GetWaveLengthInNanometer (uint16_t *channel*)

Parameters

channel	the (analog) channel number

Returns

wavelength of this channel's LEDs; unit: nm

11.76.3.8 SetAbsMaxCurrentInMicroAmp() void SetAbsMaxCurrentInMicroAmp (uint16_t *channel*, uint32_t *AbsoluteMaxCurrent_uA*)

Parameters

channel	the (analog) channel number
AbsoluteMaxCurrent_uA	absolute max. current; unit: uA

11.76.3.9 SetColorRgb() void SetColorRgb (uint16_t *channel*, uint32_t *ColorRGB*)

Parameters

channel	the (analog) channel number
ColorRGB	RGB-value of LED color

11.76.3.10 SetColorStr() void SetColorStr (uint16_t *channel*, String^ *ColorString*)

Parameters

channel	the (analog) channel number
ColorString	LED color as string

11.76.3.11 SetMaxDurationHighCurrentInMicroSec() void SetMaxDurationHighCurrentInMicroSec (

```
uint16_t channel,
uint32_t AbsoluteMaxDuration_us )
```

Parameters

channel	the (analog) channel number
AbsoluteMaxDuration_us	max. duration the LED can stand the abs. max current; unit: us

11.76.3.12 SetMaxDutyCycleHighCurrent() `void SetMaxDutyCycleHighCurrent (`

```
uint16_t channel,
uint32_t MaxDutyCycleHighCurrent )
```

Parameters

channel	the (analog) channel number
MaxDutyCycleHighCurrent	max. duty cycle at max. current; unit: 100∗%

11.76.3.13 SetPermanentCurrentInMicroAmp() `void SetPermanentCurrentInMicroAmp (`

```
uint16_t channel,
uint32_t PermanentCurrent_uA )
```

Parameters

channel	the (analog) channel number
PermanentCurrent_uA	max. current the LED can stand when always switched on; unit: uA

11.76.3.14 SetWaveLengthInNanometer() `void SetWaveLengthInNanometer (`

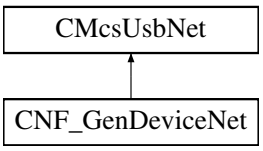
```
uint16_t channel,
uint32_t WaveLength_nm )
```

Parameters

channel	the (analog) channel number
WaveLength_nm	wavelength of this channel's LEDs; unit: nm

11.77 CNF_GenDeviceNet Class Reference

Inheritance diagram for CNF_GenDeviceNet:



Public Member Functions

- CNF_GenDeviceNet (void)
- ~CNF_GenDeviceNet (void)
- void Set_Values (unsigned int frequency, unsigned int amplitude)

Additional Inherited Members

11.77.1 Constructor & Destructor Documentation

11.77.1.1 CNF_GenDeviceNet() `CNF_GenDeviceNet (`

```
void )
```

11.77.1.2 ~CNF_GenDeviceNet() `~CNF_GenDeviceNet (`

```
void )
```

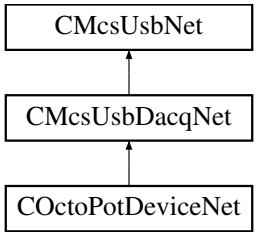
11.77.2 Member Function Documentation

11.77.2.1 Set_Values() `void Set_Values (`

```
unsigned int frequency,
unsigned int amplitude )
```

11.78 COctoPotDeviceNet Class Reference

Inheritance diagram for COctoPotDeviceNet:



Public Member Functions

- COctoPotDeviceNet (void)
- COctoPotDeviceNet (OnChannelData^ channelData, OnError^ error)
- uint32_t SetOutputRate (uint32_t rate)
- uint32_t SetBathclamp (unsigned int block, bool enable)
- uint32_t SetDacValue (int channel, int value)
- uint32_t SetDacAutoControl (unsigned int channel)
- uint32_t SetPidParameter (unsigned int channel, int const_p, int const_i, int shift_p, int shift_i)
- uint32_t SetRampParameter (unsigned int channel, int start, int min, int max, int slope, int slope2, int pause, unsigned int samples)
- uint32_t RampStart (int channelmap)
- uint32_t SetSineParameter (unsigned int channel, int amplitude)
- uint32_t SineStart (int channelmap)
- uint32_t SetPatternListEntry (unsigned int channel, unsigned int position, unsigned int duration, int value)
- uint32_t PatternListStart (int channelmap)
- uint32_t SetAdcOffset (unsigned int channel, int offset)
- uint32_t SetDacOffset (unsigned int channel, int offset)
- uint32_t ResetAdcOffset (unsigned int channel)
- uint32_t ResetDacOffset (unsigned int channel)
- uint32_t BurnAdcOffset ()
- uint32_t BurnDacOffset ()
- uint32_t GetAdcOffset (unsigned int channel, [System::Runtime::InteropServices::Out] int ^ offset)
- uint32_t GetDacOffset (unsigned int channel, [System::Runtime::InteropServices::Out] int ^ offset)
- uint32_t SetAmplificationSwitch (unsigned int channel, unsigned int state)
- uint32_t SetChannelSwitch (unsigned int channel, unsigned int state)
- uint32_t SetNumberOfChannels (unsigned int NumberOfChannels)
- uint32_t EnableDigitalIn (bool enable)
- uint32_t EnableTimestamp (bool enable)
- uint32_t EnableChecksum (bool enable)

Additional Inherited Members

11.78.1 Constructor & Destructor Documentation

11.78.1.1 COctoPotDeviceNet() [1/2] COctoPotDeviceNet (void)

11.78.1.2 COctoPotDeviceNet() [2/2] COctoPotDeviceNet (OnChannelData^ *channelData*, OnError^ *error*)

11.78.2 Member Function Documentation

11.78.2.1 BurnAdcOffset() uint32_t BurnAdcOffset ( )

11.78.2.2 BurnDacOffset() uint32_t BurnDacOffset ( )

11.78.2.3 EnableChecksum() uint32_t EnableChecksum (bool *enable*)

11.78.2.4 EnableDigitalIn() uint32_t EnableDigitalIn (bool *enable*)

11.78.2.5 EnableTimestamp() uint32_t EnableTimestamp (bool *enable*)

11.78.2.6 GetAdcOffset() uint32_t GetAdcOffset (unsigned int *channel*, [System::Runtime::InteropServices::Out] int ^ *offset*)

11.78.2.7 GetDacOffset() uint32_t GetDacOffset (unsigned int *channel*, [System::Runtime::InteropServices::Out] int ^ *offset*)

11.78.2.8 PatternListStart() uint32_t PatternListStart (int *channelmap*)

11.78.2.9 RampStart() uint32_t RampStart (int *channelmap*)

11.78.2.10 ResetAdcOffset() uint32_t ResetAdcOffset (unsigned int *channel*)

11.78.2.11 ResetDacOffset()

```
uint32_t ResetDacOffset (
    unsigned int channel )
```

11.78.2.12 SetAdcOffset()

```
uint32_t SetAdcOffset (
    unsigned int channel,
    int offset )
```

11.78.2.13 SetAmplificationSwitch()

```
uint32_t SetAmplificationSwitch (
    unsigned int channel,
    unsigned int state )
```

11.78.2.14 SetBathclamp()

```
uint32_t SetBathclamp (
    unsigned int block,
    bool enable )
```

11.78.2.15 SetChannelSwitch()

```
uint32_t SetChannelSwitch (
    unsigned int channel,
    unsigned int state )
```

11.78.2.16 SetDacAutoControl()

```
uint32_t SetDacAutoControl (
    unsigned int channel )
```

11.78.2.17 SetDacOffset()

```
uint32_t SetDacOffset (
    unsigned int channel,
    int offset )
```

11.78.2.18 SetDacValue()

```
uint32_t SetDacValue (
    int channel,
    int value )
```

11.78.2.19 SetNumberOfChannels()

```
uint32_t SetNumberOfChannels (
    unsigned int NumberOfChannels )
```

11.78.2.20 SetOutputRate()

```
uint32_t SetOutputRate (
    uint32_t rate )
```

11.78.2.21 SetPatternListEntry()

```
uint32_t SetPatternListEntry (
    unsigned int channel,
    unsigned int position,
    unsigned int duration,
    int value )
```

11.78.2.22 SetPidParameter()

```
uint32_t SetPidParameter (
    unsigned int channel,
    int const_p,
    int const_i,
    int shift_p,
    int shift_i )
```

11.78.2.23 SetRampParameter()

```
uint32_t SetRampParameter (
    unsigned int channel,
    int start,
    int min,
    int max,
    int slope,
    int slope2,
    int pause,
    unsigned int samples )
```

11.78.2.24 SetSineParameter()

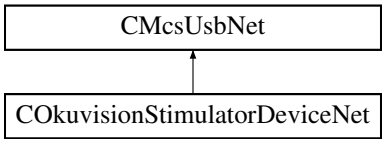
```
uint32_t SetSineParameter (
    unsigned int channel,
    int amplitude )
```

11.78.2.25 SineStart()

```
uint32_t SineStart (
    int channelmap )
```

11.79 COkuvisionStimulatorDeviceNet Class Reference

Inheritance diagram for COkuvisionStimulatorDeviceNet:



Public Member Functions

- COkuvisionStimulatorDeviceNet (void)
- ~COkuvisionStimulatorDeviceNet (void)
- void SetPulseform (int channel, int current, int pulsewidth, int periode, int duration)
- void GetPulseform (int channel, [System::Runtime::InteropServices::Out] int% current, [System::Runtime↩ ::InteropServices::Out] int% pulsewidth, [System::Runtime::InteropServices::Out] int% periode, [System::↩ Runtime::InteropServices::Out] int% duration)
- void SetMaxPower (int channel, int power)
- int GetMaxPower (int channel)
- void SetMaxVoltage (int channel, int voltage)
- int GetMaxVoltage (int channel)
- void SetCheckVoltage (int channel, int voltage)
- int GetCheckVoltage (int channel)
- int GetVoltage (int channel)
- void SetDACOffset (int channel, int part, int offset)
- int GetDACOffset (int channel, int part)
- void SetRTC (uint8_t year, uint8_t month, uint8_t day, uint8_t hour, uint8_t minute, uint8_t second)
- void GetRTC ([System::Runtime::InteropServices::Out] uint8_t% year, [System::Runtime::InteropServices↩ ::Out] uint8_t% month, [System::Runtime::InteropServices::Out] uint8_t% day, [System::Runtime::Interop↩ Services::Out] uint8_t% hour, [System::Runtime::InteropServices::Out] uint8_t% minute, [System::Runtime↩ ::InteropServices::Out] uint8_t% second)
- void SetRTC (DateTime timestamp)
- DateTime GetRTC ()
- void GetStimulatorStatus ([System::Runtime::InteropServices::Out] int% startstop, [System::Runtime::↩ InteropServices::Out] int% last_error, [System::Runtime::InteropServices::Out] int% battery_status)
- void SetCurrentFactor (int channel, int factor)
- int GetCurrentFactor (int channel)

Additional Inherited Members

11.79.1 Constructor & Destructor Documentation

11.79.1.1 COkuvisionStimulatorDeviceNet() `COkuvisionStimulatorDeviceNet (`

```
void )
```

11.79.1.2 ~COkuvisionStimulatorDeviceNet() `~COkuvisionStimulatorDeviceNet (`

```
void )
```

11.79.2 Member Function Documentation

11.79.2.1 GetCheckVoltage() `int GetCheckVoltage (`

```
int channel )
```

11.79.2.2 GetCurrentFactor()

```
int GetCurrentFactor (
    int channel )
```

11.79.2.3 GetDACOffset()

```
int GetDACOffset (
    int channel,
    int part )
```

11.79.2.4 GetMaxPower()

```
int GetMaxPower (
    int channel )
```

11.79.2.5 GetMaxVoltage()

```
int GetMaxVoltage (
    int channel )
```

11.79.2.6 GetPulseform()

```
void GetPulseform (
    int channel,
    [System::Runtime::InteropServices::Out] int% current,
    [System::Runtime::InteropServices::Out] int% pulsewidth,
    [System::Runtime::InteropServices::Out] int% periode,
    [System::Runtime::InteropServices::Out] int% duration )
```

11.79.2.7 GetRTC() [1/2]

```
DateTime GetRTC ( )
```

11.79.2.8 GetRTC() [2/2]

```
void GetRTC (
    [System::Runtime::InteropServices::Out] uint8_t% year,
    [System::Runtime::InteropServices::Out] uint8_t% month,
    [System::Runtime::InteropServices::Out] uint8_t% day,
    [System::Runtime::InteropServices::Out] uint8_t% hour,
    [System::Runtime::InteropServices::Out] uint8_t% minute,
    [System::Runtime::InteropServices::Out] uint8_t% second )
```

11.79.2.9 GetStimulatorStatus()

```
void GetStimulatorStatus (
    [System::Runtime::InteropServices::Out] int% startstop,
    [System::Runtime::InteropServices::Out] int% last_error,
    [System::Runtime::InteropServices::Out] int% battery_status )
```

11.79.2.10 GetVoltage()

```
int GetVoltage (
    int channel )
```

11.79.2.11 SetCheckVoltage()

```
void SetCheckVoltage (
    int channel,
    int voltage )
```

11.79.2.12 SetCurrentFactor()

```
void SetCurrentFactor (
    int channel,
    int factor )
```

11.79.2.13 SetDACOffset()

```
void SetDACOffset (
    int channel,
    int part,
    int offset )
```

11.79.2.14 SetMaxPower()

```
void SetMaxPower (
    int channel,
    int power )
```

11.79.2.15 SetMaxVoltage()

```
void SetMaxVoltage (
    int channel,
    int voltage )
```

11.79.2.16 SetPulseform()

```
void SetPulseform (
    int channel,
    int current,
    int pulsewidth,
    int periode,
    int duration )
```

11.79.2.17 SetRTC() [1/2]

```
void SetRTC (
    DateTime timestamp )
```

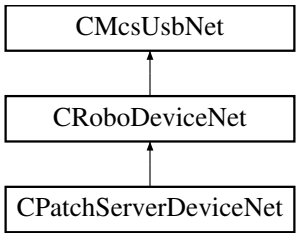
11.79.2.18 SetRTC() [2/2]

```
void SetRTC (
    uint8_t year,
    uint8_t month,
    uint8_t day,
    uint8_t hour,
    uint8_t minute,
    uint8_t second )
```

11.80 CPatchServerDeviceNet Class Reference

CPatchServerDeviceNet is the class to control the MCS PatchServer device

Inheritance diagram for CPatchServerDeviceNet:



Public Member Functions

- CPatchServerDeviceNet (void)

Properties

- CMcsBus_SensorNet^ Sensor [get]

Additional Inherited Members

11.80.1 Detailed Description

CPatchServerDeviceNet is the class to control the MCS PatchServer device

11.80.2 Constructor & Destructor Documentation

11.80.2.1 CPatchServerDeviceNet()

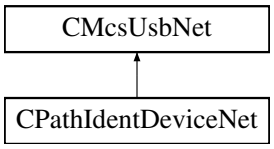
```
CPatchServerDeviceNet (
    void )
```

11.80.3 Property Documentation

11.80.3.1 Sensor CMcsBus_SensorNet^ Sensor [get]

11.81 CPathIdentDeviceNet Class Reference

Inheritance diagram for CPathIdentDeviceNet:



Public Member Functions

- CPathIdentDeviceNet (void)
- ~CPathIdentDeviceNet (void)
- void Set_Values (unsigned int frequency, unsigned int amplitude)
- void Measure ([System::Runtime::InteropServices::Out] unsigned int% phase, [System::Runtime::Interop↩ Services::Out] unsigned int% amplitude)

Additional Inherited Members

11.81.1 Constructor & Destructor Documentation

11.81.1.1 CPathIdentDeviceNet() CPathIdentDeviceNet (
void)

11.81.1.2 ~CPathIdentDeviceNet() ~CPathIdentDeviceNet (
void)

11.81.2 Member Function Documentation

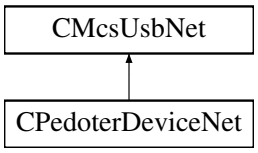
11.81.2.1 Measure() void Measure (
[System::Runtime::InteropServices::Out] unsigned int% *phase*,
[System::Runtime::InteropServices::Out] unsigned int% *amplitude*)

11.81.2.2 Set_Values() `void Set_Values (`

```
unsigned int frequency,
unsigned int amplitude )
```

11.82 CPedoterDeviceNet Class Reference

Inheritance diagram for CPedoterDeviceNet:



Public Member Functions

- CPedoterDeviceNet ()
  Initializes a new instance of the CPedoterDeviceNet class.
- virtual ~CPedoterDeviceNet ()
- !CPedoterDeviceNet ()
- uint32_t GetCommand (uint16_t Argument)
  Get value from the pedoter device
- void SetCommand (uint16_t Argument, uint32_t pData)
  Set value on the pedoter device

Additional Inherited Members

11.82.1 Detailed Description

11.82.2 Constructor & Destructor Documentation

11.82.2.1 CPedoterDeviceNet() `CPedoterDeviceNet ( )`

Initializes a new instance of the CPedoterDeviceNet class.

11.82.2.2 ~CPedoterDeviceNet() `virtual ~CPedoterDeviceNet ( ) [virtual]`

11.82.2.3 "!CPedoterDeviceNet() `!CPedoterDeviceNet ( )`

11.82.3 Member Function Documentation

11.82.3.1 GetCommand() `uint32_t GetCommand (`

```
uint16_t Argument )
```

Get value from the pedoter device

Parameters

Argument	argument

Returns

value

11.82.3.2 SetCommand() `void SetCommand (`

```
uint16_t Argument,
uint32_t pData )
```

Set value on the pedoter device

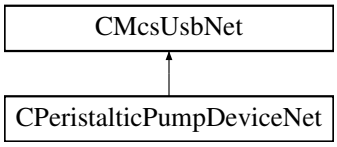
Parameters

Argument	argument
pData	value

11.83 CPeristalticPumpDeviceNet Class Reference

CPeristalticPumpDeviceNet is the class to control a Persistaltic Pump.

Inheritance diagram for CPeristalticPumpDeviceNet:



Public Member Functions

- CPeristalticPumpDeviceNet (void)

  Initialize a new instance of the CPeristalticPumpDeviceNet class.
- ~CPeristalticPumpDeviceNet (void)

Properties

- CMcsBus_MotorControlNet^ McsBus_MotorControl `[get]`

Additional Inherited Members

11.83.1 Detailed Description

CPeristalticPumpDeviceNet is the class to control a Persistaltic Pump.

11.83.2 Constructor & Destructor Documentation

11.83.2.1 CPeristalticPumpDeviceNet() `CPeristalticPumpDeviceNet ( void )`

Initialize a new instance of the CPeristalticPumpDeviceNet class.

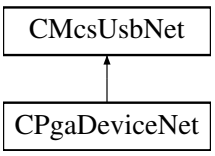
11.83.2.2 ~CPeristalticPumpDeviceNet() `~CPeristalticPumpDeviceNet ( void )`

11.83.3 Property Documentation

11.83.3.1 McsBus_MotorControl `CMcsBus_MotorControlNet^ McsBus_MotorControl [get]`

11.84 CPgaDeviceNet Class Reference

Inheritance diagram for CPgaDeviceNet:



Public Member Functions

- CPgaDeviceNet ()
- ~CPgaDeviceNet ()
- uint32_t GetNumFrequencyRanges ([System::Runtime::InteropServices::Out]int% numRanges)
- uint32_t GetFrequencyRange (int rangeIndex, [System::Runtime::InteropServices::Out]int% low, [System::Runtime::InteropServices::Out]int% high, [System::Runtime::InteropServices::Out]int% channels, [System::Runtime::InteropServices::Out]int% gain)
- uint32_t GetNumAmplifications ([System::Runtime::InteropServices::Out]int% number)
- uint32_t GetAmplification (int index, [System::Runtime::InteropServices::Out]int% amplification, [System::Runtime::InteropServices::Out]int% poti1, [System::Runtime::InteropServices::Out]int% poti2)
- uint32_t DefineNumFrequencyRanges (int rnum)
- uint32_t DefineFrequencyRange (int index, int low, int high, int channels, int gain)
- uint32_t DefineNumAmplifications (int number)
- uint32_t DefineAmplification (int index, int amplification, int poti1, int poti2)
- uint32_t SetGain (int channel, int Gain, int poti1, int poti2)
- uint32_t GetGain (int channel, [System::Runtime::InteropServices::Out]int% Gain, [System::Runtime::InteropServices::Out]int% poti1, [System::Runtime::InteropServices::Out]int% poti2)
- uint32_t ApplyGains ()

Additional Inherited Members

11.84.1 Constructor & Destructor Documentation

11.84.1.1 CPgaDeviceNet() `CPgaDeviceNet ( )`

11.84.1.2 ~CPgaDeviceNet() `~CPgaDeviceNet ( )`

11.84.2 Member Function Documentation

11.84.2.1 ApplyGains() `uint32_t ApplyGains ( )`

11.84.2.2 DefineAmplification() `uint32_t DefineAmplification (`

```
int index,
int amplification,
int poti1,
int poti2 )
```

11.84.2.3 DefineFrequencyRange() `uint32_t DefineFrequencyRange (`

```
int index,
int low,
int high,
int channels,
int gain )
```

11.84.2.4 DefineNumAmplifications() `uint32_t DefineNumAmplifications (`

```
int number )
```

11.84.2.5 DefineNumFrequencyRanges() `uint32_t DefineNumFrequencyRanges (`

```
int rnum )
```

11.84.2.6 GetAmplification()

```
uint32_t GetAmplification (
    int index,
    [System::Runtime::InteropServices::Out] int% amplification,
    [System::Runtime::InteropServices::Out] int% poti1,
    [System::Runtime::InteropServices::Out] int% poti2 )
```

11.84.2.7 GetFrequencyRange()

```
uint32_t GetFrequencyRange (
    int rangeIndex,
    [System::Runtime::InteropServices::Out] int% low,
    [System::Runtime::InteropServices::Out] int% high,
    [System::Runtime::InteropServices::Out] int% channels,
    [System::Runtime::InteropServices::Out] int% gain )
```

11.84.2.8 GetGain()

```
uint32_t GetGain (
    int channel,
    [System::Runtime::InteropServices::Out] int% Gain,
    [System::Runtime::InteropServices::Out] int% poti1,
    [System::Runtime::InteropServices::Out] int% poti2 )
```

11.84.2.9 GetNumAmplifications()

```
uint32_t GetNumAmplifications (
    [System::Runtime::InteropServices::Out] int% number )
```

11.84.2.10 GetNumFrequencyRanges()

```
uint32_t GetNumFrequencyRanges (
    [System::Runtime::InteropServices::Out] int% numRanges )
```

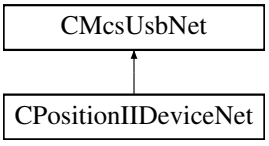
11.84.2.11 SetGain()

```
uint32_t SetGain (
    int channel,
    int Gain,
    int poti1,
    int poti2 )
```

11.85 CPositionIIDeviceNet Class Reference

CPositionIIDeviceNet is the class to control PositionII devices

Inheritance diagram for CPositionIIDeviceNet:



Public Member Functions

- CPositionIIDeviceNet ()

  Initializes a new instance of the CPositionIIDeviceNet class.
- virtual ~CPositionIIDeviceNet ()
- !CPositionIIDeviceNet ()
- uint32_t GetCoilCommunication (uint16_t coil)

  get if the communication to the coil is working
- uint32_t GetOnOff (uint16_t coil)

  get if the coil is switched on/off
- void SwitchOnOff (uint16_t coil, uint32_t on)

  switched the coild on of
- uint32_t GetImplantState (uint16_t coil)

  gets the implantat state
- uint32_t GetImplantCurrentSetpoint (uint16_t coil)

  sets the implant current setpoint
- void SetImplantCurrentSetpoint (uint16_t coil, uint32_t current)

  gets the implant current setpoint
- uint32_t GetPowerStrength (uint16_t coil)

  sets the power for the trigger pulses
- void SetPowerStrength (uint16_t coil, uint32_t power)

  gets the power for the trigger pulses
- uint32_t GetImplantResult (uint16_t coil)

  gets the last result of the implant pulse trigger
- void GetRTC ([System::Runtime::InteropServices::Out]uint8_t% year, [System::Runtime::InteropServices::Out]uint8_t% month, [System::Runtime::InteropServices::Out]uint8_t% day, [System::Runtime::InteropServices::Out]uint8_t% hour, [System::Runtime::InteropServices::Out]uint8_t% minute, [System::Runtime::InteropServices::Out]uint8_t% second)

  Get the RTC
- void SetRTC (uint8_t year, uint8_t month, uint8_t day, uint8_t hour, uint8_t minute, uint8_t second)

  Set the RTC
- uint32_t GetStateDebugData (uint16_t coil)

  get the debug queue state
- void SetStateDebugData (uint16_t coil, uint32_t state)

  clears/starts/stops the debug queue for a certain coil
- void GetDebugData (uint16_t coil, [System::Runtime::InteropServices::Out]uint16_t% index, [System::Runtime::InteropServices::Out]uint16_t% voltage, [System::Runtime::InteropServices::Out]uint16_t% numberofpulses, [System::Runtime::InteropServices::Out]uint16_t% mediantime)

  get the oldest debug entry for a certain coil
- uint32_t GetStateEventData ()

  get the event queue state
- void SetStateEventData (uint32_t state)

  clears/starts/stops the event queue for a certain coil
- void GetEventData ([System::Runtime::InteropServices::Out]uint16_t% index, [System::Runtime::InteropServices::Out]uint8_t% year, [System::Runtime::InteropServices::Out]uint8_t% month, [System::Runtime::InteropServices::Out]uint8_t% day, [System::Runtime::InteropServices::Out]uint8_t% hour, [System::Runtime::InteropServices::Out]uint8_t% minute, [System::Runtime::InteropServices::Out]uint8_t% second, [System::Runtime::InteropServices::Out]uint16_t% coil, [System::Runtime::InteropServices::Out]uint16_t% type, [System::Runtime::InteropServices::Out]uint16_t% value)

  get the oldest event entry

Properties

- CRFFunctionNet^ RFFunction [get]

Additional Inherited Members

11.85.1 Detailed Description

CPositionIIDeviceNet is the class to control PositionII devices

11.85.2 Constructor & Destructor Documentation

11.85.2.1 CPositionIIDeviceNet() CPositionIIDeviceNet ( )

Initializes a new instance of the CPositionIIDeviceNet class.

11.85.2.2 ~CPositionIIDeviceNet() virtual ~CPositionIIDeviceNet ( ) [virtual]

11.85.2.3 "!CPositionIIDeviceNet() !CPositionIIDeviceNet ( )

11.85.3 Member Function Documentation

11.85.3.1 GetCoilCommunication() uint32_t GetCoilCommunication (uint16_t *coil*)

get if the communication to the coil is working

Parameters

coil	the coil

Returns

is communicating

11.85.3.2 GetDebugData() void GetDebugData (

```
uint16_t coil,
[System::Runtime::InteropServices::Out] uint16_t% index,
[System::Runtime::InteropServices::Out] uint16_t% voltage,
[System::Runtime::InteropServices::Out] uint16_t% numberofpulses,
[System::Runtime::InteropServices::Out] uint16_t% mediantime )
```

get the oldest debug entry for a certain coil

Parameters

coil	the coil
index	the debug entry index number
voltage	the voltage applied
numberofpulses	the number of pulses detected
mediantime	the median time between pulses

11.85.3.3 GetEventData() void GetEventData (

```
[System::Runtime::InteropServices::Out] uint16_t% index,
[System::Runtime::InteropServices::Out] uint8_t% year,
[System::Runtime::InteropServices::Out] uint8_t% month,
[System::Runtime::InteropServices::Out] uint8_t% day,
[System::Runtime::InteropServices::Out] uint8_t% hour,
[System::Runtime::InteropServices::Out] uint8_t% minute,
[System::Runtime::InteropServices::Out] uint8_t% second,
[System::Runtime::InteropServices::Out] uint16_t% coil,
[System::Runtime::InteropServices::Out] uint16_t% type,
[System::Runtime::InteropServices::Out] uint16_t% value )
```

get the oldest event entry

Parameters

index	the event index number
year	the year
month	the month
day	the day
hour	the hour
minute	the minute
second	the second
coil	the coil
type	the event type
value	the even value

11.85.3.4 GetImplantCurrentSetpoint() uint32_t GetImplantCurrentSetpoint (

```
uint16_t coil )
```

sets the implant current setpoint

Parameters

coil	the coil

Returns

the current

11.85.3.5 GetImplantResult() `uint32_t GetImplantResult ( uint16_t coil )`

gets the last result of the implant pulse trigger

Parameters

coil	the coil

Returns

the result

11.85.3.6 GetImplantState() `uint32_t GetImplantState ( uint16_t coil )`

gets the implantat state

Parameters

coil	the coil

Returns

the state

11.85.3.7 GetOnOff() `uint32_t GetOnOff ( uint16_t coil )`

get if the coil is switched on/off

Parameters

coil	the coil

Returns

0 = off, 1 = on

11.85.3.8 GetPowerStrength() `uint32_t GetPowerStrength ( uint16_t coil )`

sets the power for the trigger pulses

Parameters

coil	the coil

Returns

the power

11.85.3.9 GetRTC() `void GetRTC ([System::Runtime::InteropServices::Out] uint8_t% year, [System::Runtime::InteropServices::Out] uint8_t% month, [System::Runtime::InteropServices::Out] uint8_t% day, [System::Runtime::InteropServices::Out] uint8_t% hour, [System::Runtime::InteropServices::Out] uint8_t% minute, [System::Runtime::InteropServices::Out] uint8_t% second)`

Get the RTC

Parameters

year	the year
month	the month
day	the day
hour	the hour
minute	the minute
second	the second

11.85.3.10 GetStateDebugData() `uint32_t GetStateDebugData ( uint16_t coil )`

get the debug queue state

Parameters

coil	the coil

Returns

the state

11.85.3.11 GetStateEventData() `uint32_t GetStateEventData ( )`

get the event queue state

Returns

the state

11.85.3.12 SetImplantCurrentSetpoint() `void SetImplantCurrentSetpoint (`

```
uint16_t coil,
uint32_t current )
```

gets the implant current setpoint

Parameters

coil	the coil
current	the current

11.85.3.13 SetPowerStrength() `void SetPowerStrength (`

```
uint16_t coil,
uint32_t power )
```

gets the power for the trigger pulses

Parameters

coil	the coil
power	the power

11.85.3.14 SetRTC() `void SetRTC (`

```
uint8_t year,
uint8_t month,
uint8_t day,
uint8_t hour,
uint8_t minute,
uint8_t second )
```

Set the RTC

Parameters

year	the year
month	the month
day	the day
hour	the hour
minute	the minute
second	the second

11.85.3.15 SetStateDebugData() `void SetStateDebugData (`

```
uint16_t coil,
uint32_t state )
```

clears/starts/stops the debug queue for a certain coil

Parameters

coil	the coil
state	clear/start/stop

11.85.3.16 SetStateEventData() `void SetStateEventData (`

```
uint32_t state )
```

clears/starts/stops the event queue for a certain coil

Parameters

state	clear/start/stop

11.85.3.17 SwitchOnOff() `void SwitchOnOff (`

```
uint16_t coil,
uint32_t on )
```

switched the coild on of

Parameters

coil	the coil
on	0 = off, 1 = on

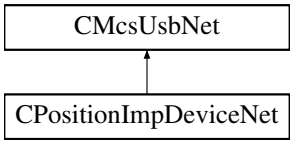
11.85.4 Property Documentation

11.85.4.1 RFFunction `CRFFunctionNet^ RFFunction [get]`

11.86 CPositionImpDeviceNet Class Reference

CPositionImpDeviceNet is the class to access the Position/Imp devices

Inheritance diagram for CPositionImpDeviceNet:



Public Member Functions

- CPositionImpDeviceNet ()

  Initializes a new instance of the CPositionImpDeviceNet class.
- virtual ~CPositionImpDeviceNet ()
- !CPositionImpDeviceNet ()
- void ConnectImp (uint32_t id)

  Connect to a Imp device with a certain ID
- uint32_t ConnectedImp ()

  The ID of the connected Imp device
- int32_t GetRFFrequency ()

  Gets currently used RF frequency
- void SetRFFrequency (int32_t frequency)

  Sets the current RF frequency
- uint32_t GetDeviceList (int32_t index)

  Gets the device list
- void SetDeviceList (int32_t index, uint32_t id)

  Sets the device list
- uint32_t GetImpId ()

  Gets the ID of the impedance measure device
- void SetImpId (uint32_t id)

  Sets the ID of the impedance measure device

Additional Inherited Members

11.86.1 Detailed Description

CPositionImpDeviceNet is the class to access the Position/Imp devices

11.86.2 Constructor & Destructor Documentation

11.86.2.1 CPositionImpDeviceNet() `CPositionImpDeviceNet ( )`

Initializes a new instance of the CPositionImpDeviceNet class.

11.86.2.2 ~CPositionImpDeviceNet() `virtual ~CPositionImpDeviceNet ( ) [virtual]`

11.86.2.3 "!CPositionImpDeviceNet() `!CPositionImpDeviceNet ( )`

11.86.3 Member Function Documentation

11.86.3.1 ConnectedImp() `uint32_t ConnectedImp ( )`

The ID of the connected Imp device

Returns

The ID

11.86.3.2 ConnectImp() `void ConnectImp ( uint32_t id )`

Connect to a Imp device with a certain ID

Parameters

id	The ID

11.86.3.3 GetDeviceList() `uint32_t GetDeviceList ( int32_t index )`

Gets the device list

Parameters

index	the index

Returns

the ID

11.86.3.4 GetImpId() `uint32_t GetImpId ( )`

Gets the ID of the impedance measure device

Returns

the ID

11.86.3.5 GetRFFrequency() `int32_t GetRFFrequency ( )`

Gets currently used RF frequency

Returns

The frequency

11.86.3.6 SetDeviceList() `void SetDeviceList ( int32_t index, uint32_t id )`

Sets the device list

Parameters

index	the index
id	the ID

11.86.3.7 SetImpId() `void SetImpId ( uint32_t id )`

Sets the ID of the impedance measure device

Parameters

id	the ID

11.86.3.8 SetRFFrequency() `void SetRFFrequency (`

`int32_t` *frequency*)

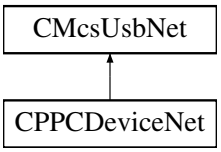
Sets the current RF frequency

Parameters

frequency	The frequency

11.87 CPPCDeviceNet Class Reference

Inheritance diagram for CPPCDeviceNet:



Public Member Functions

- CPPCDeviceNet (void)

Properties

- CPPCFunctionNet^ PPCFunction `[get]`
- CMcsBusNet^ McsBus `[get]`
- CMcsBus_MotorControlNet^ McsBus_MotorControl `[get]`
- CMcsBus_SensorNet^ McsBus_Sensor `[get]`

Additional Inherited Members

11.87.1 Constructor & Destructor Documentation

11.87.1.1 CPPCDeviceNet() `CPPCDeviceNet (`

`void`)

11.87.2 Property Documentation

11.87.2.1 McsBus CMcsBusNet^ McsBus [get]

11.87.2.2 McsBus_MotorControl CMcsBus_MotorControlNet^ McsBus_MotorControl [get]

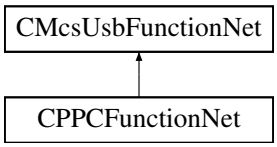
11.87.2.3 McsBus_Sensor CMcsBus_SensorNet^ McsBus_Sensor [get]

11.87.2.4 PPCFunction CPPCFunctionNet^ PPCFunction [get]

11.88 CPPCFunctionNet Class Reference

CPPCFunctionNet is the class to access the PPC (high precision Patch Peristalic patch Pump

Inheritance diagram for CPPCFunctionNet:



Public Member Functions

- CPPCFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pPPCFunctionPointer↩ Container)

  Initializes a new instance of the CPPCFunctionNet class.
- CPPCFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CPPCFunctionNet ()
- !CPPCFunctionNet ()
- int GetPumpSpeedUnit (uint16_t channel)

  Reads the Pump Speed Unit
- void SetPumpSpeedUnit (uint16_t channel, int SpeedUnit)

  Writes the Pump Speed Unit
- PP_Pump_Mode_Type_EnumNet GetPumpModeType (uint16_t channel)

  Reads the Pump Mode Type.
- void SetPumpModeType (uint16_t channel, PP_Pump_Mode_Type_EnumNet PumpMode)

  Writes the config string from the device.

- void GetAnalogVoltageRange (uint16_t channel, [System::Runtime::InteropServices::Out]uint16_t% min_↩ voltage, [System::Runtime::InteropServices::Out]uint16_t% max_voltage)

  Reads the Analog Input Voltage Range
- void SetAnalogVoltageRange (uint16_t channel, uint16_t min_voltage, uint16_t max_voltage)

  Writes the Analog Input Voltage Range
- void GetPressureRange (uint16_t channel, [System::Runtime::InteropServices::Out]int32_t% lower_↩ pressure, [System::Runtime::InteropServices::Out]int32_t% upper_pressure)

  Get the pressure range that is used between the analog voltage or the digital states
- void SetPressureRange (uint16_t channel, int32_t lower_pressure, int32_t upper_pressure)

  Get the pressure range that is used between the analog voltage or the digital states
- uint16_t GetSupplyVoltage ()

  Reads the current supply voltage in mV
- uint16_t GetAnalogVoltage (uint16_t channel)

  Reads the current analog voltage
- uint16_t GetDigitalIn (uint16_t channel)

  Reads the digital input state
- int GetValveActive (uint16_t valve)

  Gets the valve active/inactive state
- void SetValveActive (uint16_t valve, int valveActive)

  Sets the valve active/inactive state
- void SetPressureOffset ()

  Sets the pressure offset
- void LoadPressure (int32_t pressure, uint32_t options)

  Loads the reservoir with a pressure
- void IsBusy ([System::Runtime::InteropServices::Out]int16_t% task, [System::Runtime::InteropServices::↩ Out]int16_t% wait)

  Is the PPC busy with a task
- void FirePressurePulse (int32_t duration, int32_t nextpressure)

  Fire a pressure pulse from the reservoir
- int32_t MeasureReservoir ()

  Measures the reservoir pressure

Additional Inherited Members

11.88.1 Detailed Description

CPPCFunctionNet is the class to access the PPC (high precision Patch Peristalic patch Pump

11.88.2 Constructor & Destructor Documentation

11.88.2.1 CPPCFunctionNet() [1/2]

```
CPPCFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pPPCFunctionPointerContainer )
```

Initializes a new instance of the CPPCFunctionNet class.

11.88.2.2 CPPCFunctionNet() [2/2] CPPCFunctionNet (CMcsUsbNet^ *mcsusb*)

11.88.2.3 ~CPPCFunctionNet() virtual ~CPPCFunctionNet ( ) [virtual]

11.88.2.4 "!CPPCFunctionNet() !CPPCFunctionNet ( )

11.88.3 Member Function Documentation

11.88.3.1 FirePressurePulse() void FirePressurePulse (int32_t *duration*, int32_t *nextpressure*)

Fire a pressure pulse from the reservoir

Parameters

duration	The pulse duration (valves open)
nextpressure	The next pressure

11.88.3.2 GetAnalogVoltage() uint16_t GetAnalogVoltage (uint16_t *channel*)

Reads the current analog voltage

Parameters

channel	The Channel Number

Returns

The Analog Voltage

11.88.3.3 GetAnalogVoltageRange() void GetAnalogVoltageRange (uint16_t *channel*,

```
[System::Runtime::InteropServices::Out] uint16_t% min_voltage,
[System::Runtime::InteropServices::Out] uint16_t% max_voltage )
```

Reads the Analog Input Voltage Range

Parameters

channel	The Channel Number
min_voltage	The voltage that should be seen as the minimum voltage
max_voltage	The voltage that should be seen as the maximum voltage

11.88.3.4 GetDigitalIn() `uint16_t GetDigitalIn (`

```
uint16_t channel )
```

Reads the digital input state

Parameters

channel	The Channel Number

Returns

The Digital State

11.88.3.5 GetPressureRange() `void GetPressureRange (`

```
uint16_t channel,
[System::Runtime::InteropServices::Out] int32_t% lower_pressure,
[System::Runtime::InteropServices::Out] int32_t% upper_pressure )
```

Get the pressure range that is used between the analog voltage or the digital states

Parameters

channel	The Channel Number
lower_pressure	The lower border of the pressure range
upper_pressure	The upper border of the pressure range

11.88.3.6 GetPumpModeType() `PP_Pump_Mode_Type_EnumNet GetPumpModeType (`

```
uint16_t channel )
```

Reads the Pump Mode Type.

Parameters

channel	The Channel Number

Returns

The Pump Mode Type.

11.88.3.7 GetPumpSpeedUnit() `int GetPumpSpeedUnit (`

```
uint16_t channel )
```

Reads the Pump Speed Unit

Parameters

channel	The Channel Number

Returns

The Speed Unit

11.88.3.8 GetSupplyVoltage() `uint16_t GetSupplyVoltage ( )`

Reads the current supply voltage in mV

Returns

The supply voltage

11.88.3.9 GetValveActive() `int GetValveActive (`

```
uint16_t valve )
```

Gets the valve active/inactive state

Parameters

valve	The valve number

Returns

The valve state

11.88.3.10 IsBusy() `void IsBusy (`

```
[System::Runtime::InteropServices::Out] int16_t% task,
[System::Runtime::InteropServices::Out] int16_t% wait )
```

Is the PPC busy with a task

Parameters

task	The task state
wait	The wait state

11.88.3.11 LoadPressure() `void LoadPressure (`

```
int32_t pressure,
uint32_t options )
```

Loads the reservoir with a pressure

Parameters

pressure	The pressure
options	The options: end with 0=regulate on patch 1=regulate on reservoir

11.88.3.12 MeasureReservoir() `int32_t MeasureReservoir ( )`

Measures the reservoir pressure

Returns

The pressure

11.88.3.13 SetAnalogVoltageRange() `void SetAnalogVoltageRange (`

```
uint16_t channel,
uint16_t min_voltage,
uint16_t max_voltage )
```

Writes the Analog Input Voltage Range

Parameters

channel	The Channel Number
min_voltage	The voltage that should be seen as the minimum voltage
max_voltage	The voltage that should be seen as the maximum voltage

11.88.3.14 SetPressureOffset() `void SetPressureOffset ( )`

Sets the pressure offset

11.88.3.15 SetPressureRange() `void SetPressureRange (`

```
uint16_t channel,
int32_t lower_pressure,
int32_t upper_pressure )
```

Get the pressure range that is used between the analog voltage or the digital states

Parameters

channel	The Channel Number
lower_pressure	The lower border of the pressure range
upper_pressure	The upper border of the pressure range

11.88.3.16 SetPumpModeType() `void SetPumpModeType (`

```
uint16_t channel,
PP_Pump_Mode_Type_EnumNet PumpMode )
```

Writes the config string from the device.

Parameters

channel	The Channel Number
PumpMode	The Pump Mode Type.

11.88.3.17 SetPumpSpeedUnit() `void SetPumpSpeedUnit (`

```
uint16_t channel,
int SpeedUnit )
```

Writes the Pump Speed Unit

Parameters

channel	The Channel Number
SpeedUnit	The Speed Unit

11.88.3.18 SetValveActive() `void SetValveActive (`

```
uint16_t valve,
int valveActive )
```

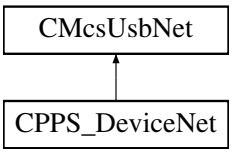
Sets the valve active/inactive state

Parameters

valve	The valve number
valveActive	The valve state

11.89 CPPS_DeviceNet Class Reference

Inheritance diagram for CPPS_DeviceNet:



Public Member Functions

- CPPS_DeviceNet (void)

Properties

- CPPS_FunctionNet^ PPS_Function [get]
- CMcsBusNet^ McsBus [get]
- CMcsBus_MotorControlNet^ McsBus_MotorControl [get]
- CMcsBus_SensorNet^ McsBus_Sensor [get]

Additional Inherited Members

11.89.1 Constructor & Destructor Documentation

11.89.1.1 CPPS_DeviceNet() CPPS_DeviceNet (void)

11.89.2 Property Documentation

11.89.2.1 McsBus CMcsBusNet^ McsBus [get]

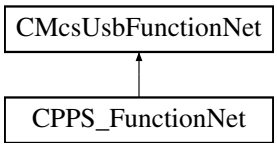
11.89.2.2 McsBus_MotorControl CMcsBus_MotorControlNet^ McsBus_MotorControl [get]

11.89.2.3 McsBus_Sensor CMcsBus_SensorNet^ McsBus_Sensor [get]

11.89.2.4 PPS_Function `CPPS_FunctionNet^ PPS_Function [get]`

11.90 CPPS_FunctionNet Class Reference

Inheritance diagram for CPPS_FunctionNet:



Public Member Functions

- CPPS_FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ cPPS_FunctionPointer↩ Container)
- CPPS_FunctionNet (CMcsUsbNet^ mcsusb)
- void SetPumpMaxSpeed (unsigned short index, unsigned short maxspeed)
- unsigned short GetPumpMaxSpeed (unsigned short index)
- void SetPumpSpeedUnit (unsigned short index, int speedunit)
- int GetPumpSpeedUnit (unsigned short index)
- void SetPumpModeType (unsigned short index, PP_Pump_Mode_Type_EnumNet type)
- PP_Pump_Mode_Type_EnumNet GetPumpModeType (unsigned short index)
- void SetPumpCouple (unsigned int i)
- unsigned int GetPumpCouple ()
- void SetPumpEnableSpeedRatio (unsigned int enable)
- unsigned int GetPumpEnableSpeedRatio ()
- void SetPumpManualOnOff (unsigned short index, unsigned int onoff)
- unsigned int GetPumpManualOnOff (unsigned short index)
- void SetPumpFunctionSpeeds (unsigned short index, short offspeed, short onspeed)
- void GetPumpFunctionSpeeds (unsigned short index, [System::Runtime::InteropServices::Out]short% offspeed, [System::Runtime::InteropServices::Out]short% onspeed)
- void SetPumpSpeedRatio (int ratio)
- int GetPumpSpeedRatio ()
- void SetPumpFastOnOff (unsigned short index, unsigned int onoff)
- unsigned int GetPumpFastOnOff (unsigned short index)
- void SetPumpFastSpeed (unsigned short index, short fastspeed)
- short GetPumpFastSpeed (unsigned short index)
- void SetAnalogVoltages (unsigned short index, unsigned short minvoltage, unsigned short maxvoltage)
- void GetAnalogVoltages (unsigned short index, [System::Runtime::InteropServices::Out]unsigned short% minvoltage, [System::Runtime::InteropServices::Out]unsigned short% maxvoltage)
- void SetUseBubble (unsigned short index, unsigned int usebubble)
- unsigned int GetUseBubble (unsigned short index)
- unsigned short GetSupplyVoltage ()
- unsigned short GetAnalogVoltage (unsigned short index)
- unsigned short GetDigitalIn (unsigned short index)
- unsigned short GetBubbleState ()

Additional Inherited Members

11.90.1 Constructor & Destructor Documentation

11.90.1.1 CPPS_FunctionNet() [1/2] CPPS_FunctionNet (

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ cPPS_FunctionPointerContainer )
```

11.90.1.2 CPPS_FunctionNet() [2/2] CPPS_FunctionNet (

```
CMcsUsbNet^ mcsusb )
```

11.90.2 Member Function Documentation

11.90.2.1 GetAnalogVoltage() unsigned short GetAnalogVoltage (

```
unsigned short index )
```

11.90.2.2 GetAnalogVoltages() void GetAnalogVoltages (

```
unsigned short index,
[System::Runtime::InteropServices::Out] unsigned short% minvoltage,
[System::Runtime::InteropServices::Out] unsigned short% maxvoltage )
```

11.90.2.3 GetBubbleState() unsigned short GetBubbleState ( )

11.90.2.4 GetDigitalIn() unsigned short GetDigitalIn (

```
unsigned short index )
```

11.90.2.5 GetPumpCouple() unsigned int GetPumpCouple ( )

11.90.2.6 GetPumpEnableSpeedRatio() unsigned int GetPumpEnableSpeedRatio ( )

11.90.2.7 GetPumpFastOnOff() unsigned int GetPumpFastOnOff (

```
unsigned short index )
```

11.90.2.8 GetPumpFastSpeed()

```
short GetPumpFastSpeed (
    unsigned short index )
```

11.90.2.9 GetPumpFunctionSpeeds()

```
void GetPumpFunctionSpeeds (
    unsigned short index,
    [System::Runtime::InteropServices::Out] short% offspeed,
    [System::Runtime::InteropServices::Out] short% onspeed )
```

11.90.2.10 GetPumpManualOnOff()

```
unsigned int GetPumpManualOnOff (
    unsigned short index )
```

11.90.2.11 GetPumpMaxSpeed()

```
unsigned short GetPumpMaxSpeed (
    unsigned short index )
```

11.90.2.12 GetPumpModeType()

```
PP_Pump_Mode_Type_EnumNet GetPumpModeType (
    unsigned short index )
```

11.90.2.13 GetPumpSpeedRatio()

```
int GetPumpSpeedRatio ( )
```

11.90.2.14 GetPumpSpeedUnit()

```
int GetPumpSpeedUnit (
    unsigned short index )
```

11.90.2.15 GetSupplyVoltage()

```
unsigned short GetSupplyVoltage ( )
```

11.90.2.16 GetUseBubble()

```
unsigned int GetUseBubble (
    unsigned short index )
```

11.90.2.17 SetAnalogVoltages()

```
void SetAnalogVoltages (
    unsigned short index,
    unsigned short minvoltage,
    unsigned short maxvoltage )
```

11.90.2.18 SetPumpCouple()

```
void SetPumpCouple (
    unsigned int i )
```

11.90.2.19 SetPumpEnableSpeedRatio()

```
void SetPumpEnableSpeedRatio (
    unsigned int enable )
```

11.90.2.20 SetPumpFastOnOff()

```
void SetPumpFastOnOff (
    unsigned short index,
    unsigned int onoff )
```

11.90.2.21 SetPumpFastSpeed()

```
void SetPumpFastSpeed (
    unsigned short index,
    short fastspeed )
```

11.90.2.22 SetPumpFunctionSpeeds()

```
void SetPumpFunctionSpeeds (
    unsigned short index,
    short offspeed,
    short onspeed )
```

11.90.2.23 SetPumpManualOnOff()

```
void SetPumpManualOnOff (
    unsigned short index,
    unsigned int onoff )
```

11.90.2.24 SetPumpMaxSpeed()

```
void SetPumpMaxSpeed (
    unsigned short index,
    unsigned short maxspeed )
```

11.90.2.25 SetPumpModeType() void SetPumpModeType (

```
unsigned short index,
PP_Pump_Mode_Type_EnumNet type )
```

11.90.2.26 SetPumpSpeedRatio() void SetPumpSpeedRatio (

```
int ratio )
```

11.90.2.27 SetPumpSpeedUnit() void SetPumpSpeedUnit (

```
unsigned short index,
int speedunit )
```

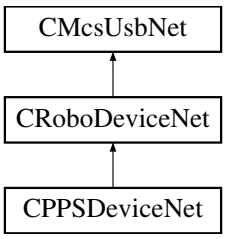
11.90.2.28 SetUseBubble() void SetUseBubble (

```
unsigned short index,
unsigned int usebubble )
```

11.91 CPPSDeviceNet Class Reference

CPPS4plus1DeviceNet is the to control the MCS HLA device

Inheritance diagram for CPPSDeviceNet:



Public Member Functions

- CPPSDeviceNet (void)

Additional Inherited Members

11.91.1 Detailed Description

CPPS4plus1DeviceNet is the to control the MCS HLA device

11.91.2 Constructor & Destructor Documentation

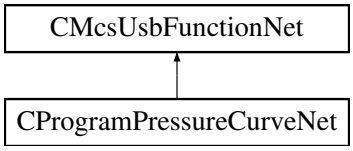
11.91.2.1 CPPSDeviceNet() `CPPSDeviceNet (`

`void )`

11.92 CProgramPressureCurveNet Class Reference

CProgramPressureCurveNet is the class to program pressure curves

Inheritance diagram for CProgramPressureCurveNet:



Public Member Functions

- CProgramPressureCurveNet (CMcsUsbNet^ mcsusb)

  Initializes a new instance of the CPulseGeneratorFunctionNet class.
- virtual ~CProgramPressureCurveNet (void)
- !CProgramPressureCurveNet (void)
- void Program (unsigned char busnumber, unsigned char busaddress, int32_t channel, array< int32_t >^ pressures, array< int32_t >^ steps, array< int16_t >^ durations)
- void SetRepeats (unsigned char busnumber, unsigned char busaddress, int32_t channel, uint32_t repeats)
- unsigned int GetRepeats (unsigned char busnumber, unsigned char busaddress, int32_t channel)

Additional Inherited Members

11.92.1 Detailed Description

CProgramPressureCurveNet is the class to program pressure curves

11.92.2 Constructor & Destructor Documentation

11.92.2.1 CProgramPressureCurveNet() `CProgramPressureCurveNet (`

`CMcsUsbNet^ mcsusb )`

Initializes a new instance of the CPulseGeneratorFunctionNet class.

11.92.2.2 ~CProgramPressureCurveNet() virtual ~CProgramPressureCurveNet (void) [virtual]

11.92.2.3 "!CProgramPressureCurveNet() !CProgramPressureCurveNet (void)

11.92.3 Member Function Documentation

11.92.3.1 GetRepeats() unsigned int GetRepeats (unsigned char *busnumber*, unsigned char *busaddress*, int32_t *channel*)

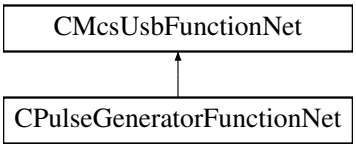
11.92.3.2 Program() void Program (unsigned char *busnumber*, unsigned char *busaddress*, int32_t *channel*, array< int32_t >^ *pressures*, array< int32_t >^ *steps*, array< int16_t >^ *durations*)

11.92.3.3 SetRepeats() void SetRepeats (unsigned char *busnumber*, unsigned char *busaddress*, int32_t *channel*, uint32_t *repeats*)

11.93 CPulseGeneratorFunctionNet Class Reference

CPulseGeneratorFunctionNet is the class to control the pulse generator for video tracking

Inheritance diagram for CPulseGeneratorFunctionNet:



Public Member Functions

- CPulseGeneratorFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pPulse↩ GeneratorFunctionPointerContainer)

  Initializes a new instance of the CPulseGeneratorFunctionNet class.
- CPulseGeneratorFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CPulseGeneratorFunctionNet ()
- !CPulseGeneratorFunctionNet ()
- int32_t GetPeriod (int32_t generator_number)

  Reads the generator period
- void SetPeriod (int32_t generator_number, int32_t period_in_samples)

  Writes the generator period
- int32_t GetPulseLength (int32_t generator_number)

  Reads the generator pulse length
- void SetPulseLength (int32_t generator_number, int32_t pulselength_in_10us)

  Writes the generator pulse length
- void GetModeSelect (int32_t generator_number, [System::Runtime::InteropServices::Out]PulseGenerator_Mode_EnumNet% mode, [System::Runtime::InteropServices::Out]int32_t% digitalchannel)

  Reads the generator mode
- void SetModeSelect (int32_t generator_number, PulseGenerator_Mode_EnumNet mode, int32_t digitalchannel)

  Writes the generator mode

Additional Inherited Members

11.93.1 Detailed Description

CPulseGeneratorFunctionNet is the class to control the pulse generator for video tracking

11.93.2 Constructor & Destructor Documentation

11.93.2.1 CPulseGeneratorFunctionNet() [1/2]

```
CPulseGeneratorFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pPulseGeneratorFunctionPointerContainer )
```

Initializes a new instance of the CPulseGeneratorFunctionNet class.

11.93.2.2 CPulseGeneratorFunctionNet() [2/2]

```
CPulseGeneratorFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.93.2.3 ~CPulseGeneratorFunctionNet()

```
virtual ~CPulseGeneratorFunctionNet ( ) [virtual]
```

11.93.2.4 "!CPulseGeneratorFunctionNet() !CPulseGeneratorFunctionNet ( )

11.93.3 Member Function Documentation

11.93.3.1 GetModeSelect() void GetModeSelect (

```
int32_t generator_number,
[System::Runtime::InteropServices::Out] PulseGenerator_Mode_EnumNet% mode,
[System::Runtime::InteropServices::Out] int32_t% digitalchannel )
```

Reads the generator mode

Parameters

generator_number	The generator number
mode	The generator mode
digitalchannel	The digital in channel used as gate

11.93.3.2 GetPeriod() int32_t GetPeriod (

```
int32_t generator_number )
```

Reads the generator period

Parameters

generator_number	The generator number

Returns

The period

11.93.3.3 GetPulseLength() int32_t GetPulseLength (

```
int32_t generator_number )
```

Reads the generator pulse length

Parameters

generator_number	The generator number

Returns

The pulse length

11.93.3.4 SetModeSelect() `void SetModeSelect (`

```
int32_t generator_number,
PulseGenerator_Mode_EnumNet mode,
int32_t digitalchannel )
```

Writes the generator mode

Parameters

generator_number	The generator number
mode	The generator mode
digitalchannel	The digital in channel used as gate

11.93.3.5 SetPeriod() `void SetPeriod (`

```
int32_t generator_number,
int32_t period_in_samples )
```

Writes the generator period

Parameters

generator_number	The generator number
period_in_samples	The period

11.93.3.6 SetPulseLength() `void SetPulseLength (`

```
int32_t generator_number,
int32_t pulselength_in_10us )
```

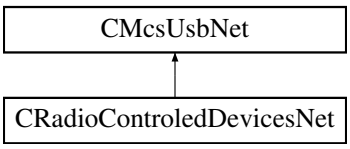
Writes the generator pulse length

Parameters

generator_number	The generator number
pulselength_in_10us	The pulse length

11.94 CRadioControledDevicesNet Class Reference

Inheritance diagram for CRadioControledDevicesNet:



Public Member Functions

- CRadioControledDevicesNet (void)
- bool HasRadioControl ()
- array< unsigned short > ^ GetDeviceNames ()
- void ConnectDevice (unsigned short sn)
- void DisConnectDevice ()
- bool StillConnected ()
- void SetFrequency (unsigned short frequency)
- unsigned short GetFrequency ()

Protected Member Functions

- CRadioControledDevicesNet (CRadioControledDevices *pRadioControled)

Additional Inherited Members

11.94.1 Constructor & Destructor Documentation

11.94.1.1 CRadioControledDevicesNet() [1/2] CRadioControledDevicesNet (void)

11.94.1.2 CRadioControledDevicesNet() [2/2] CRadioControledDevicesNet (CRadioControledDevices * *pRadioControled*) [protected]

11.94.2 Member Function Documentation

11.94.2.1 ConnectDevice() void ConnectDevice (unsigned short *sn*)

11.94.2.2 DisConnectDevice() void DisConnectDevice ( )

11.94.2.3 GetDeviceNames() `array<unsigned short> ^ GetDeviceNames ( )`

11.94.2.4 GetFrequency() `unsigned short GetFrequency ( )`

11.94.2.5 HasRadioControl() `bool HasRadioControl ( )`

11.94.2.6 SetFrequency() `void SetFrequency ( unsigned short frequency )`

11.94.2.7 StillConnected() `bool StillConnected ( )`

11.95 CCMOSMeaDeviceNet::CRegionOfInterestRect Class Reference

Public Member Functions

- CRegionOfInterestRect (int left, int top, int right, int bottom)
- CRegionOfInterestRect ^ DeepCopy ()

Public Attributes

- int m_Left
- int m_Top
- int m_Right
- int m_Bottom

11.95.1 Constructor & Destructor Documentation

11.95.1.1 CRegionOfInterestRect() `CRegionOfInterestRect ( int left, int top, int right, int bottom )`

11.95.2 Member Function Documentation

11.95.2.1 DeepCopy() `CRegionOfInterestRect ^ DeepCopy ( )`

11.95.3 Member Data Documentation

11.95.3.1 m_Bottom `int m_Bottom`

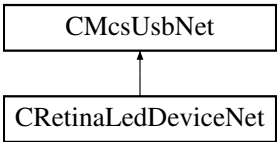
11.95.3.2 m_Left `int m_Left`

11.95.3.3 m_Right `int m_Right`

11.95.3.4 m_Top `int m_Top`

11.96 CRetinaLedDeviceNet Class Reference

Inheritance diagram for CRetinaLedDeviceNet:



Public Member Functions

- CRetinaLedDeviceNet ()
- ~CRetinaLedDeviceNet ()
- unsigned int SetTrigger (int enable)
- unsigned int SetLED (unsigned long long pattern)
- unsigned int SetTablepointer (int position)
- unsigned int GetTablepointer (int % position)
- unsigned int ClearTable ()
- unsigned int AddTableEntry (unsigned long long pattern)
- unsigned int AddLoopEntry (unsigned short repeats, unsigned short steps_back)
- unsigned int SetRepeat (int repeat)
- unsigned int SetLumi (int lumi)
- unsigned int SetPersistency (unsigned int persistency)

Additional Inherited Members

11.96.1 Constructor & Destructor Documentation

11.96.1.1 CRetinaLedDeviceNet() `CRetinaLedDeviceNet ( )`

11.96.1.2 ~CRetinaLedDeviceNet() `~CRetinaLedDeviceNet ( )`

11.96.2 Member Function Documentation

11.96.2.1 AddLoopEntry()

```
unsigned int AddLoopEntry (
    unsigned short repeats,
    unsigned short steps_back )
```

11.96.2.2 AddTableEntry()

```
unsigned int AddTableEntry (
    unsigned long long pattern )
```

11.96.2.3 ClearTable()

```
unsigned int ClearTable ( )
```

11.96.2.4 GetTablepointer()

```
unsigned int GetTablepointer (
    int % position )
```

11.96.2.5 SetLED()

```
unsigned int SetLED (
    unsigned long long pattern )
```

11.96.2.6 SetLumi()

```
unsigned int SetLumi (
    int lumi )
```

11.96.2.7 SetPersistency() unsigned int SetPersistency (unsigned int *persistency*)

11.96.2.8 SetRepeat() unsigned int SetRepeat (int *repeat*)

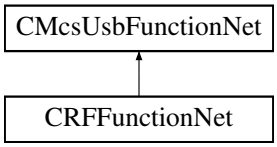
11.96.2.9 SetTablepointer() unsigned int SetTablepointer (int *position*)

11.96.2.10 SetTrigger() unsigned int SetTrigger (int *enable*)

11.97 CRFFunctionNet Class Reference

CRFFunctionNet is the class to control RF devices

Inheritance diagram for CRFFunctionNet:



Public Member Functions

- CRFFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pRFFunctionPointer↩ Container)

  Initializes a new instance of the CRFFunctionNet class.
- CRFFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CRFFunctionNet ()
- !CRFFunctionNet ()
- uint32_t GetBaseFrequency (CFirmwareDestinationNet destination)

  gets the base advertise frequency
- void SetBaseFrequency (CFirmwareDestinationNet destination, uint32_t frequency)

  sets the base advertise frequency
- uint32_t GetWorkingFrequency ()

  gets the working frequency
- void SetWorkingFrequency (uint32_t frequency)

  sets the working frequency
- array< uint32_t > ^ GetAvailableDeviceListEx (int list_Length)

  get a list of available devices
- array< uint32_t > ^ GetAvailableDeviceList ()

get a list of available devices

- array< uint32_t > ^ GetAvailableStateListEx (int list_Length)

  get a list of the states of the available devices
- array< uint32_t > ^ GetAvailableStateList ()

  get a list of the states of the available devices
- void Connect (uint32_t sn)

  connect to a RF device, use 0 to disconnect
- uint32_t GetConnectedDevice ()

  get connect RF device, 0 = no device connected
- uint32_t GetState ()

  get connection state
- void SetTestMode (uint32_t mode)

  set test mode
- uint32_t GetTestMode ()

  gets test mode

Additional Inherited Members

11.97.1 Detailed Description

CRFFunctionNet is the class to control RF devices

11.97.2 Constructor & Destructor Documentation

11.97.2.1 CRFFunctionNet() [1/2] CRFFunctionNet (

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ pRFFunctionPointerContainer )
```

Initializes a new instance of the CRFFunctionNet class.

11.97.2.2 CRFFunctionNet() [2/2] CRFFunctionNet (

```
CMcsUsbNet^ mcsusb )
```

11.97.2.3 ~CRFFunctionNet() virtual ~CRFFunctionNet ( ) [virtual]

11.97.2.4 "!CRFFunctionNet() !CRFFunctionNet ( )

11.97.3 Member Function Documentation

11.97.3.1 Connect() void Connect (

```
uint32_t sn )
```

connect to a RF device, use 0 to disconnect

Parameters

sn	the serial number

11.97.3.2 GetAvailableDeviceList() `array<uint32_t> ^ GetAvailableDeviceList ( )`

get a list of available devices

Returns

array of devices

11.97.3.3 GetAvailableDeviceListEx() `array<uint32_t> ^ GetAvailableDeviceListEx ( int list_Length )`

get a list of available devices

Parameters

list_Length	The maximal length of list.

Returns

array of devices

11.97.3.4 GetAvailableStateList() `array<uint32_t> ^ GetAvailableStateList ( )`

get a list of the states of the available devices

Returns

array of states

11.97.3.5 GetAvailableStateListEx() `array<uint32_t> ^ GetAvailableStateListEx ( int list_Length )`

get a list of the states of the available devices

Parameters

list_Length	The maximal length of list.

Returns

array of states

11.97.3.6 GetBaseFrequency() `uint32_t GetBaseFrequency (`

`CFirmwareDestinationNet` *destination* `)`

gets the base advertise frequency

Parameters

destination	the destination to query

Returns

the frequency

11.97.3.7 GetConnectedDevice() `uint32_t GetConnectedDevice ( )`

get connect RF device, 0 = no device connected

Returns

the serial number

11.97.3.8 GetState() `uint32_t GetState ( )`

get connection state

Returns

the state

11.97.3.9 GetTestMode() `uint32_t GetTestMode ( )`

gets test mode

Returns

the mode

11.97.3.10 GetWorkingFrequency() `uint32_t GetWorkingFrequency ( )`

gets the working frequency

Returns

the frequency

11.97.3.11 SetBaseFrequency() `void SetBaseFrequency ( CFirmwareDestinationNet destination, uint32_t frequency )`

sets the base advertise frequency

Parameters

destination	the destination to set
frequency	the frequency

11.97.3.12 SetTestMode() `void SetTestMode ( uint32_t mode )`

set test mode

Parameters

mode	the mode

11.97.3.13 SetWorkingFrequency() `void SetWorkingFrequency ( uint32_t frequency )`

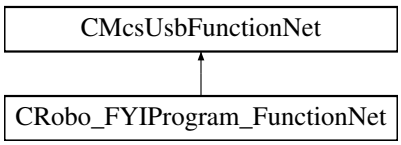
sets the working frequency

Parameters

frequency	the frequency

11.98 CRobo_FYIProgram_FunctionNet Class Reference

Inheritance diagram for CRobo_FYIProgram_FunctionNet:



Public Member Functions

- CRobo_FYIProgram_FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ robo_↩ FYIProgram_FunctionPointerContainer)
- CRobo_FYIProgram_FunctionNet (CMcsUsbNet^ mcsusb)
- void SetValve1 (unsigned char index, unsigned int valve1)
- unsigned int GetValve1 (unsigned char index)
- void SetValve2 (unsigned char index, unsigned int valve2)
- unsigned int GetValve2 (unsigned char index)
- void SetLength (unsigned char index, int length)
- int GetLength (unsigned char index)
- void Start ()
- int GetState ()

Additional Inherited Members

11.98.1 Constructor & Destructor Documentation

11.98.1.1 CRobo_FYIProgram_FunctionNet() [1/2]

```
CRobo_FYIProgram_FunctionNet (
        CMcsUsbNet^ mcsusb,
        CMcsUsbFunctionPointerContainer^ robo_FYIProgram_FunctionPointerContainer )
```

11.98.1.2 CRobo_FYIProgram_FunctionNet() [2/2]

```
CRobo_FYIProgram_FunctionNet (
        CMcsUsbNet^ mcsusb )
```

11.98.2 Member Function Documentation

11.98.2.1 GetLength()

```
int GetLength (
    unsigned char index )
```

11.98.2.2 GetState()

```
int GetState ( )
```

11.98.2.3 GetValve1()

```
unsigned int GetValve1 (
    unsigned char index )
```

11.98.2.4 GetValve2()

```
unsigned int GetValve2 (
    unsigned char index )
```

11.98.2.5 SetLength()

```
void SetLength (
    unsigned char index,
    int length )
```

11.98.2.6 SetValve1()

```
void SetValve1 (
    unsigned char index,
    unsigned int valve1 )
```

11.98.2.7 SetValve2()

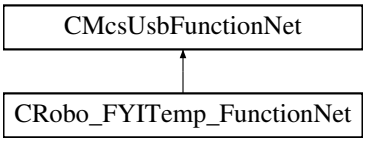
```
void SetValve2 (
    unsigned char index,
    unsigned int valve2 )
```

11.98.2.8 Start()

```
void Start ( )
```

11.99 CRobo_FYITemp_FunctionNet Class Reference

Inheritance diagram for CRobo_FYITemp_FunctionNet:



Public Member Functions

- CRobo_FYITemp_FunctionNet (CMcsUsbNet^ mcsusb)
- void SetRegulatorOnOff (unsigned char index, int onoff)
- int GetRegulatorOnOff (unsigned char index)
- void SetSollTemp (unsigned char index, int temp)
- int GetSollTemp (unsigned char index)
- void SetPCoeff (unsigned char index, int pcoeff)
- int GetPCoeff (unsigned char index)
- void SetICoeff (unsigned char index, int icoeff)
- int GetICoeff (unsigned char index)
- void SetMaxPower (unsigned char index, int power)
- int GetMaxPower (unsigned char index)

Additional Inherited Members

11.99.1 Constructor & Destructor Documentation

11.99.1.1 CRobo_FYITemp_FunctionNet() `CRobo_FYITemp_FunctionNet (`

`CMcsUsbNet^ mcsusb )`

11.99.2 Member Function Documentation

11.99.2.1 GetICoeff() `int GetICoeff (`

`unsigned char index )`

11.99.2.2 GetMaxPower() `int GetMaxPower (`

`unsigned char index )`

11.99.2.3 GetPCoeff() `int GetPCoeff (`

`unsigned char index )`

11.99.2.4 GetRegulatorOnOff() `int GetRegulatorOnOff (`

`unsigned char index )`

11.99.2.5 GetSollTemp()

```
int GetSollTemp (
    unsigned char index )
```

11.99.2.6 SetICoeff()

```
void SetICoeff (
    unsigned char index,
    int icoeff )
```

11.99.2.7 SetMaxPower()

```
void SetMaxPower (
    unsigned char index,
    int power )
```

11.99.2.8 SetPCoeff()

```
void SetPCoeff (
    unsigned char index,
    int pcoeff )
```

11.99.2.9 SetRegulatorOnOff()

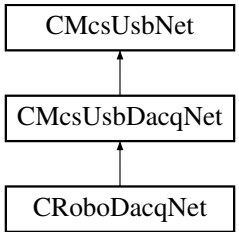
```
void SetRegulatorOnOff (
    unsigned char index,
    int onoff )
```

11.99.2.10 SetSollTemp()

```
void SetSollTemp (
    unsigned char index,
    int temp )
```

11.100 CRoboDacqNet Class Reference

Inheritance diagram for CRoboDacqNet:



Public Member Functions

- CRoboDacqNet (void)
- CRoboDacqNet (CRoboDeviceNet^ robodevice)
- void RunTable ()
- void RunTable (int timeout)
- void StopTable ()
- void StopTable (int timeout)
- void CancelTableLoop ()
- void CancelTableLoopAndStopTable ()
- void SetTriggerMaskValue (unsigned int mask, unsigned int value, unsigned int virtualDevice)
- void SetConfigurationBit (unsigned short bit, bool value)
- void SetConfigurationBitSupply (bool value)
- void SetConfigurationBitRelais (bool value)
- void SetConfigurationBitStream (bool value)
- void SetConfigurationBitAxc (bool value)
- void SetConfigurationBitCC_Gen (bool value)
- void SetConfigurationBitCV_Gen (bool value)
- void SetConfigurationBitRC_Gen (bool value)
- void SetConfigurationBitRV_Gen (bool value)
- void SetConfigurationBitBlu_Led (bool value)
- void SetConfigurationBitRed_Led (bool value)
- void SetConfigurationBitBlu_LedToggleSlow (bool value)
- void SetConfigurationBitRed_LedToggleSlow (bool value)
- void SetConfigurationBitBlu_LedToggleFast (bool value)
- void SetConfigurationBitRed_LedToggleFast (bool value)
- void SetConfigurationBitRed_LedSaturation (bool value)
- void SetSimulation (unsigned int enable)
- void SetUClamp (int uClamp)
- void SetIClamp (int iClamp)
- void SetPGain (int pGain)
- void SetIGain (int iGain)
- void SetFilter (int filter)
- void SetUVOffset (int UVOffset)
- void SetUCOffset (int UCOffset)
- void SetICOffset (int ICOffset)
- void SetCrossTalkOffset (int CrossTalk)
- void SetXGain (int xGain)
- void SetCrossTalkOptimum (int cxOptimum)
- void SetRecordingNumber (unsigned int recordingNumber)
- void ClampAmpRestart ()
- void DoRamp (int startValue, int endValue, int duration, int mode)
- unsigned int GetClampAmpSerialNumber ()
- unsigned int GetConfigurationBits ()
- bool GetConfigurationBit (unsigned short bit)
- bool GetConfigurationBitSupply ()
- bool GetConfigurationBitRelais ()
- bool GetConfigurationBitStream ()
- bool GetConfigurationBitAxc ()
- bool GetConfigurationBitCC_Gen ()
- bool GetConfigurationBitCV_Gen ()
- bool GetConfigurationBitRC_Gen ()
- bool GetConfigurationBitRV_Gen ()
- bool GetConfigurationBitBlu_Led ()
- bool GetConfigurationBitRed_Led ()

- bool GetConfigurationBitBlu_LedToggleSlow ()
- bool GetConfigurationBitRed_LedToggleSlow ()
- bool GetConfigurationBitBlu_LedToggleFast ()
- bool GetConfigurationBitRed_LedToggleFast ()
- bool GetConfigurationBitRed_LedSaturation ()
- unsigned int GetSimulation ()
- int GetUClamp ()
- int GetIClamp ()
- int GetPGain ()
- int GetIGain ()
- int GetFilter ()
- int GetUVOffset ()
- int GetUCOffset ()
- int GetICOffset ()
- int GetCrossTalkOffset ()
- int GetXGain ()
- int GetCrossTalkOptimum ()
- unsigned int GetRecordingNumber ()
- int GetResistanceC ()
- int GetResistanceV ()
- int GetCapacityC ()
- int GetCapacityV ()
- int GetCapacityX ()
- int GetUV ()
- int GetUC ()
- int GetIC ()
- int GetNUV_MS ()
- int GetNUC_MS ()
- int GetNIC_MS ()
- void SetAllDigout (uint32_t value)
- uint32_t GetAllDigout ()
- void SetCommand (unsigned char command, int value)
- int GetCommand (unsigned char command)
- void SetDigout (uint16_t index, bool enable)
- bool GetDigout (uint16_t index)
- void TableDefBegin ()
- void TableDefEnd ()
- void Table_Wait (unsigned int tableWait)
- void SetDownsampleFactor (int index, int downsample_factor)
- void SetFilterCoeffs (int index, array< int >^ coeffs)
- void SetNoFilterCoeffs (int index)
- int GetDownsampleFactor (int index)
- array< int > ^ GetFilterCoeffs (int index)
- void Emu_SetElectrodeResists (int emuElectrodeResist)
- void Emu_SetCellResists (int emuCellResist)
- void Emu_SetCellCapacity (int emuCellCapacity)
- void Emu_SetCellPotential (int emuCellPotential)
- void Emu_SetNoise (int emuNoise)
- int Emu_GetElectrodeResists ()
- int Emu_GetCellResists ()
- int Emu_GetCellCapacity ()
- int Emu_GetCellPotential ()
- int Emu_GetNoise ()
- void SetDisplayText (int index, String^ displayText)
- void SetScreen (int screen)

- void UpdateDisplay ()
- String ^ GetDisplayText (int index)
- int GetScreen ()
- int GetUpdateDisplay ()

Static Public Attributes

- static const unsigned int TriggerMask_Default = 0xFF00
- static const unsigned int TriggerValue_MoveAbs = COMMAND_ROBO_MOVEABS
- static const unsigned int TriggerValue_StartQueue = COMMAND_ROBO_QUEUE
- static const unsigned int VirtualDevice_ContinousDacq = 0
- static const unsigned int VirtualDevice_TableRun = 1

Additional Inherited Members

11.100.1 Constructor & Destructor Documentation

11.100.1.1 CRoboDacqNet() [1/2] CRoboDacqNet (void)

11.100.1.2 CRoboDacqNet() [2/2] CRoboDacqNet (CRoboDeviceNet^ *robodevice*)

11.100.2 Member Function Documentation

11.100.2.1 CancelTableLoop() void CancelTableLoop ( )

11.100.2.2 CancelTableLoopAndStopTable() void CancelTableLoopAndStopTable ( )

11.100.2.3 ClampAmpRestart() void ClampAmpRestart ( )

11.100.2.4 DoRamp()

```
void DoRamp (
    int startValue,
    int endValue,
    int duration,
    int mode )
```

11.100.2.5 Emu_GetCellCapacity()

```
int Emu_GetCellCapacity ( )
```

11.100.2.6 Emu_GetCellPotential()

```
int Emu_GetCellPotential ( )
```

11.100.2.7 Emu_GetCellResists()

```
int Emu_GetCellResists ( )
```

11.100.2.8 Emu_GetElectrodeResists()

```
int Emu_GetElectrodeResists ( )
```

11.100.2.9 Emu_GetNoise()

```
int Emu_GetNoise ( )
```

11.100.2.10 Emu_SetCellCapacity()

```
void Emu_SetCellCapacity (
    int emuCellCapacity )
```

11.100.2.11 Emu_SetCellPotential()

```
void Emu_SetCellPotential (
    int emuCellPotential )
```

11.100.2.12 Emu_SetCellResists()

```
void Emu_SetCellResists (
    int emuCellResist )
```

11.100.2.13 Emu_SetElectrodeResists()

```
void Emu_SetElectrodeResists (
    int emuElectrodeResist )
```

11.100.2.14 Emu_SetNoise() void Emu_SetNoise (int *emuNoise*)

11.100.2.15 GetAllDigout() uint32_t GetAllDigout ( )

11.100.2.16 GetCapacityC() int GetCapacityC ( )

11.100.2.17 GetCapacityV() int GetCapacityV ( )

11.100.2.18 GetCapacityX() int GetCapacityX ( )

11.100.2.19 GetClampAmpSerialNumber() unsigned int GetClampAmpSerialNumber ( )

11.100.2.20 GetCommand() int GetCommand (unsigned char *command*)

11.100.2.21 GetConfigurationBit() bool GetConfigurationBit (unsigned short *bit*)

11.100.2.22 GetConfigurationBitAxc() bool GetConfigurationBitAxc ( )

11.100.2.23 GetConfigurationBitBlu_Led() bool GetConfigurationBitBlu_Led ( )

11.100.2.24 GetConfigurationBitBlu_LedToggleFast() bool GetConfigurationBitBlu_LedToggleFast ( )

11.100.2.25 GetConfigurationBitBlu_LedToggleSlow() bool GetConfigurationBitBlu_LedToggleSlow ( )

11.100.2.26 GetConfigurationBitCC_Gen() bool GetConfigurationBitCC_Gen ( )

11.100.2.27 GetConfigurationBitCV_Gen() bool GetConfigurationBitCV_Gen ( )

11.100.2.28 GetConfigurationBitRC_Gen() bool GetConfigurationBitRC_Gen ( )

11.100.2.29 GetConfigurationBitRed_Led() bool GetConfigurationBitRed_Led ( )

11.100.2.30 GetConfigurationBitRed_LedSaturation() bool GetConfigurationBitRed_LedSaturation ( )

11.100.2.31 GetConfigurationBitRed_LedToggleFast() bool GetConfigurationBitRed_LedToggleFast ( )

11.100.2.32 GetConfigurationBitRed_LedToggleSlow() bool GetConfigurationBitRed_LedToggleSlow ( )

11.100.2.33 GetConfigurationBitRelais() bool GetConfigurationBitRelais ( )

11.100.2.34 GetConfigurationBitRV_Gen() bool GetConfigurationBitRV_Gen ( )

11.100.2.35 GetConfigurationBits() unsigned int GetConfigurationBits ( )

11.100.2.36 GetConfigurationBitStream() bool GetConfigurationBitStream ( )

11.100.2.37 GetConfigurationBitSupply() bool GetConfigurationBitSupply ( )

11.100.2.38 GetCrossTalkOffset() int GetCrossTalkOffset ( )

11.100.2.39 GetCrossTalkOptimum() int GetCrossTalkOptimum ( )

11.100.2.40 GetDigout() bool GetDigout (uint16_t *index*)

11.100.2.41 GetDisplayText() String ^ GetDisplayText (int *index*)

11.100.2.42 GetDownsampleFactor() int GetDownsampleFactor (int *index*)

11.100.2.43 GetFilter() int GetFilter ( )

11.100.2.44 GetFilterCoeffs() array<int> ^ GetFilterCoeffs (int *index*)

11.100.2.45 GetIC() int GetIC ( )

11.100.2.46 GetIClamp() int GetIClamp ( )

11.100.2.47 GetICOffset() int GetICOffset ( )

11.100.2.48 GetIGain() int GetIGain ( )

11.100.2.49 GetNIC_MS() int GetNIC_MS ( )

11.100.2.50 GetNUC_MS() int GetNUC_MS ( )

11.100.2.51 GetNUV_MS() int GetNUV_MS ( )

11.100.2.52 GetPGain() int GetPGain ( )

11.100.2.53 GetRecordingNumber() unsigned int GetRecordingNumber ( )

11.100.2.54 GetResistanceC() int GetResistanceC ( )

11.100.2.55 GetResistanceV() int GetResistanceV ( )

11.100.2.56 GetScreen() int GetScreen ( )

11.100.2.57 GetSimulation() unsigned int GetSimulation ( )

11.100.2.58 GetUC() int GetUC ( )

11.100.2.59 GetUClamp() int GetUClamp ( )

11.100.2.60 GetUCOffset() int GetUCOffset ( )

11.100.2.61 GetUpdateDisplay() int GetUpdateDisplay ( )

11.100.2.62 GetUV() int GetUV ( )

11.100.2.63 GetUVOffset() int GetUVOffset ( )

11.100.2.64 GetXGain() int GetXGain ( )

11.100.2.65 RunTable() [1/2] void RunTable ( )

11.100.2.66 RunTable() [2/2] void RunTable (int *timeout*)

11.100.2.67 SetAllDigout() void SetAllDigout (uint32_t *value*)

11.100.2.68 SetCommand() void SetCommand (unsigned char *command*, int *value*)

11.100.2.69 SetConfigurationBit()

```
void SetConfigurationBit (
    unsigned short bit,
    bool value )
```

11.100.2.70 SetConfigurationBitAxc()

```
void SetConfigurationBitAxc (
    bool value )
```

11.100.2.71 SetConfigurationBitBlu_Led()

```
void SetConfigurationBitBlu_Led (
    bool value )
```

11.100.2.72 SetConfigurationBitBlu_LedToggleFast()

```
void SetConfigurationBitBlu_LedToggleFast (
    bool value )
```

11.100.2.73 SetConfigurationBitBlu_LedToggleSlow()

```
void SetConfigurationBitBlu_LedToggleSlow (
    bool value )
```

11.100.2.74 SetConfigurationBitCC_Gen()

```
void SetConfigurationBitCC_Gen (
    bool value )
```

11.100.2.75 SetConfigurationBitCV_Gen()

```
void SetConfigurationBitCV_Gen (
    bool value )
```

11.100.2.76 SetConfigurationBitRC_Gen()

```
void SetConfigurationBitRC_Gen (
    bool value )
```

11.100.2.77 SetConfigurationBitRed_Led()

```
void SetConfigurationBitRed_Led (
    bool value )
```

11.100.2.78 SetConfigurationBitRed_LedSaturation()

```
void SetConfigurationBitRed_LedSaturation (
    bool value )
```

11.100.2.79 SetConfigurationBitRed_LedToggleFast()

```
void SetConfigurationBitRed_LedToggleFast (
    bool value )
```

11.100.2.80 SetConfigurationBitRed_LedToggleSlow()

```
void SetConfigurationBitRed_LedToggleSlow (
    bool value )
```

11.100.2.81 SetConfigurationBitRelais()

```
void SetConfigurationBitRelais (
    bool value )
```

11.100.2.82 SetConfigurationBitRV_Gen()

```
void SetConfigurationBitRV_Gen (
    bool value )
```

11.100.2.83 SetConfigurationBitStream()

```
void SetConfigurationBitStream (
    bool value )
```

11.100.2.84 SetConfigurationBitSupply()

```
void SetConfigurationBitSupply (
    bool value )
```

11.100.2.85 SetCrossTalkOffset()

```
void SetCrossTalkOffset (
    int CrossTalk )
```

11.100.2.86 SetCrossTalkOptimum()

```
void SetCrossTalkOptimum (
    int cxOptimum )
```

11.100.2.87 SetDigout()

```
void SetDigout (
    uint16_t index,
    bool enable )
```

11.100.2.88 SetDisplayText()

```
void SetDisplayText (
    int index,
    String^ displayText )
```

11.100.2.89 SetDownsampleFactor()

```
void SetDownsampleFactor (
    int index,
    int downsample_factor )
```

11.100.2.90 SetFilter()

```
void SetFilter (
    int filter )
```

11.100.2.91 SetFilterCoeffs()

```
void SetFilterCoeffs (
    int index,
    array< int >^ coeffs )
```

11.100.2.92 SetIClamp()

```
void SetIClamp (
    int iClamp )
```

11.100.2.93 SetICOffset()

```
void SetICOffset (
    int ICOffset )
```

11.100.2.94 SetIGain()

```
void SetIGain (
    int iGain )
```

11.100.2.95 SetNoFilterCoeffs()

```
void SetNoFilterCoeffs (
    int index )
```

11.100.2.96 SetPGain() void SetPGain (

int *pGain*)

11.100.2.97 SetRecordingNumber() void SetRecordingNumber (

unsigned int *recordingNumber*)

11.100.2.98 SetScreen() void SetScreen (

int *screen*)

11.100.2.99 SetSimulation() void SetSimulation (

unsigned int *enable*)

11.100.2.100 SetTriggerMaskValue() void SetTriggerMaskValue (

unsigned int *mask,*
unsigned int *value,*
unsigned int *virtualDevice*)

11.100.2.101 SetUClamp() void SetUClamp (

int *uClamp*)

11.100.2.102 SetUCOffset() void SetUCOffset (

int *UCOffset*)

11.100.2.103 SetUVOffset() void SetUVOffset (

int *UVOffset*)

11.100.2.104 SetXGain() void SetXGain (

int *xGain*)

11.100.2.105 StopTable() [1/2] void StopTable ( )

11.100.2.106 StopTable() [2/2] void StopTable (int *timeout*)

11.100.2.107 Table_Wait() void Table_Wait (unsigned int *tableWait*)

11.100.2.108 TableDefBegin() void TableDefBegin ( )

11.100.2.109 TableDefEnd() void TableDefEnd ( )

11.100.2.110 UpdateDisplay() void UpdateDisplay ( )

11.100.3 Member Data Documentation

11.100.3.1 TriggerMask_Default const unsigned int TriggerMask_Default = 0xFF00 [static]

11.100.3.2 TriggerValue_MoveAbs const unsigned int TriggerValue_MoveAbs = COMMAND_ROBO_↩ MOVEABS [static]

11.100.3.3 TriggerValue_StartQueue const unsigned int TriggerValue_StartQueue = COMMAND_ROBO_↩ QUEUE [static]

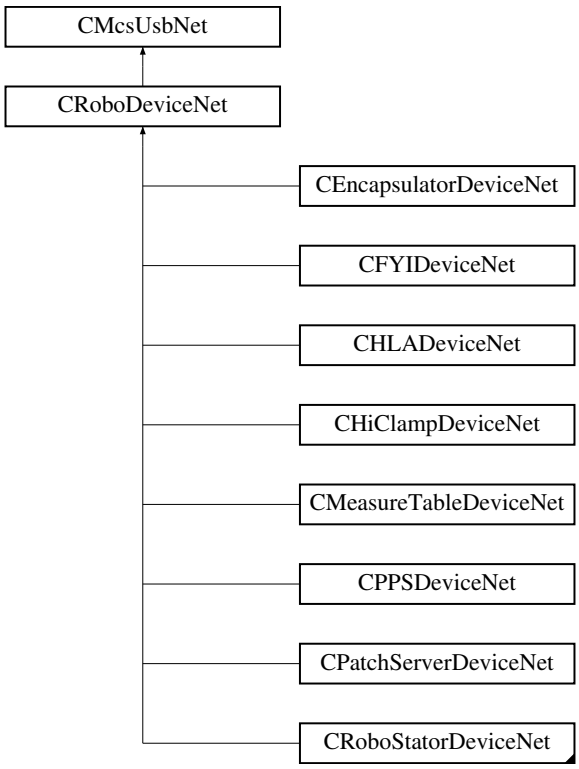
11.100.3.4 VirtualDevice_ContinousDacq const unsigned int VirtualDevice_ContinousDacq = 0 [static]

11.100.3.5 VirtualDevice_TableRun `const unsigned int VirtualDevice_TableRun = 1 [static]`

11.101 CRoboDeviceNet Class Reference

CRoboDeviceNet is the base class for all Robo platform based devices

Inheritance diagram for CRoboDeviceNet:



Classes

- class RoboMainLowLevelCommands

Public Member Functions

- CRoboDeviceNet (void)
- ~CRoboDeviceNet (void)
- void SetInMovement ()

  Low level command, sets the internal state to "In Movement"
- bool GetInMovement ()

  Low level command, gets the internal state "In Movement"
- uint32_t GetMovementError ()

  Low level command, gets the error of the last movement end
- void FindReference (unsigned char busaddress, char axes)
- void FindReference (unsigned char busaddress, char axes, int timeout)

  Searches the reference position of the motor
- void MoveAbs (unsigned char busaddress, char axes, int x, int y)

  Moves the motor to the new absolute position

- void MoveAbs (unsigned char busaddress, char axes, int x, int y, int timeout)

  Moves the motor to the new absolute position
- void MoveAbs (unsigned char busaddress, char axes, array< int >^ pos)

  Moves the motor to the new absolute position
- void MoveAbs (unsigned char busaddress, char axes, array< int >^ pos, int timeout)

  Moves the motor to the new absolute position
- void StopMovement (unsigned char busaddress, char axes)
- void StopMovement (unsigned char busaddress, char axes, int timeout)

  Stops the current movement
- void SetCurrentAndAir (unsigned char busaddress, char axes, unsigned short onoff)
- void SetCurrentAndAir (unsigned char busaddress, char axes, unsigned short onoff, int timeout)
- bool IsQueueEnabled ()
- void EnableQueue (bool enable)
- bool IsQueueStarted ()
- void StartQueue (bool start)
- void WaitTimer (uint32_t waittime, int timeout)
- void CancelPoolLoop ()
- void CancelPoolLoopAndStopMovement ()
- void GetCurrentPosition (unsigned char busaddress, char axes, [System::Runtime::InteropServices::Out]int% x, [System::Runtime::InteropServices::Out]int% y)

  Gets the current position of motors
- void SetAirValve (unsigned int onoff)
- unsigned int GetAirValve ()
- void NullCommand (unsigned int marker)
- unsigned int GetVoltageValves ()
- unsigned int GetVoltageRs485A ()
- unsigned int GetVoltageRs485B ()
- unsigned int GetVoltageAirvalve ()
- unsigned int GetCurrentAirvalve ()
- unsigned int GetVoltage12V ()
- unsigned int GetAirpressure ()
- unsigned int GetVoltage5V ()
- unsigned int GetErrorVoltageValves ()
- unsigned int GetErrorVoltageRs485A ()
- unsigned int GetErrorVoltageRs485B ()
- unsigned int GetErrorVoltageAirvalve ()
- unsigned int GetErrorCurrentAirvalve ()
- unsigned int GetErrorVoltage12V ()
- unsigned int GetErrorAirpressure ()
- unsigned int GetErrorVoltage5V ()
- void SetVoltageValvesLimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void SetVoltageRs485ALimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void SetVoltageRs485BLimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void SetVoltageAirvalveLimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void SetCurrentAirvalveLimit (unsigned int lowercurrent, unsigned int uppercurrent)
- void SetVoltage12VLimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void SetAirpressureLimit (unsigned int lowerpressure, unsigned int upperpressure)
- void SetVoltage5VLimit (unsigned int lowervoltage, unsigned int uppervoltage)
- void GetVoltageValvesLimit ([System::Runtime::InteropServices::Out] unsigned int% lowervoltage, [System::Runtime::InteropServices::Out]unsigned int% uppervoltage)
- void GetVoltageRs485ALimit ([System::Runtime::InteropServices::Out]unsigned int% lowervoltage, [System::Runtime::InteropServices::Out]unsigned int% uppervoltage)
- void GetVoltageRs485BLimit ([System::Runtime::InteropServices::Out]unsigned int% lowervoltage, [System::Runtime::InteropServices::Out]unsigned int% uppervoltage)

- void GetVoltageAirvalveLimit ([System::Runtime::InteropServices::Out]unsigned int% lowervoltage, [System::Runtime::InteropServices::Out]unsigned int% uppervoltage)
- void GetCurrentAirvalveLimit ([System::Runtime::InteropServices::Out]unsigned int% lowercurrent, [System::Runtime::InteropServices::Out]unsigned int% uppercurrent)
- void GetVoltage12VLimit ([System::Runtime::InteropServices::Out]unsigned int% lowervoltage, [System::↩ Runtime::InteropServices::Out]unsigned int% uppervoltage)
- void GetAirpressureLimit ([System::Runtime::InteropServices::Out]unsigned int% lowerpressure, [System↩ ::Runtime::InteropServices::Out]unsigned int% upperpressure)
- void GetVoltage5VLimit ([System::Runtime::InteropServices::Out]unsigned int% lowervoltage, [System::↩ Runtime::InteropServices::Out]unsigned int% uppervoltage)
- void SetMinPressure (int pressure)
- int GetMinPressure ()

Static Public Attributes

- static const uint32_t RoboError_Base = (0xA0110000L)
- static const uint32_t RoboError_UnknownCommand = ((0xA0110000L))
- static const uint32_t RoboError_Timeout = ((0xA0110000L) | 0x0001)
- static const uint32_t RoboError_Pressure = ((0xA0110000L) | 0x0002)
- static const uint32_t RoboError_RangeExceeded = ((0xA0110000L) | 0x0003)
- static const uint32_t RoboError_CommunicationTimeout = ((0xA0110000L) | 0x0004)
- static const uint32_t RoboError_AnotherMaster = ((0xA0110000L) | 0x0005)
- static const uint32_t RoboError_FindReferenceMethod = ((0xA0110000L) | 0x0006)
- static const uint32_t RoboError_NoSpeedOrAcceleration = ((0xA0110000L) | 0x0007)
- static const uint32_t RoboError_NoEndSwitch = ((0xA0110000L) | 0x0008)
- static const uint32_t RoboError_CannotEscapeEndSwitch = ((0xA0110000L) | 0x0009)
- static const uint32_t RoboError_CommandAlreadyInProgress = ((0xA0110000L) | 0x000A)
- static const uint32_t RoboError_NoReference = ((0xA0110000L) | 0x000B)
- static const uint32_t RoboError_OverPressure = ((0xA0110000L) | 0x000C)
- static const uint32_t RoboError_Phase0OutOfRange = ((0xA0110000L) | 0x000D)
- static const uint32_t RoboError_PeristalticTimeout = ((0xA0110000L) | 0x000E)
- static const uint32_t RoboError_GilsonTimeout = ((0xA0110000L) | 0x000F)
- static const uint32_t RoboError_GilsonWrondID = ((0xA0110000L) | 0x0010)
- static const uint32_t RoboError_GilsonCommandPending = ((0xA0110000L) | 0x0011)
- static const uint32_t RoboError_ParameterNotAllowed = ((0xA0110000L) | 0x0012)
- static const uint32_t RoboError_StateChangeNotPossible = ((0xA0110000L) | 0x0013)
- static const uint32_t RoboError_CommandNotPossible = ((0xA0110000L) | 0x0014)
- static const uint32_t RoboError_DacqNotReady = ((0xA0110000L) | 0x0015)
- static const uint32_t RoboError_NoMoreData = ((0xA0110000L) | 0x0016)
- static const uint32_t RoboError_McsBus_UnknownCommand = ((0xA0110000L) | 0x003F)
- static const uint32_t RoboError_DLLMovementTimeout = ((0xA0110000L) | 0x1001)
- static const uint32_t RoboError_PollLoopCanceled = ((0xA0110000L) | 0x1002)
- static const uint32_t RoboError_PollLoopCanceledAndStopMovement = ((0xA0110000L) | 0x1003)
- static const byte McsBus_XY = 1

  McsBus address for the xy-plane
- static const byte McsBus_ZI = 2

  McsBus address for the z and i axes
- static const byte Axis_X = 0

  Axis number of x for axis argument
- static const byte Axis_Y = 1

  Axis number of y for axis argument
- static const byte Axis_Z = 0

  Axis number of z for axis argument

- static const byte Axis_I = 1

  Axis number of i for axis argument
- static const char Axes_X = 1

  Bit pattern for x axis for axes argument
- static const char Axes_Y = 2

  Bit pattern for y axis for axes argument
- static const char Axes_Z = 1

  Bit pattern for z axis for axes argument
- static const char Axes_I = 2

  Bit pattern for i axis for axes argument

Properties

- CMcsBusNet^ McsBus `[get]`
- CMcsBus_MotorControlNet^ McsBus_MotorControl `[get]`
- RoboMainLowLevelCommands^ RoboMainLowLevelCommand `[get]`

Events

- RoboStatusEventDelegate^ RoboStatusEvent

Additional Inherited Members

11.101.1 Detailed Description

CRoboDeviceNet is the base class for all Robo platform based devices

11.101.2 Constructor & Destructor Documentation

11.101.2.1 CRoboDeviceNet() `CRoboDeviceNet (`

`void )`

11.101.2.2 ~CRoboDeviceNet() `~CRoboDeviceNet (`

`void )`

11.101.3 Member Function Documentation

11.101.3.1 CancelPoolLoop() `void CancelPoolLoop ( )`

11.101.3.2 CancelPoolLoopAndStopMovement() void CancelPoolLoopAndStopMovement ( )

11.101.3.3 EnableQueue() void EnableQueue (
bool *enable*)

11.101.3.4 FindReference() [1/2] void FindReference (
unsigned char *busaddress*,
char *axes*)

11.101.3.5 FindReference() [2/2] void FindReference (
unsigned char *busaddress*,
char *axes*,
int *timeout*)

Searches the reference position of the motor

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
timeout	Timeout of maximal waiting for the end of the command (-1 is forever)

11.101.3.6 GetAirpressure() unsigned int GetAirpressure ( )

11.101.3.7 GetAirpressureLimit() void GetAirpressureLimit (
[System::Runtime::InteropServices::Out] unsigned int% *lowerpressure*,
[System::Runtime::InteropServices::Out] unsigned int% *upperpressure*)

11.101.3.8 GetAirValve() unsigned int GetAirValve ( )

11.101.3.9 GetCurrentAirvalve() unsigned int GetCurrentAirvalve ( )

11.101.3.10 GetCurrentAirvalveLimit()

```
void GetCurrentAirvalveLimit (
 [System::Runtime::InteropServices::Out] unsigned int% lowercurrent,
 [System::Runtime::InteropServices::Out] unsigned int% uppercurrent )
```

11.101.3.11 GetCurrentPosition()

```
void GetCurrentPosition (
 unsigned char busaddress,
 char axes,
 [System::Runtime::InteropServices::Out] int% x,
 [System::Runtime::InteropServices::Out] int% y )
```

Gets the current position of motors

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
x	Current position of first axis if pattern in axes is set
y	Current position of second axis if pattern in axes is set

11.101.3.12 GetErrorAirpressure()

```
unsigned int GetErrorAirpressure ( )
```

11.101.3.13 GetErrorCurrentAirvalve()

```
unsigned int GetErrorCurrentAirvalve ( )
```

11.101.3.14 GetErrorVoltage12V()

```
unsigned int GetErrorVoltage12V ( )
```

11.101.3.15 GetErrorVoltage5V()

```
unsigned int GetErrorVoltage5V ( )
```

11.101.3.16 GetErrorVoltageAirvalve()

```
unsigned int GetErrorVoltageAirvalve ( )
```

11.101.3.17 GetErrorVoltageRs485A()

```
unsigned int GetErrorVoltageRs485A ( )
```

11.101.3.18 GetErrorVoltageRs485B() unsigned int GetErrorVoltageRs485B ( )

11.101.3.19 GetErrorVoltageValves() unsigned int GetErrorVoltageValves ( )

11.101.3.20 GetInMovement() bool GetInMovement ( )

Low level command, gets the internal state "In Movement"

11.101.3.21 GetMinPressure() int GetMinPressure ( )

11.101.3.22 GetMovementError() uint32_t GetMovementError ( )

Low level command, gets the error of the last movement end

11.101.3.23 GetVoltage12V() unsigned int GetVoltage12V ( )

11.101.3.24 GetVoltage12VLimit() void GetVoltage12VLimit (

```
[System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
[System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.25 GetVoltage5V() unsigned int GetVoltage5V ( )

11.101.3.26 GetVoltage5VLimit() void GetVoltage5VLimit (

```
[System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
[System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.27 GetVoltageAirvalve() unsigned int GetVoltageAirvalve ( )

11.101.3.28 GetVoltageAirvalveLimit()

```
void GetVoltageAirvalveLimit (
 [System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
 [System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.29 GetVoltageRs485A()

```
unsigned int GetVoltageRs485A ( )
```

11.101.3.30 GetVoltageRs485ALimit()

```
void GetVoltageRs485ALimit (
 [System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
 [System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.31 GetVoltageRs485B()

```
unsigned int GetVoltageRs485B ( )
```

11.101.3.32 GetVoltageRs485BLimit()

```
void GetVoltageRs485BLimit (
 [System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
 [System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.33 GetVoltageValves()

```
unsigned int GetVoltageValves ( )
```

11.101.3.34 GetVoltageValvesLimit()

```
void GetVoltageValvesLimit (
 [System::Runtime::InteropServices::Out] unsigned int% lowervoltage,
 [System::Runtime::InteropServices::Out] unsigned int% uppervoltage )
```

11.101.3.35 IsQueueEnabled()

```
bool IsQueueEnabled ( )
```

11.101.3.36 IsQueueStarted()

```
bool IsQueueStarted ( )
```

11.101.3.37 MoveAbs() [1/4]

```
void MoveAbs (
 unsigned char busaddress,
 char axes,
 array< int >^ pos )
```

Moves the motor to the new absolute position

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
pos	Positions of the axis 0 to 3, if pattern in axes is set

11.101.3.38 MoveAbs() [2/4]

```
void MoveAbs (
    unsigned char busaddress,
    char axes,
    array< int >^ pos,
    int timeout )
```

Moves the motor to the new absolute position

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
pos	Positions of the axis 0 to 3, if pattern in axes is set
timeout	Timeout of maximal waiting for the end of the command (-1 is forever)

11.101.3.39 MoveAbs() [3/4]

```
void MoveAbs (
    unsigned char busaddress,
    char axes,
    int x,
    int y )
```

Moves the motor to the new absolute position

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
x	Position of first axis, if pattern in axes is set
y	Position of second axis if pattern in axes is set

11.101.3.40 MoveAbs() [4/4]

```
void MoveAbs (
    unsigned char busaddress,
    char axes,
    int x,
    int y,
    int timeout )
```

Moves the motor to the new absolute position

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
x	Position of first axis, if pattern in axes is set
y	Position of second axis if pattern in axes is set
timeout	Timeout of maximal waiting for the end of the command (-1 is forever)

11.101.3.41 NullCommand()

```
void NullCommand (
    unsigned int marker )
```

11.101.3.42 SetAirpressureLimit()

```
void SetAirpressureLimit (
    unsigned int lowerpressure,
    unsigned int upperpressure )
```

11.101.3.43 SetAirValve()

```
void SetAirValve (
    unsigned int onoff )
```

11.101.3.44 SetCurrentAirvalveLimit()

```
void SetCurrentAirvalveLimit (
    unsigned int lowercurrent,
    unsigned int uppercurrent )
```

11.101.3.45 SetCurrentAndAir() [1/2]

```
void SetCurrentAndAir (
    unsigned char busaddress,
    char axes,
    unsigned short onoff )
```

11.101.3.46 SetCurrentAndAir() [2/2]

```
void SetCurrentAndAir (
    unsigned char busaddress,
    char axes,
    unsigned short onoff,
    int timeout )
```

11.101.3.47 SetInMovement() void SetInMovement ( )

Low level command, sets the internal state to "In Movement"

11.101.3.48 SetMinPressure() void SetMinPressure (int *pressure*)

11.101.3.49 SetVoltage12VLimit() void SetVoltage12VLimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.50 SetVoltage5VLimit() void SetVoltage5VLimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.51 SetVoltageAirvalveLimit() void SetVoltageAirvalveLimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.52 SetVoltageRs485ALimit() void SetVoltageRs485ALimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.53 SetVoltageRs485BLimit() void SetVoltageRs485BLimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.54 SetVoltageValvesLimit() void SetVoltageValvesLimit (unsigned int *lowervoltage*, unsigned int *uppervoltage*)

11.101.3.55 StartQueue() void StartQueue (bool *start*)

11.101.3.56 StopMovement() [1/2] void StopMovement (unsigned char *busaddress*, char *axes*)

11.101.3.57 StopMovement() [2/2] void StopMovement (unsigned char *busaddress*, char *axes*, int *timeout*)

Stops the current movement

Parameters

busaddress	Address of the McsBus
axes	Bit pattern of axes to drive
timeout	Timeout of maximal waiting for the end of the command (-1 is forever)

11.101.3.58 WaitTimer() void WaitTimer (uint32_t *waittime*, int *timeout*)

11.101.4 Member Data Documentation

11.101.4.1 Axes_I const char Axes_I = 2 [static]

Bit pattern for i axis for axes argument

11.101.4.2 Axes_X const char Axes_X = 1 [static]

Bit pattern for x axis for axes argument

11.101.4.3 Axes_Y `const char Axes_Y = 2 [static]`

Bit pattern for y axis for axes argument

11.101.4.4 Axes_Z `const char Axes_Z = 1 [static]`

Bit pattern for z axis for axes argument

11.101.4.5 Axis_I `const byte Axis_I = 1 [static]`

Axis number of i for axis argument

11.101.4.6 Axis_X `const byte Axis_X = 0 [static]`

Axis number of x for axis argument

11.101.4.7 Axis_Y `const byte Axis_Y = 1 [static]`

Axis number of y for axis argument

11.101.4.8 Axis_Z `const byte Axis_Z = 0 [static]`

Axis number of z for axis argument

11.101.4.9 McsBus_XY `const byte McsBus_XY = 1 [static]`

McsBus address for the xy-plane

11.101.4.10 McsBus_ZI `const byte McsBus_ZI = 2 [static]`

McsBus address for the z and i axes

11.101.4.11 RoboError_AnotherMaster

```
const uint32_t RoboError_AnotherMaster = ( (0xA0110000L) | 0x0005 ) [static]
```

11.101.4.12 RoboError_Base

```
const uint32_t RoboError_Base = (0xA0110000L) [static]
```

11.101.4.13 RoboError_CannotEscapeEndSwitch

```
const uint32_t RoboError_CannotEscapeEndSwitch = ( (0xA0110000L) | 0x0009 ) [static]
```

11.101.4.14 RoboError_CommandAlreadyInProgress

```
const uint32_t RoboError_CommandAlreadyIn↩
Progress = ( (0xA0110000L) | 0x000A ) [static]
```

11.101.4.15 RoboError_CommandNotPossible

```
const uint32_t RoboError_CommandNotPossible = ( (0xA0110000L) | 0x0014 ) [static]
```

11.101.4.16 RoboError_CommunicationTimeout

```
const uint32_t RoboError_CommunicationTimeout = ( (0xA0110000L) | 0x0004 ) [static]
```

11.101.4.17 RoboError_DacqNotReady

```
const uint32_t RoboError_DacqNotReady = ( (0xA0110000L) | 0x0015 ) [static]
```

11.101.4.18 RoboError_DLLMovementTimeout

```
const uint32_t RoboError_DLLMovementTimeout = ( (0xA0110000L) | 0x1001) [static]
```

11.101.4.19 RoboError_FindReferenceMethod

```
const uint32_t RoboError_FindReferenceMethod = ( (0xA0110000L) | 0x0006 ) [static]
```

11.101.4.20 RoboError_GilsonCommandPending

```
const uint32_t RoboError_GilsonCommandPending = ( (0xA0110000L) | 0x0011 ) [static]
```

11.101.4.21 RoboError_GilsonTimeout

```
const uint32_t RoboError_GilsonTimeout = ( (0xA0110000L) | 0x000F ) [static]
```

11.101.4.22 RoboError_GilsonWrondID

```
const uint32_t RoboError_GilsonWrondID = ( (0xA0110000L) | 0x0010 ) [static]
```

11.101.4.23 RoboError_McsBus_UnknownCommand

```
const uint32_t RoboError_McsBus_Unknown↩
Command = ( (0xA0110000L) | 0x003F) [static]
```

11.101.4.24 RoboError_NoEndSwitch

```
const uint32_t RoboError_NoEndSwitch = ( (0xA0110000L) | 0x0008 ) [static]
```

11.101.4.25 RoboError_NoMoreData

```
const uint32_t RoboError_NoMoreData = ( (0xA0110000L) | 0x0016 ) [static]
```

11.101.4.26 RoboError_NoReference

```
const uint32_t RoboError_NoReference = ( (0xA0110000L) | 0x000B ) [static]
```

11.101.4.27 RoboError_NoSpeedOrAcceleration

```
const uint32_t RoboError_NoSpeedOrAcceleration = ( (0xA0110000L) | 0x0007 ) [static]
```

11.101.4.28 RoboError_OverPressure

```
const uint32_t RoboError_OverPressure = ( (0xA0110000L) | 0x000C ) [static]
```

11.101.4.29 RoboError_ParameterNotAllowed

```
const uint32_t RoboError_ParameterNotAllowed = ( (0xA0110000L) | 0x0012 ) [static]
```

11.101.4.30 RoboError_PeristalticTimeout

```
const uint32_t RoboError_PeristalticTimeout = ( (0x↩
A0110000L) | 0x000E ) [static]
```

11.101.4.31 RoboError_Phase0OutOfRange

```
const uint32_t RoboError_Phase0OutOfRange = ( (0xA0110000L) | 0x000D ) [static]
```

11.101.4.32 RoboError_PollLoopCanceled

```
const uint32_t RoboError_PollLoopCanceled = ( (0xA0110000L) | 0x1002) [static]
```

11.101.4.33 RoboError_PollLoopCanceledAndStopMovement

```
const uint32_t RoboError_PollLoopCanceledAndStopMovement = ( (0xA0110000L) | 0x1003) [static]
```

11.101.4.34 RoboError_Pressure

```
const uint32_t RoboError_Pressure = ( (0xA0110000L) | 0x0002 ) [static]
```

11.101.4.35 RoboError_RangeExceeded

```
const uint32_t RoboError_RangeExceeded = ( (0xA0110000L) | 0x0003 ) [static]
```

11.101.4.36 RoboError_StateChangeNotPossible

```
const uint32_t RoboError_StateChangeNotPossible = ( (0xA0110000L) | 0x0013 ) [static]
```

11.101.4.37 RoboError_Timeout

```
const uint32_t RoboError_Timeout = ( (0xA0110000L) | 0x0001 ) [static]
```

11.101.4.38 RoboError_UnknownCommand

```
const uint32_t RoboError_UnknownCommand = ( (0xA0110000L) ) [static]
```

11.101.5 Property Documentation

11.101.5.1 McsBus

```
CMcsBusNet^ McsBus [get]
```

11.101.5.2 McsBus_MotorControl CMcsBus_MotorControlNet^ McsBus_MotorControl [get]

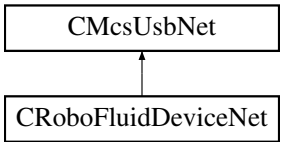
11.101.5.3 RoboMainLowLevelCommand RoboMainLowLevelCommands^ RoboMainLowLevelCommand [get]

11.101.6 Event Documentation

11.101.6.1 RoboStatusEvent RoboStatusEventDelegate^ RoboStatusEvent

11.102 CRoboFluidDeviceNet Class Reference

Inheritance diagram for CRoboFluidDeviceNet:



Public Member Functions

- CRoboFluidDeviceNet (void)
- ~CRoboFluidDeviceNet (void)
- void SetValve (int value)

  Open or Close valves.
- void SetSingleValve (int valve, bool onoff)

  Opens or Closes a valve.
- int GetValve ()

  Query the state of the values.
- bool GetSingleValve (int valve)

  Query the state of a valve.
- void CloseAllValves ()
- void PumpOn (int index, short speed)
- void SetPumpSpeed (int index, short speed)
- void PumpOff (int index)
- short GetPumpSpeed (int index)
- bool IsPumpMotorOn (int index)

Protected Attributes

- CRoboFluidDevice * m_pRoboFluidDevice
- CMcsBus_MotorControlNet ^ m_pMcsBus_MotorControlNet

Properties

- CMcsBus_MotorControlNet^ McsBus_MotorControl [get]

Additional Inherited Members

11.102.1 Constructor & Destructor Documentation

11.102.1.1 CRoboFluidDeviceNet() CRoboFluidDeviceNet (void)

11.102.1.2 ~CRoboFluidDeviceNet() ~CRoboFluidDeviceNet (void)

11.102.2 Member Function Documentation

11.102.2.1 CloseAllValves() void CloseAllValves ( )

11.102.2.2 GetPumpSpeed() short GetPumpSpeed (int *index*)

11.102.2.3 GetSingleValve() bool GetSingleValve (int *valve*)

Query the state of a valve.

Parameters

valve	number of valve /*!

Returns

state of the valve

11.102.2.4 GetValve() int GetValve ( )

Query the state of the values.

Returns

the current state of the valves as a bit pattern.

11.102.2.5 IsPumpMotorOn() bool IsPumpMotorOn (int *index*)

11.102.2.6 PumpOff() void PumpOff (int *index*)

11.102.2.7 PumpOn() void PumpOn (int *index*, short *speed*)

11.102.2.8 SetPumpSpeed() void SetPumpSpeed (int *index*, short *speed*)

11.102.2.9 SetSingleValve() void SetSingleValve (int *valve*, bool *onoff*)

Opens or Closes a valve.

Parameters

valve	number of valve to be changed /∗!
onoff	open or close the valve

11.102.2.10 SetValve() void SetValve (int *value*)

Open or Close valves.

Parameters

value	bit pattern of valves which should be open.

11.102.3 Member Data Documentation

11.102.3.1 m_pMcsBus_MotorControlNet `CMcsBus_MotorControlNet ^ m_pMcsBus_MotorControlNet [protected]`

11.102.3.2 m_pRoboFluidDevice `CRoboFluidDevice* m_pRoboFluidDevice [protected]`

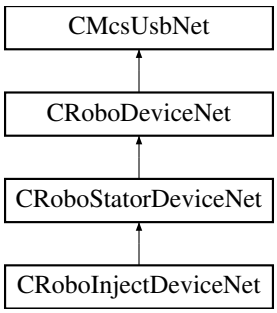
11.102.4 Property Documentation

11.102.4.1 McsBus_MotorControl `CMcsBus_MotorControlNet^ McsBus_MotorControl [get]`

11.103 CRoboInjectDeviceNet Class Reference

CRoboInjectDeviceNet is the to control the MCS RoboInject device

Inheritance diagram for CRoboInjectDeviceNet:



Public Member Functions

- CRoboInjectDeviceNet (void)

Additional Inherited Members

11.103.1 Detailed Description

CRoboInjectDeviceNet is the to control the MCS RoboInject device

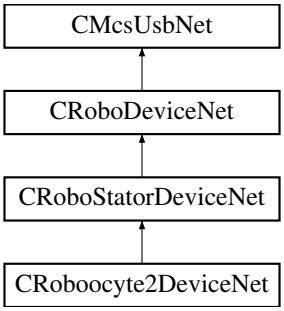
11.103.2 Constructor & Destructor Documentation

11.103.2.1 CRoboInjectDeviceNet() `CRoboInjectDeviceNet ( void )`

11.104 CRoboocyte2DeviceNet Class Reference

CRoboocyte2DeviceNet is the class to control the MCS Roboocyte2 device

Inheritance diagram for CRoboocyte2DeviceNet:



Public Member Functions

- CRoboocyte2DeviceNet (void)
- void SetAxisLED (bool onoff)
- bool GetAxisLED ()
- CRoboDacqNet ^ GetRoboDacq ()
- CRoboFluidDeviceNet ^ GetRoboFluidDevice ()
- CGilsonDeviceNet ^ GetGilsonDevice ()
- CMcsBus_ExtensionNet ^ GetMcsBus_Extension ()

Additional Inherited Members

11.104.1 Detailed Description

CRoboocyte2DeviceNet is the class to control the MCS Roboocyte2 device

11.104.2 Constructor & Destructor Documentation

11.104.2.1 CRoboocyte2DeviceNet() CRoboocyte2DeviceNet (void)

11.104.3 Member Function Documentation

11.104.3.1 GetAxisLED() bool GetAxisLED ( )

11.104.3.2 GetGilsonDevice() CGilsonDeviceNet ^ GetGilsonDevice ( )

11.104.3.3 GetMcsBus_Extension() CMcsBus_ExtensionNet ^ GetMcsBus_Extension ( )

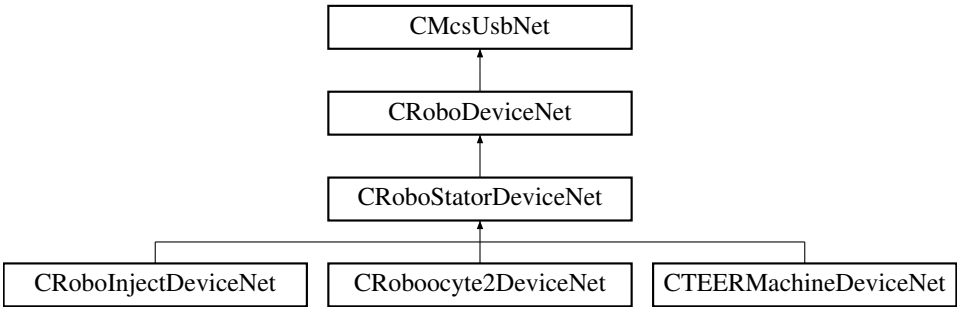
11.104.3.4 GetRoboDacq() CRoboDacqNet ^ GetRoboDacq ( )

11.104.3.5 GetRoboFluidDevice() CRoboFluidDeviceNet ^ GetRoboFluidDevice ( )

11.104.3.6 SetAxisLED() void SetAxisLED (bool *onoff*)

11.105 CRoboStatorDeviceNet Class Reference

Inheritance diagram for CRoboStatorDeviceNet:



Classes

- class RoboMainStatorLowLevelCommands

Public Member Functions

- CRoboStatorDeviceNet (void)
- void FindReferenceXY ()
- void FindReferenceXY (int timeout)
- void FindReferenceZ ()
- void FindReferenceZ (int timeout)
- void FindReferenceI ()
- void FindReferenceI (int timeout)
- unsigned char HasRefXY ()
- unsigned char HasRefZ ()
- unsigned char HasRefI ()
- void MoveAbsXY (int x, int y)
- void MoveAbsXY (int x, int y, int timeout)
- void MoveAbsZ (int z)
- void MoveAbsZ (int z, int timeout)
- void MoveAbsI (int i)
- void MoveAbsI (int i, int timeout)
- void StopMovementXY ()
- void StopMovementXY (int timeout)
- void StopMovementZ ()
- void StopMovementZ (int timeout)
- void StopMovementI ()
- void StopMovementI (int timeout)
- void SetCurrentAndAirXY (unsigned short onoff)
- void SetCurrentAndAirXY (unsigned short onoff, int timeout)
- void GetCurrentPositionXY ([System::Runtime::InteropServices::Out]int% x, [System::Runtime::Interop↩ Services::Out]int% y)
- void GetCurrentPositionZ ([System::Runtime::InteropServices::Out]int% z)
- void GetCurrentPositionI ([System::Runtime::InteropServices::Out]int% i)
- void SetVelocityXY (int v)
- void SetVelocityZ (int v)
- void SetVelocityI (int v)
- void SetSpeedXY (int v)
- void SetSpeedZ (int v)
- void SetSpeedI (int v)
- void SetSpeedNativeXY (int v)
- void SetSpeedNativeZ (int v)
- void SetSpeedNativeI (int v)
- void SetAccelerationXY (int a)
- void SetAccelerationZ (int a)
- void SetAccelerationI (int a)
- void SetAccelerationNativeXY (int a)
- void SetAccelerationNativeZ (int a)
- void SetAccelerationNativeI (int a)

Properties

- RoboMainStatorLowLevelCommands^ RoboMainStatorLowLevelCommand [get]

Additional Inherited Members

11.105.1 Constructor & Destructor Documentation

11.105.1.1 CRoboStatorDeviceNet() CRoboStatorDeviceNet (void)

11.105.2 Member Function Documentation

11.105.2.1 FindReferenceI() [1/2] void FindReferenceI ( )

11.105.2.2 FindReferenceI() [2/2] void FindReferenceI (int *timeout*)

11.105.2.3 FindReferenceXY() [1/2] void FindReferenceXY ( )

11.105.2.4 FindReferenceXY() [2/2] void FindReferenceXY (int *timeout*)

11.105.2.5 FindReferenceZ() [1/2] void FindReferenceZ ( )

11.105.2.6 FindReferenceZ() [2/2] void FindReferenceZ (int *timeout*)

11.105.2.7 GetCurrentPositionI() void GetCurrentPositionI ([System::Runtime::InteropServices::Out] int% *i*)

11.105.2.8 GetCurrentPositionXY()

```
void GetCurrentPositionXY (
    [System::Runtime::InteropServices::Out] int% x,
    [System::Runtime::InteropServices::Out] int% y )
```

11.105.2.9 GetCurrentPositionZ()

```
void GetCurrentPositionZ (
    [System::Runtime::InteropServices::Out] int% z )
```

11.105.2.10 HasRefI()

```
unsigned char HasRefI ( )
```

11.105.2.11 HasRefXY()

```
unsigned char HasRefXY ( )
```

11.105.2.12 HasRefZ()

```
unsigned char HasRefZ ( )
```

11.105.2.13 MoveAbsI() [1/2]

```
void MoveAbsI (
    int i )
```

11.105.2.14 MoveAbsI() [2/2]

```
void MoveAbsI (
    int i,
    int timeout )
```

11.105.2.15 MoveAbsXY() [1/2]

```
void MoveAbsXY (
    int x,
    int y )
```

11.105.2.16 MoveAbsXY() [2/2]

```
void MoveAbsXY (
    int x,
    int y,
    int timeout )
```

11.105.2.17 MoveAbsZ() [1/2] void MoveAbsZ (

```
int z )
```

11.105.2.18 MoveAbsZ() [2/2] void MoveAbsZ (

```
int z,
int timeout )
```

11.105.2.19 SetAccelerationI() void SetAccelerationI (

```
int a )
```

11.105.2.20 SetAccelerationNativeI() void SetAccelerationNativeI (

```
int a )
```

11.105.2.21 SetAccelerationNativeXY() void SetAccelerationNativeXY (

```
int a )
```

11.105.2.22 SetAccelerationNativeZ() void SetAccelerationNativeZ (

```
int a )
```

11.105.2.23 SetAccelerationXY() void SetAccelerationXY (

```
int a )
```

11.105.2.24 SetAccelerationZ() void SetAccelerationZ (

```
int a )
```

11.105.2.25 SetCurrentAndAirXY() [1/2] void SetCurrentAndAirXY (

```
unsigned short onoff )
```

11.105.2.26 SetCurrentAndAirXY() [2/2] void SetCurrentAndAirXY (

```
unsigned short onoff,
int timeout )
```

11.105.2.27 SetSpeedI() void SetSpeedI (

```
int v )
```

11.105.2.28 SetSpeedNativeI() void SetSpeedNativeI (

```
int v )
```

11.105.2.29 SetSpeedNativeXY() void SetSpeedNativeXY (

```
int v )
```

11.105.2.30 SetSpeedNativeZ() void SetSpeedNativeZ (

```
int v )
```

11.105.2.31 SetSpeedXY() void SetSpeedXY (

```
int v )
```

11.105.2.32 SetSpeedZ() void SetSpeedZ (

```
int v )
```

11.105.2.33 SetVelocityI() void SetVelocityI (

```
int v )
```

11.105.2.34 SetVelocityXY() void SetVelocityXY (

```
int v )
```

11.105.2.35 SetVelocityZ() void SetVelocityZ (int *v*)

11.105.2.36 StopMovementI() [1/2] void StopMovementI ( )

11.105.2.37 StopMovementI() [2/2] void StopMovementI (int *timeout*)

11.105.2.38 StopMovementXY() [1/2] void StopMovementXY ( )

11.105.2.39 StopMovementXY() [2/2] void StopMovementXY (int *timeout*)

11.105.2.40 StopMovementZ() [1/2] void StopMovementZ ( )

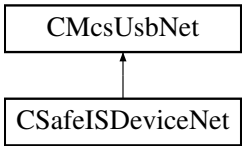
11.105.2.41 StopMovementZ() [2/2] void StopMovementZ (int *timeout*)

11.105.3 Property Documentation

11.105.3.1 RoboMainStatorLowLevelCommand RoboMainStatorLowLevelCommands^ RoboMainStator↩ LowLevelCommand [get]

11.106 CSafeISDeviceNet Class Reference

Inheritance diagram for CSafeISDeviceNet:



Public Member Functions

- CSafeISDeviceNet (void)

  Initializes a new instance of the CSafeISDeviceNet class.
- ~CSafeISDeviceNet (void)

  Releases unmanaged resources and performs other cleanup operations before the CSafeISDeviceNet is reclaimed by garbage collection.
- void SetSwitches (unsigned short switches)

  Sets the switches for all electrodes on the device. Do not use during measurement
- void SetAdcChannels (unsigned char channels)

  Sets the ADC channels you want to be sampled
- void SetAdcSamplePos (array< unsigned short >^ positions)

  Sets the sample position of the ADC.
- void SetDacMode (unsigned char mode)

  Sets the DAC mode.
- void SetDacPulseform (array< short >^ pulseform)

  Sets the DAC pulseform.
- void SetDacPeriode (unsigned int periode)

  Sets the DAC periode.

Properties

- CRoboDeviceNet^ RoboDevice `[get]`

  Gets the CRoboDeviceNet. Use this to control the syringe.
- CFluidControlDeviceNet^ FluidControlDevice `[get]`

  Gets the CFluidControlDeviceNet. Use this to control the valves. Only SetSingleValve is implemented for CSafeISDeviceNet.
- CMcsUsbDacqNet^ DacqDevice `[get]`

  Gets the CMcsUsbDacqNet. Use this to control the data aquisition.

Additional Inherited Members

11.106.1 Detailed Description

11.106.2 Constructor & Destructor Documentation

11.106.2.1 CSafeISDeviceNet() `CSafeISDeviceNet (void )`

Initializes a new instance of the CSafeISDeviceNet class.

11.106.2.2 ~CSafeISDeviceNet() `~CSafeISDeviceNet (void )`

Releases unmanaged resources and performs other cleanup operations before the CSafeISDeviceNet is reclaimed by garbage collection.

11.106.3 Member Function Documentation

11.106.3.1 SetAdcChannels() `void SetAdcChannels ( unsigned char channels )`

Sets the ADC channels you want to be sampled

Parameters

channels	The bitmap of the 8 channels. Set bit to 1 for the channels you want measure

11.106.3.2 SetAdcSamplePos() `void SetAdcSamplePos ( array< unsigned short >^ positions )`

Sets the sample position of the ADC.

Parameters

positions	The positions in units of 0.1µs.

11.106.3.3 SetDacMode() `void SetDacMode ( unsigned char mode )`

Sets the DAC mode.

Parameters

mode	The mode: 0 = Impedance ; 1 = Amperometry

11.106.3.4 SetDacPeriode() `void SetDacPeriode ( unsigned int periode )`

Sets the DAC periode.

Parameters

periode	The periode in units of 10µs.

11.106.3.5 SetDacPulseform() `void SetDacPulseform ( array< short >^ pulseform )`

Sets the DAC pulseform.

Parameters

pulseform	The pulseform.

11.106.3.6 SetSwitches() `void SetSwitches ( unsigned short switches )`

Sets the switches for all electrodes on the device. Do not use during measurement

Parameters

switches	The switches: See Schematics for the meaning

11.106.4 Property Documentation

11.106.4.1 DacqDevice `CMcsUsbDacqNet^ DacqDevice [get]`

Gets the CMcsUsbDacqNet. Use this to control the data aquisition.

11.106.4.2 FluidControlDevice `CFluidControlDeviceNet^ FluidControlDevice [get]`

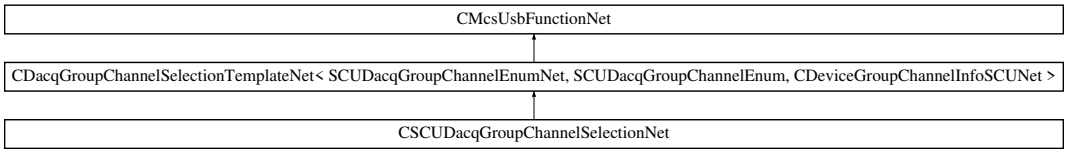
Gets the CFluidControlDeviceNet. Use this to control the valves. Only SetSingleValve is implemented for CSafeISDeviceNet.

11.106.4.3 RoboDevice `CRoboDeviceNet^ RoboDevice [get]`

Gets the CRoboDeviceNet. Use this to control the syringe.

11.107 CSCUDacqGroupChannelSelectionNet Class Reference

Inheritance diagram for CSCUDacqGroupChannelSelectionNet:



Public Member Functions

- CSCUDacqGroupChannelSelectionNet (CMcsUsbNet^ mcsusb)

Additional Inherited Members

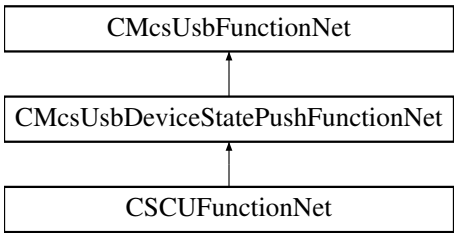
11.107.1 Constructor & Destructor Documentation

11.107.1.1 CSCUDacqGroupChannelSelectionNet() `CSCUDacqGroupChannelSelectionNet ( CMcsUsbNet^ mcsusb )`

11.108 CSCUFunctionNet Class Reference

CSCUFunctionNet is the class to control the SCU device

Inheritance diagram for CSCUFunctionNet:



Public Member Functions

- delegate void OnGetAvailableHeadstages (uint32_t AvailableHeadstages)
- delegate void OnIsHeadstageAvailable (uint32_t Headstage, bool available)
- CSCUFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pSCUFunctionPointer↩ Container)

  Initializes a new instance of the CSCUFunctionNet class.
- CSCUFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CSCUFunctionNet ()
- !CSCUFunctionNet ()
- uint32_t GetAvailableHeadstages ()

  Gets a bitmap of available headstages.
- bool IsInDacqLegacyMode ()

  Is the SCU in legacy mode
- void SetDacqLegacyMode (bool enable)

  Enable the SCU legacy mode
- uint32_t GetMaxStimulusChannelsPerHeadstage ()

  Gets the maximal number of stimulation channels a headstage can have.
- uint32_t GetMaxNumberOfHeadstages ()

  Gets the maximal number of headstages.
- SCU_HeadstageIdEnumNet GetHeadstageID (uint32_t Headstage)

Gets the headstage fpga ID.

- bool IsHeadstageAvailable (uint32_t Headstage)

  Checks whether the given headstage is available.
- void PowerHS (uint32_t Headstage, bool power)

  Power the HS
- bool IsHSPowered (uint32_t Headstage)

  Is the HS powered
- bool HasHSPowerSwitch ()

  Has SCU HS power switch
- String ^ GetHeadstageSerialNumber (uint32_t Headstage)

  Gets the serial number of a given headstage.
- uint32_t GetHeadstageNumberOfAnalogChannels (uint32_t Headstage)

  Gets the number of analog channels for a given headstage.
- void SetHeadstageNumberOfAnalogChannelsPermanent (uint32_t Headstage, uint32_t NumberOfchannels)

  Sets the number of analog channels permanent for a given headstage.
- uint32_t GetHeadstageNumberOfStimulationChannels (uint32_t Headstage)

  Gets the number of stimulation channels for a given headstage.
- uint32_t GetHeadstageGainInPermille (uint32_t Headstage)

  Gets the gain factor in permille for a given headstage.
- uint32_t GetHeadstageAdcRangeInMicroVolt (uint32_t Headstage)

  Gets the ADC Range in uV for a given headstage.
- uint32_t GetHeadstageAdcBits (uint32_t Headstage)

  Gets the Number of ADC bits for a given headstage.
- uint32_t GetHeadstageDacVoltageRangeInMilliVolt (uint32_t Headstage)

  Gets the DAC Voltage Range in mV for a given headstage.
- uint32_t GetHeadstageDacVoltageResolutionInMicroVolt (uint32_t Headstage)

  Gets the DAC Voltage Resolution in uV for a given headstage.
- uint32_t GetHeadstageDacCurrentRangeInMicroAmpere (uint32_t Headstage)

  Gets the DAC Current Range in uA for a given headstage.
- uint32_t GetHeadstageDacCurrentResolutionInNanoAmpere (uint32_t Headstage)

  Gets the DAC Current Resolution in nA for a given headstage.
- uint32_t GetHeadstageDacBits (uint32_t Headstage)

  Gets the Number of DAC bits for a given headstage.
- uint32_t GetHeadstageSamplerate (uint32_t Headstage)

  Gets the Samplerate of a given headstage.
- void SetHeadstageSampleratePermanent (uint32_t Headstage, uint32_t Samplerate)

  Sets the samplerate permanent on a given headstage.
- uint32_t GetHeadstageLinkSpeed (uint32_t Headstage)

  Gets the Link speed of a given headstage.
- void SetHeadstageLinkSpeedPermanent (uint32_t Headstage, uint32_t LinkSpeed)

  Sets the Link speed permanent on a given headstage.
- uint32_t GetHeadstageFrameCyclesToCompare (uint32_t Headstage)

  Gets the frame cycles to compare of a given headstage.
- void SetHeadstageFrameCyclesToComparePermanent (uint32_t Headstage, uint32_t FrameCycles)

  Sets the frame cycles to compare permanent on a given headstage.
- bool GetHeadstagePowerStateAtStart (uint32_t Headstage)

  Gets the Power Status at SCU Power on of a given headstage.
- void SetHeadstagePowerStateAtStart (uint32_t Headstage, bool Powerstatus)

  Sets the Power Status at SCU Power on of a given headstage.
- bool HasGalvanicIsolation ()

  Has galvanic isolated hardware

- bool HasAnalogOut ()

  Has AnalogOut hardware
- void EnableAnalogOut (bool enable)

  Enables AnalogOut globally
- bool IsAnalogOutEnabled ()

  Is AnalogOut enabled
- void SetAnalogOutDACRange (AnalogOut_DAC_Range_EnumNet range)

  Sets the analog out DAC range
- AnalogOut_DAC_Range_EnumNet GetAnalogOutDACRange ()

  Gets the analog out DAC range
- void SetAnalogOutADCRange (uint32_t range)

  Sets the analog out ADC range
- uint32_t GetAnalogOutADCRange ()

  Gets the analog out ADC range
- void AutomaticAnalogOut (bool automatic)

  Sets automatic source channel selection
- bool IsAutomaticAnalogOut ()

  Is Automatic source channel selection selected
- void SetAnalogOutChannels (uint32_t out_channel, uint32_t source_channel)

  Set the source channel number for a certain output channel
- uint32_t GetAnalogOutChannels (uint32_t out_channel)

  Get the connected source channel number for a certain output channel
- void SetReferenceElectrodeSwitchState (uint32_t Headstage, ReferenceElectrodeSwitchPositionEnumNet NewSwitchPos)

  Sets the position of the switch for the reference electrode
- ReferenceElectrodeSwitchPositionEnumNet GetReferenceElectrodeSwitchState (uint32_t Headstage)

  Gets the position of the switch for the reference electrode
- void SetReferenceElectrodeMode (uint32_t Headstage, ReferenceElectrodeModeEnumNet NewValue)

  Sets the mode for the reference electrode
- ReferenceElectrodeModeEnumNet GetReferenceElectrodeMode (uint32_t Headstage)

  Gets the mode for the reference electrode
- CFilterPropertyNet ^ GetFilterProperty (SCUDacqGroupChannelEnumNet GroupID, uint32_t FilterNumber)

  Gets the filter property
- array< CFilterPropertyNet^ > ^ GetFilterProperties (SCUDacqGroupChannelEnumNet GroupID, int filter↩ Configurations_Length)

  Gets multiple filter properties

Events

- OnGetAvailableHeadstages^ GetAvailableHeadstagesEvent `[add, remove, raise]`

  Event fires when the bitmap of available headstages has changed
- OnIsHeadstageAvailable^ IsHeadstageAvailableEvent `[add, remove, raise]`

  Event fires when 'true' if the headstage is connected for the headstage to query has changed

Additional Inherited Members

11.108.1 Detailed Description

CSCUFunctionNet is the class to control the SCU device

11.108.2 Constructor & Destructor Documentation

11.108.2.1 CSCUFunctionNet() [1/2] CSCUFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pSCUFunctionPointerContainer*)

Initializes a new instance of the CSCUFunctionNet class.

11.108.2.2 CSCUFunctionNet() [2/2] CSCUFunctionNet (CMcsUsbNet^ *mcsusb*)

11.108.2.3 ~CSCUFunctionNet() virtual ~CSCUFunctionNet ( ) [virtual]

11.108.2.4 "!CSCUFunctionNet() !CSCUFunctionNet ( )

11.108.3 Member Function Documentation

11.108.3.1 AutomaticAnalogOut() void AutomaticAnalogOut (bool *automatic*)

Sets automatic source channel selection

Parameters

automatic	Automatic

11.108.3.2 EnableAnalogOut() void EnableAnalogOut (bool *enable*)

Enables AnalogOut globally

Parameters

enable	Enable

11.108.3.3 GetAnalogOutADCRange() `uint32_t GetAnalogOutADCRange ( )`

Gets the analog out ADC range

Returns

Range

11.108.3.4 GetAnalogOutChannels() `uint32_t GetAnalogOutChannels ( uint32_t out_channel )`

Get the connected source channel number for a certain output channel

Parameters

out_channel	Output channel number

Returns

Source channel number

11.108.3.5 GetAnalogOutDACRange() `AnalogOut_DAC_Range_EnumNet GetAnalogOutDACRange ( )`

Gets the analog out DAC range

Returns

Range

11.108.3.6 GetAvailableHeadstages() `uint32_t GetAvailableHeadstages ( )`

Gets a bitmap of available headstages.

Returns

The bitmap of available headstages.

11.108.3.7 GetFilterProperties() `array<CFilterPropertyNet^> ^ GetFilterProperties ( SCUDacqGroupChannelEnumNet GroupID, int filterConfigurations_Length )`

Gets multiple filter properties

Parameters

GroupID	The group ID
filterConfigurations_Length	The maximal length of filterConfigurations.

Returns

array of filter properties

11.108.3.8 GetFilterProperty() `CFilterPropertyNet ^ GetFilterProperty ( SCUDacqGroupChannelEnumNet GroupID, uint32_t FilterNumber )`

Gets the filter property

Parameters

GroupID	The group ID
FilterNumber	The filter number

Returns

The filter property

11.108.3.9 GetHeadstageAdcBits() `uint32_t GetHeadstageAdcBits ( uint32_t Headstage )`

Gets the Number of ADC bits for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The number of bits the ADC has for the given headstage.

11.108.3.10 GetHeadstageAdcRangeInMicroVolt() `uint32_t GetHeadstageAdcRangeInMicroVolt ( uint32_t Headstage )`

Gets the ADC Range in uV for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The ADC Range in uV for the given headstage.

11.108.3.11 GetHeadstageDacBits() `uint32_t GetHeadstageDacBits ( uint32_t Headstage )`

Gets the Number of DAC bits for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The number of bits the DAC has for the given headstage.

11.108.3.12 GetHeadstageDacCurrentRangeInMicroAmpere() `uint32_t GetHeadstageDacCurrentRangeInMicroAmpere ( uint32_t Headstage )`

Gets the DAC Current Range in uA for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The DAC Current Range in uA for the given headstage.

11.108.3.13 GetHeadstageDacCurrentResolutionInNanoAmpere() `uint32_t GetHeadstageDacCurrentResolutionInNanoAmpere ( uint32_t Headstage )`

Gets the DAC Current Resolution in nA for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The DAC Current Resolution in nA for the given headstage.

11.108.3.14 GetHeadstageDacVoltageRangeInMilliVolt()

```
uint32_t GetHeadstageDacVoltageRangeInMilliVolt (
            uint32_t Headstage )
```

Gets the DAC Voltage Range in mV for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The DAC Voltage Range in mV for the given headstage.

11.108.3.15 GetHeadstageDacVoltageResolutionInMicroVolt()

```
uint32_t GetHeadstageDacVoltageResolutionInMicroVolt (
            uint32_t Headstage )
```

Gets the DAC Voltage Resolution in uV for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The DAC Voltage Resolution in uV for the given headstage.

11.108.3.16 GetHeadstageFrameCyclesToCompare()

```
uint32_t GetHeadstageFrameCyclesToCompare (
            uint32_t Headstage )
```

Gets the frame cycles to compare of a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The samplerate in Hz for the given headstage.

11.108.3.17 GetHeadstageGainInPermille() `uint32_t GetHeadstageGainInPermille ( uint32_t Headstage )`

Gets the gain factor in permille for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The gain factor in permille for the given headstage.

11.108.3.18 GetHeadstageID() `SCU_HeadstageIdEnumNet GetHeadstageID ( uint32_t Headstage )`

Gets the headstage fpga ID.

Parameters

Headstage	The headstage to query.

Returns

The headstage fpga ID.

11.108.3.19 GetHeadstageLinkSpeed() `uint32_t GetHeadstageLinkSpeed ( uint32_t Headstage )`

Gets the Link speed of a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The samplerate in Hz for the given headstage.

11.108.3.20 GetHeadstageNumberOfAnalogChannels() `uint32_t GetHeadstageNumberOfAnalogChannels (`

```
uint32_t Headstage )
```

Gets the number of analog channels for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The number of analog channels the headstage has.

11.108.3.21 GetHeadstageNumberOfStimulationChannels() `uint32_t GetHeadstageNumberOfStimulation↩ Channels (`

```
uint32_t Headstage )
```

Gets the number of stimulation channels for a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The number of stimulation channels the headstage has.

11.108.3.22 GetHeadstagePowerStateAtStart() `bool GetHeadstagePowerStateAtStart (`

```
uint32_t Headstage )
```

Gets the Power Status at SCU Power on of a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The Power State at startup for the given headstage: bool false -> off, bool true -> on.

11.108.3.23 GetHeadstageSamplerate() `uint32_t GetHeadstageSamplerate ( uint32_t Headstage )`

Gets the Samplerate of a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The samplerate in Hz for the given headstage.

11.108.3.24 GetHeadstageSerialNumber() `String ^ GetHeadstageSerialNumber ( uint32_t Headstage )`

Gets the serial number of a given headstage.

Parameters

Headstage	The headstage to query.

Returns

The serial number of the headstage.

11.108.3.25 GetMaxNumberOfHeadstages() `uint32_t GetMaxNumberOfHeadstages ( )`

Gets the maximal number of headstages.

Returns

The maximal number of headstages.

11.108.3.26 GetMaxStimulusChannelsPerHeadstage() `uint32_t GetMaxStimulusChannelsPerHeadstage ( )`

Gets the maximal number of stimulation channels a headstage can have.

Returns

The maximal number of stimulation channels a headstage can have.

11.108.3.27 GetReferenceElectrodeMode() `ReferenceElectrodeModeEnumNet GetReferenceElectrodeMode ( uint32_t Headstage )`

Gets the mode for the reference electrode

Parameters

Headstage	The headstage number

Returns

The mode

11.108.3.28 GetReferenceElectrodeSwitchState() `ReferenceElectrodeSwitchPositionEnumNet GetReferenceElectrodeSwitchState ( uint32_t Headstage )`

Gets the position of the switch for the reference electrode

Parameters

Headstage	The headstage number

Returns

The switch position

11.108.3.29 HasAnalogOut() `bool HasAnalogOut ( )`

Has AnalogOut hardware

Returns

Enabled

11.108.3.30 HasGalvanicIsolation() bool HasGalvanicIsolation ( )

Has galvanic isolated hardware

Returns

Enabled

11.108.3.31 HasHSPowerSwitch() bool HasHSPowerSwitch ( )

Has SCU HS power switch

Returns

Has Switch

11.108.3.32 IsAnalogOutEnabled() bool IsAnalogOutEnabled ( )

Is AnalogOut enabled

Returns

Enabled

11.108.3.33 IsAutomaticAnalogOut() bool IsAutomaticAnalogOut ( )

Is Automatic source channel selection selected

Returns

Automatic

11.108.3.34 IsHeadstageAvailable() bool IsHeadstageAvailable (uint32_t *Headstage*)

Checks whether the given headstage is available.

Parameters

Headstage	The headstage to query.

Returns

'true' if the headstage is connected.

11.108.3.35 IsHSPowered() `bool IsHSPowered (`

`uint32_t` *Headstage*)

Is the HS powered

Parameters

Headstage	The headstage to query.

Returns

'true' if the headstage is powered.

11.108.3.36 IsInDacqLegacyMode() `bool IsInDacqLegacyMode ( )`

Is the SCU in legacy mode

Returns

Is Enabled

11.108.3.37 OnGetAvailableHeadstages() `delegate void OnGetAvailableHeadstages (`

`uint32_t` *AvailableHeadstages*)

11.108.3.38 OnIsHeadstageAvailable() `delegate void OnIsHeadstageAvailable (`

`uint32_t` *Headstage*,
`bool` *available*)

11.108.3.39 PowerHS() `void PowerHS (`

`uint32_t` *Headstage*,
`bool` *power*)

Power the HS

Parameters

Headstage	The headstage to query.
power	'true' if the headstage is powered.

11.108.3.40 SetAnalogOutADCRange() `void SetAnalogOutADCRange (`

```
uint32_t range )
```

Sets the analog out ADC range

Parameters

range	Range

11.108.3.41 SetAnalogOutChannels() `void SetAnalogOutChannels (`

```
uint32_t out_channel,
uint32_t source_channel )
```

Set the source channel number for a certain output channel

Parameters

out_channel	Output channel number
source_channel	Source channel number

11.108.3.42 SetAnalogOutDACRange() `void SetAnalogOutDACRange (`

```
AnalogOut_DAC_Range_EnumNet range )
```

Sets the analog out DAC range

Parameters

range	Range

11.108.3.43 SetDacqLegacyMode() `void SetDacqLegacyMode (`

```
bool enable )
```

Enable the SCU legacy mode

Parameters

enable	Enable

11.108.3.44 SetHeadstageFrameCyclesToComparePermanent()

```
void SetHeadstageFrameCyclesToComparePermanent (
            uint32_t Headstage,
            uint32_t FrameCycles )
```

Sets the frame cycles to compare permanent on a given headstage.

Parameters

Headstage	The headstage number
FrameCycles	The samplerate in Hz for the given headstage.

11.108.3.45 SetHeadstageLinkSpeedPermanent()

```
void SetHeadstageLinkSpeedPermanent (
            uint32_t Headstage,
            uint32_t LinkSpeed )
```

Sets the Link speed permanent on a given headstage.

Parameters

Headstage	The headstage number
LinkSpeed	The samplerate in Hz for the given headstage.

11.108.3.46 SetHeadstageNumberOfAnalogChannelsPermanent()

```
void SetHeadstageNumberOfAnalogChannelsPermanent (
            uint32_t Headstage,
            uint32_t NumberOfchannels )
```

Sets the number of analog channels permanent for a given headstage.

Parameters

Headstage	The headstage number
NumberOfchannels	The number of analog channels the headstage has to transmit

11.108.3.47 SetHeadstagePowerStateAtStart()

```
void SetHeadstagePowerStateAtStart (
```

```
uint32_t Headstage,
bool Powerstatus )
```

Sets the Power Status at SCU Power on of a given headstage.

Parameters

Headstage	The headstage number
Powerstatus	The Power State at startup for the given headstage: bool false -> off, bool true -> on.

11.108.3.48 SetHeadstageSampleratePermanent() void SetHeadstageSampleratePermanent (

```
uint32_t Headstage,
uint32_t Samplerate )
```

Sets the samplerate permanent on a given headstage.

Parameters

Headstage	The headstage number
Samplerate	The samplerate in Hz for the given headstage.

11.108.3.49 SetReferenceElectrodeMode() void SetReferenceElectrodeMode (

```
uint32_t Headstage,
ReferenceElectrodeModeEnumNet NewValue )
```

Sets the mode for the reference electrode

Parameters

Headstage	The headstage number
NewValue	The mode

11.108.3.50 SetReferenceElectrodeSwitchState() void SetReferenceElectrodeSwitchState (

```
uint32_t Headstage,
ReferenceElectrodeSwitchPositionEnumNet NewSwitchPos )
```

Sets the position of the switch for the reference electrode

Parameters

Headstage	The headstage number
NewSwitchPos	The switch position

11.108.4 Event Documentation

11.108.4.1 GetAvailableHeadstagesEvent `OnGetAvailableHeadstages^ GetAvailableHeadstagesEvent [add], [remove], [raise]`

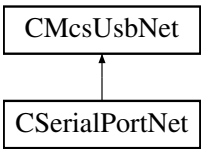
Event fires when the bitmap of available headstages has changed

11.108.4.2 IsHeadstageAvailableEvent `OnIsHeadstageAvailable^ IsHeadstageAvailableEvent [add], [remove], [raise]`

Event fires when 'true' if the headstage is connected for the headstage to query has changed

11.109 CSerialPortNet Class Reference

Inheritance diagram for CSerialPortNet:



Public Member Functions

- CSerialPortNet (void)
- void Send (array< byte >^ buffer)
- void Send (String^ command)
- array< byte > ^ Receive (void)
- array< byte > ^ Receive (int length)
- String ^ ReceiveString (void)
- String ^ ReceiveString (int length)
- int GetBytesAvailable (void)

Additional Inherited Members

11.109.1 Constructor & Destructor Documentation

11.109.1.1 CSerialPortNet() `CSerialPortNet ( void )`

11.109.2 Member Function Documentation

11.109.2.1 GetBytesAvailable() int GetBytesAvailable (void)

11.109.2.2 Receive() [1/2] array<byte> ^ Receive (int *length*)

11.109.2.3 Receive() [2/2] array<byte> ^ Receive (void)

11.109.2.4 ReceiveString() [1/2] String ^ ReceiveString (int *length*)

11.109.2.5 ReceiveString() [2/2] String ^ ReceiveString (void)

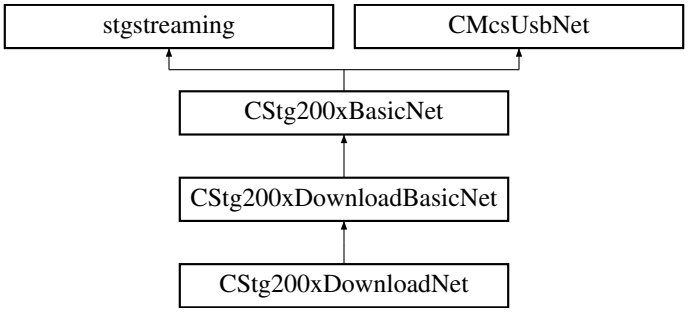
11.109.2.6 Send() [1/2] void Send (array< byte >^ *buffer*)

11.109.2.7 Send() [2/2] void Send (String^ *command*)

11.110 CStg200xBasicNet Class Reference

Base class for the Stg200x.

Inheritance diagram for CStg200xBasicNet:



Public Member Functions

- virtual ~CStg200xBasicNet ()

  The destructor.
- void SetOutputRate (uint32_t rate)

  Change the output rate of the STG. Valid rates are from 1000 Hz to 50000 Hz.
- uint32_t GetOutputRate ()

  Queries the output rate of the STG. Valid rates are from 1000 Hz to 50000 Hz.
- void SendStart (uint32_t triggermap)

  Start (Trigger) the STG. The startup delay is in the range of a few ms.
- void SendStop (uint32_t triggermap)

  Stop some or all triggers of the STG.
- void SendStop (uint32_t triggermap, int options)

  Stop some or all triggers of the STG.
- void GetStgVersionInfo ([Out]String^% SwVersion, [Out]String^% HwVersion)

  Queries software and hardware version.
- void GetAnalogRanges (int channel, [Out]int% URange, [Out]int% IRange)

  Gets the range of the analog outputs.
- void GetAnalogResolution (int channel, [Out]int% URes, [Out]int% IRes)

  Gets the resolution of the analog outputs.
- virtual int32_t GetDACResolution ()

  Gets number of bits of the DAC resolution.
- virtual int32_t GetTimeResolutionInNanoSeconds ()

  Gets the time resolution of the STG.
- virtual int32_t GetVoltageRangeInMicroVolt (uint32_t channel)

  Gets the Voltage Range of the specified channel in Microvolts.
- virtual int32_t GetVoltageResolutionInMicroVolt (uint32_t channel)

  Gets the Voltage Resolution of the specified channel in Microvolts.
- virtual int32_t GetCurrentRangeInNanoAmp (uint32_t channel)

  Gets the Current Range of the specified channel in Nanoamps.
- virtual int32_t GetCurrentResolutionInNanoAmp (uint32_t channel)

  Gets the Current Resolution of the specified channel in Nanoamps.
- void GetStgProgramInfo ([Out]bool% IsProgrammed, [Out]System::Runtime::InteropServices::ComTypes::↩ FILETIME% timestamp, [Out]String^% filename, [Out]Guid% guid)

  Queries Download information from the STG. If download information was stored by the use of SetStgProgramInfo, this function can be used to retrieve it.
- void GetStgProgramInfo ([Out]bool% IsProgrammed, [Out]DateTime% timestamp, [Out]String^% filename, [Out]Guid% guid)

  Queries Download information from the STG. If download information was stored by the use of SetStgProgramInfo, this function can be used to retrieve it.
- void SetStgProgramInfo (DateTime timestamp, String^ filename, Guid guid)

  Store Download information in the STG. This function can be used to store the filename and timestamp of the last download for later query.
- uint32_t GetAvailableMemory ()

  Gets the amount of memory available in the currently selected segment of the STG.
- uint32_t GetTotalMemory ()

  Gets the total amount of memory available on the STG (all segments).
- virtual uint32_t GetNumberOfAnalogChannels ()

  Gets the Number of available analog channels of the device.
- virtual uint32_t GetNumberOfSyncoutChannels ()

  Gets the Number of available syncout channels of the device.
- virtual uint32_t GetNumberOfTriggerInputs ()

Gets the Number of trigger inputs of the device.

- virtual uint32_t GetNumberOfHWDACPaths ()

  Gets the Number of HW Stimulation DACs of the device.
- virtual uint32_t GetNumberOfStimulationSourcesPerElectrode ()

  Gets the number of stimulation sources (DACs) per electrode.
- virtual void SetVoltageMode (unsigned int channel)

  Sets a channel to voltage mode (STG3008-FA and STG400x only).
- virtual void SetCurrentMode (unsigned int channel)

  Sets a channel to current mode (STG3008-FA and STG400x only).
- virtual void SetVoltageMode ()

  Sets all channels to voltage mode (STG3008-FA and STG400x only).
- virtual void SetCurrentMode ()

  Sets all channels to current mode (STG3008-FA and STG400x only).
- virtual System::Collections::Generic::List< int32_t > ^ GetVoltageRangeListInMicroVolt (uint32_t channel)

  Gets a list of current ranges supported by the device (STG5 only).
- virtual uint32_t GetNumberOfVoltageRangeIndexes ()

  Gets the number of voltage ranges (STG5 only).
- virtual uint32_t GetVoltageRangeInMicroVoltByIndex (uint32_t channel, uint32_t index)

  Gets the voltage range for the given channel and index (STG5 only).
- virtual uint32_t GetVoltageResolutionInMicroVoltByIndex (uint32_t channel, uint32_t index)

  Gets the voltage resolution for the given channel and index (STG5 only).
- virtual uint32_t GetVoltageRangeSelectedIndex (uint32_t channel)

  Gets the currently selected range index for the voltage output (not used yet).
- virtual void SetVoltageRangeSelectedIndex (uint32_t channel, uint32_t rangeIndex)

  Sets the range index for the voltage output (not used yet).
- virtual System::Collections::Generic::List< int32_t > ^ GetCurrentRangeListInNanoAmp (uint32_t channel)

  Gets a list of current ranges supported by the device (STG5 only).
- virtual uint32_t GetNumberOfCurrentRangeIndexes ()

  Gets the number of current ranges (STG5 only).
- virtual uint32_t GetCurrentRangeInNanoAmpByIndex (uint32_t channel, uint32_t index)

  Gets the current range for the given channel and index (STG5 only).
- virtual uint32_t GetCurrentResolutionInNanoAmpByIndex (uint32_t channel, uint32_t index)

  Gets the current resolution for the given channel and index (STG5 only).
- virtual uint32_t GetCurrentRangeSelectedIndex (uint32_t channel)

  Gets the currently selected range index for the current output (STG5 only).
- virtual void SetCurrentRangeSelectedIndex (uint32_t channel, uint32_t rangeIndex)

  Sets the range index for the current output (STG5 only).
- virtual void SetMeasurementMode (unsigned int channel)

  Sets a channel to measurement mode (STG3008-FA).
- virtual void SetFAAmplification (unsigned int amplification)
- virtual uint32_t GetFAAmplification ()
- virtual void SetAutocalibrationDisabled (unsigned int channel, bool disable)

  Sets the autocalibration configuration.
- virtual bool GetAutocalibrationDisabled (unsigned int channel)

  Gets the autocalibration configuration.
- virtual void SetElectrodeMode (uint32_t electrode, array< ElectrodeModeEnumNet >^ mode)

  Puts an electrode in either automatic or manual mode.
- virtual void SetElectrodeMode (uint32_t electrode, ElectrodeModeEnumNet mode)

  Puts an electrode in either automatic or manual mode.
- virtual void SetElectrodeMode (uint32_t Scu_HS, uint32_t electrode, array< ElectrodeModeEnumNet >^ mode)

Puts an electrode in either automatic or manual mode.

- virtual void SetElectrodeMode (uint32_t Scu_HS, uint32_t electrode, ElectrodeModeEnumNet mode)

  Puts an electrode in either automatic or manual mode.
- virtual uint32_t GetElectrodeMode (uint32_t electrode)

  Gets the mode an electrode is in.
- virtual uint32_t GetElectrodeMode (uint32_t Scu_HS, uint32_t electrode)

  Gets the mode an electrode is in.
- virtual void SetElectrodeDacMux (uint32_t electrode, uint32_t listmodeIndex, array< ElectrodeDacMuxEnumNet >^ dacMux)

  Defines the DAC to use for an electrode.
- virtual void SetElectrodeDacMux (uint32_t electrode, uint32_t listmodeIndex, ElectrodeDacMuxEnumNet dacMux)

  Defines the DAC to use for an electrode.
- virtual void SetElectrodeDacMux (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex, ElectrodeDacMuxEnumNet dacMux)

  Defines the DAC to use for an electrode.
- virtual void SetElectrodeDacMux (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex, array< ElectrodeDacMuxEnumNet >^ dacMux)

  Defines the DAC to use for an electrode.
- virtual ElectrodeDacMuxEnumNet GetElectrodeDacMux (uint32_t electrode, uint32_t listmodeIndex)

  Gets the DAC which is used for an electrode.
- virtual ElectrodeDacMuxEnumNet GetElectrodeDacMux (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex)

  Gets the DAC which is used for an electrode.
- virtual void SetElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex, array< bool >^ enable)

  Enables or disables the stimulation switch for an electrode.
- virtual void SetElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex, bool enable)

  Enables or disables the stimulation switch for an electrode.
- virtual void SetElectrodeEnable (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex, bool enable)

  Enables or disables the stimulation switch for an electrode.
- virtual void SetElectrodeEnable (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex, array< bool >^ enable)

  Enables or disables the stimulation switch for an electrode.
- virtual bool GetElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex)

  Gets weather an electrode is enabled or disabled for stimulation.
- virtual bool GetElectrodeEnable (uint32_t Scu_HS, uint32_t electrode, uint32_t listmodeIndex)

  Gets weather an electrode is enabled or disabled for stimulation.
- virtual void SetExternalElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex, array< bool >^ enable)

  Enables or disables the stimulation switch for an external electrode.
- virtual void SetExternalElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex, bool enable)

  Enables or disables the stimulation switch for an external electrode.
- virtual bool GetExternalElectrodeEnable (uint32_t electrode, uint32_t listmodeIndex)

  Gets weather an electrode is enabled or disabled for stimulation.
- virtual void SetBlankingEnable (uint32_t electrode, bool enable)

  Defines whether an electrode should be blanked while stimulation is in progress.
- virtual void SetBlankingEnable (uint32_t electrode, array< bool >^ enable)

  Defines whether an electrode should be blanked while stimulation is in progress.
- virtual void SetBlankingEnable (uint32_t Scu_HS, uint32_t electrode, bool enable)

  Defines whether an electrode should be blanked while stimulation is in progress.
- virtual void SetBlankingEnable (uint32_t Scu_HS, uint32_t electrode, array< bool >^ enable)

  Defines whether an electrode should be blanked while stimulation is in progress.

- virtual bool GetBlankingEnable (uint32_t electrode)

  Gets whether an electrode should be blanked while stimulation is in progress.
- virtual bool GetBlankingEnable (uint32_t Scu_HS, uint32_t electrode)

  Gets whether an electrode should be blanked while stimulation is in progress.
- virtual void SetEnableAmplifierProtectionSwitch (uint32_t electrode, bool enable)

  Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual void SetEnableAmplifierProtectionSwitch (uint32_t electrode, array< bool >^ enable)

  Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual void SetEnableAmplifierProtectionSwitch (uint32_t Scu_HS, uint32_t electrode, bool enable)

  Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual void SetEnableAmplifierProtectionSwitch (uint32_t Scu_HS, uint32_t electrode, array< bool >^ enable)

  Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual bool GetEnableAmplifierProtectionSwitch (uint32_t electrode)

  Gets whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual bool GetEnableAmplifierProtectionSwitch (uint32_t Scu_HS, uint32_t electrode)

  Gets whether the Amplifier Protection Switch is openend while stimulation is in progress.
- virtual uint32_t GetNumberOfStimulationElectrodes ()
- template<typename digitalsourceenum >
  virtual void SetTriggerSource (unsigned int triggernum, DigitalSource< digitalsourceenum >^ triggersource, int bitnum_offset)
- virtual void SetTriggerSource (unsigned int triggernum, TriggerSourceEnumNet triggersource, int bitnum_↩ offset)
- virtual void SetTriggerSource (unsigned int triggernum, TriggerSourceEnumNet triggersource)
- virtual TriggerSourceEnumNet GetTriggerSource (unsigned int triggernum)
- virtual void SetListmodeIndexRange (unsigned int electrodeGroup, unsigned int startIndex, unsigned int endIndex, unsigned int mode)

  Define the range of list mode indexes to use for the given electrode group.
- virtual void GetListmodeIndexRange (unsigned int electrodeGroup, unsigned int &startIndex, unsigned int &endIndex, unsigned int &mode)

  Query the range of list mode indexes to use for the given electrode group.
- virtual void SetListmodeTriggerSource (unsigned int electrodeGroup, TriggerSourceEnumNet triggersource)

  Define the signal which triggers the transition from one list mode entry to the next. After reaching the last entry in the list, the first entry is selected. For triggersource use the Enum which corresponds to the device in use, for example use SCUDigitalSourceEnumNet and cast to TriggerSourceEnumNet if working with an SCU device.
- virtual void SetListmodeTriggerSource (unsigned int electrodeGroup, TriggerSourceEnumNet triggersource, int bitnumOffset)

  Define the signal which triggers the transition from one list mode entry to the next. After reaching the last entry in the list, the first entry is selected. For triggersource use the Enum which corresponds to the device in use, for example use SCUDigitalSourceEnumNet and cast to TriggerSourceEnumNet if working with an SCU device.
- virtual TriggerSourceEnumNet GetListmodeTriggerSource (unsigned int electrodeGroup)

  Query the currently active signal which triggers the transition from one list mode entry to the next. For triggersource use the Enum which corresponds to the device in use, for example use SCUDigitalSourceEnumNet and cast to TriggerSourceEnumNet if working with an SCU device.
- virtual void ListModeSendStart (unsigned int electrodeGroupMask)

  Activate (arm) the Listmode for the selected electrode groups.
- virtual void ListModeSendStop (unsigned int electrodeGroupMask)

  Deactivate the Listmode for the selected electrode groups.
- virtual void SetHeadstage (unsigned int headstage)
- virtual uint32_t GetHeadstage ()
- virtual void SetDacAmplificationFactor (uint32_t DacNumber, double Factor)

  Set the amplification factor for a DAC.
- virtual double GetDacAmplificationFactor (uint32_t DacNumber)

Get the amplification factor for a DAC.

- virtual void SetDigoutMode (Stg200xDigoutModeEnumNet digoutMode)

  Sets the operation mode of the digital outport port, can be Monitor, Manual or SyncOut
- virtual Stg200xDigoutModeEnumNet GetDigoutMode ()

  Gets the operation mode of the digital outport port, can be Monitor, Manual or SyncOut
- virtual void SetDigoutValue (uint32_t digoutValue)

  Sets the Value on the digital output port when in manual mode.
- virtual uint32_t GetDigoutValue ()

  Gets the Value on the digital output port.
- virtual uint32_t GetDiginValue ()

  Gets the Value on the digital input port.
- virtual void SetSyncoutMap (uint32_t channel, uint32_t syncoutMap)

  Sets the mapping between external syncout outputs and internal syncout channels.
- virtual uint32_t GetSyncoutMap (uint32_t channel)

  Gets the mapping between external syncout outputs and internal syncout channels.

Additional Inherited Members

11.110.1 Detailed Description

Base class for the Stg200x.

From this class all STG related classes are derived: Mcs.Usb.CStg200xDownloadBasicNet Mcs.Usb.CStg200xDownloadNet for Download Mode and Mcs.Usb.CStg200xStreamingNet for Streaming Mode.

CStg200xBasicNet is the base class to control MCS STG device.

11.110.2 Constructor & Destructor Documentation

11.110.2.1 ~CStg200xBasicNet() `virtual ~CStg200xBasicNet ( ) [virtual]`

The destructor.

11.110.3 Member Function Documentation

11.110.3.1 GetAnalogRanges() `void GetAnalogRanges (`

```
int channel,
[Out] int% URange,
[Out] int% IRange )
```

Gets the range of the analog outputs.

Parameters

channel	The channel which is queried.
URange	The Voltage range in mV.
IRange	The Current range in uA.

11.110.3.2 GetAnalogResolution() `void GetAnalogResolution (`

```
int channel,
[Out] int% URes,
[Out] int% IRes )
```

Gets the resolution of the analog outputs.

Parameters

channel	The channel which is queried.
URes	The Voltage resolution in mV.
IRes	The Current resolution in uA.

11.110.3.3 GetAutocalibrationDisabled() `virtual bool GetAutocalibrationDisabled (`

```
unsigned int channel ) [virtual]
```

Gets the autocalibration configuration.

Parameters

channel	The channel number.

Returns

`true` if autocalibration is disabled.

11.110.3.4 GetAvailableMemory() `uint32_t GetAvailableMemory ( )`

Gets the amount of memory available in the currently selected segment of the STG.

Returns

The memory available in the currently selected segment in bytes.

11.110.3.5 GetBlankingEnable() [1/2] `virtual bool GetBlankingEnable (`

```
uint32_t electrode ) [virtual]
```

Gets whether an electrode should be blanked while stimulation is in progress.

Parameters

electrode	The electrode number.

Returns

true if blanking is enabled while stimulation is in progress.

11.110.3.6 GetBlankingEnable() [2/2] virtual bool GetBlankingEnable (uint32_t *Scu_HS*, uint32_t *electrode*) [virtual]

Gets whether an electrode should be blanked while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Returns

true if blanking is enabled while stimulation is in progress.

11.110.3.7 GetCurrentRangeInNanoAmp() virtual int32_t GetCurrentRangeInNanoAmp (uint32_t *channel*) [virtual]

Gets the Current Range of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Range of the specified channel in Nanoamps.

11.110.3.8 GetCurrentRangeInNanoAmpByIndex()

```
virtual uint32_t GetCurrentRangeInNanoAmpBy↩
Index (
            uint32_t channel,
            uint32_t index ) [virtual]
```

Gets the current range for the given channel and index (STG5 only).

Parameters

channel	The channel.
index	The channel.

Returns

The current range in uA.

11.110.3.9 GetCurrentRangeListInNanoAmp()

```
virtual System::Collections::Generic::List<int32_↩
t> ^ GetCurrentRangeListInNanoAmp (
            uint32_t channel ) [virtual]
```

Gets a list of current ranges supported by the device (STG5 only).

11.110.3.10 GetCurrentRangeSelectedIndex()

```
virtual uint32_t GetCurrentRangeSelectedIndex (
            uint32_t channel ) [virtual]
```

Gets the currently selected range index for the current output (STG5 only).

Parameters

channel	The channel to change.

Returns

The currently selected range index.

11.110.3.11 GetCurrentResolutionInNanoAmp()

```
virtual int32_t GetCurrentResolutionInNanoAmp (
            uint32_t channel ) [virtual]
```

Gets the Current Resolution of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Resolution of the specified channel in Nanoamps.

11.110.3.12 GetCurrentResolutionInNanoAmpByIndex()

```
virtual uint32_t GetCurrentResolutionInNanoAmpByIndex (
            uint32_t channel,
            uint32_t index )  [virtual]
```

Gets the current resolution for the given channel and index (STG5 only).

Parameters

channel	The channel.
index	The channel.

Returns

The current resolution in nA.

11.110.3.13 GetDacAmplificationFactor()

```
virtual double GetDacAmplificationFactor (
            uint32_t DacNumber )  [virtual]
```

Get the amplification factor for a DAC.

Parameters

DacNumber	The number of the DAC.

Returns

the amplifcation factor for the DAC queried, range is from -1.99999 to +1.99999.

11.110.3.14 GetDACResolution()

```
virtual int32_t GetDACResolution ( )  [virtual]
```

Gets number of bits of the DAC resolution.

Returns

The DAC resolution in bits.

11.110.3.15 GetDiginValue() virtual uint32_t GetDiginValue ( ) [virtual]

Gets the Value on the digital input port.

Returns

The current value on the digital inputs.

11.110.3.16 GetDigoutMode() virtual Stg200xDigoutModeEnumNet GetDigoutMode ( ) [virtual]

Gets the operation mode of the digital outport port, can be Monitor, Manual or SyncOut

Returns

The current operation mode.

11.110.3.17 GetDigoutValue() virtual uint32_t GetDigoutValue ( ) [virtual]

Gets the Value on the digital output port.

Returns

The current value on the digital outputs.

11.110.3.18 GetElectrodeDacMux() [1/2] virtual ElectrodeDacMuxEnumNet GetElectrodeDacMux (uint32_t *electrode*, uint32_t *listmodeIndex*) [virtual]

Gets the DAC which is used for an electrode.

Parameters

electrode	The electrode number.
listmodeIndex	The index for listmode.

Returns

The DAC in use, can be 1, 2 or 3. If the electrode is grounded 0 is returned.

11.110.3.19 GetElectrodeDacMux() [2/2]

```
virtual ElectrodeDacMuxEnumNet GetElectrodeDacMux (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex ) [virtual]
```

Gets the DAC which is used for an electrode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
listmodeIndex	The index for listmode.

Returns

The DAC in use, can be 1, 2 or 3. If the electrode is grounded 0 is returned.

11.110.3.20 GetElectrodeEnable() [1/2]

```
virtual bool GetElectrodeEnable (
    uint32_t electrode,
    uint32_t listmodeIndex ) [virtual]
```

Gets weather an electrode is enabled or disabled for stimulation.

Parameters

electrode	The electrode number.
listmodeIndex	The index for listmode.

Returns

true if the electrode is enabled, false if it is disabled.

11.110.3.21 GetElectrodeEnable() [2/2]

```
virtual bool GetElectrodeEnable (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex ) [virtual]
```

Gets weather an electrode is enabled or disabled for stimulation.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
listmodeIndex	The index for listmode.

Returns

true if the electrode is enabled, false if it is disabled.

11.110.3.22 GetElectrodeMode() [1/2] virtual uint32_t GetElectrodeMode (uint32_t *electrode*) [virtual]

Gets the mode an electrode is in.

Parameters

electrode	The electrode number.

Returns

0 for automatic and 3 for manual mode.

11.110.3.23 GetElectrodeMode() [2/2] virtual uint32_t GetElectrodeMode (uint32_t *Scu_HS*, uint32_t *electrode*) [virtual]

Gets the mode an electrode is in.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Returns

0 for automatic and 3 for manual mode.

11.110.3.24 GetEnableAmplifierProtectionSwitch() [1/2]

```
virtual bool GetEnableAmplifierProtectionSwitch (
            uint32_t electrode ) [virtual]
```

Gets whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

electrode	The electrode number.

Returns

true if the switch is to be opened, false if it is closed while stimulation is in progress.

11.110.3.25 GetEnableAmplifierProtectionSwitch() [2/2]

```
virtual bool GetEnableAmplifierProtectionSwitch (
            uint32_t Scu_HS,
            uint32_t electrode ) [virtual]
```

Gets whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Returns

true if the switch is to be opened, false if it is closed while stimulation is in progress.

11.110.3.26 GetExternalElectrodeEnable()

```
virtual bool GetExternalElectrodeEnable (
    uint32_t electrode,
    uint32_t listmodeIndex ) [virtual]
```

Gets weather an electrode is enabled or disabled for stimulation.

Parameters

electrode	The electrode number.
listmodeIndex	The index for listmode.

Returns

true if the electrode is enabled, false if it is disabled.

11.110.3.27 GetFAAmplification()

```
virtual uint32_t GetFAAmplification ( ) [virtual]
```

11.110.3.28 GetHeadstage()

```
virtual uint32_t GetHeadstage ( ) [virtual]
```

11.110.3.29 GetListmodeIndexRange()

```
virtual void GetListmodeIndexRange (
    unsigned int electrodeGroup,
    unsigned int & startIndex,
    unsigned int & endIndex,
    unsigned int & mode ) [virtual]
```

Query the range of list mode indexes to use for the given electrode group.

Parameters

electrodeGroup	The electrodegroup for which the range is queried.

Parameters

startIndex	The index of the first active element in the listmode list.
endIndex	The index of the last active element in the listmode list.

Parameters

mode	0 for "start with startIndex", 1 for "start with endIndex".

11.110.3.30 GetListmodeTriggerSource() `virtual TriggerSourceEnumNet GetListmodeTriggerSource ( unsigned int electrodeGroup ) [virtual]`

Query the currently active signal which triggers the transition from one list mode entry to the next. For triggersource use the Enum which corresponds to the device in use, for example use SCUDigitalSourceEnumNet and cast to TriggerSourceEnumNet if working with an SCU device.

Parameters

electrodeGroup	The electrodegroup for which the triggersource is queried.

Returns

One of the possible sources for the transition.

11.110.3.31 GetNumberOfAnalogChannels() `virtual uint32_t GetNumberOfAnalogChannels ( ) [virtual]`

Gets the Number of available analog channels of the device.

Returns

The number of analog channels.

11.110.3.32 GetNumberOfCurrentRangeIndexes() `virtual uint32_t GetNumberOfCurrentRangeIndexes ( ) [virtual]`

Gets the number of current ranges (STG5 only).

Returns

The number of current ranges available on the device.

11.110.3.33 GetNumberOfHWDACPaths() virtual uint32_t GetNumberOfHWDACPaths ( ) [virtual]

Gets the Number of HW Stimulation DACs of the device.

Returns

The number of independent HW Stimulation outputs.

11.110.3.34 GetNumberOfStimulationElectrodes() virtual uint32_t GetNumberOfStimulationElectrodes ( ) [virtual]

11.110.3.35 GetNumberOfStimulationSourcesPerElectrode() virtual uint32_t GetNumberOfStimulation↩ SourcesPerElectrode ( ) [virtual]

Gets the number of stimulation sources (DACs) per electrode.

Returns

The number of stimulation sources (DACs) per electrode.

11.110.3.36 GetNumberOfSyncoutChannels() virtual uint32_t GetNumberOfSyncoutChannels ( ) [virtual]

Gets the Number of available syncout channels of the device.

Returns

The number of analog channels.

11.110.3.37 GetNumberOfTriggerInputs() virtual uint32_t GetNumberOfTriggerInputs ( ) [virtual]

Gets the Number of trigger inputs of the device.

Returns

The number of trigger inputs.

11.110.3.38 GetNumberOfVoltageRangeIndexes() `virtual uint32_t GetNumberOfVoltageRangeIndexes ( ) [virtual]`

Gets the number of voltage ranges (STG5 only).

Returns

The number of voltage ranges available on the device.

11.110.3.39 GetOutputRate() `uint32_t GetOutputRate ( )`

Queries the output rate of the STG. Valid rates are from 1000 Hz to 50000 Hz.

Returns

Returns the current output rate in Hz.

11.110.3.40 GetStgProgramInfo() [1/2]

```
void GetStgProgramInfo (
    [Out] bool% IsProgrammed,
    [Out] DateTime% timestamp,
    [Out] String^% filename,
    [Out] Guid% guid )
```

Queries Download information from the STG. If download information was stored by the use of SetStgProgramInfo, this function can be used to retrieve it.

Parameters

IsProgrammed	Flag wether download information is valid.
timestamp	The timestamp of last download.
filename	The filename of the downlaoded waveform.
guid	A GUID.

11.110.3.41 GetStgProgramInfo() [2/2]

```
void GetStgProgramInfo (
    [Out] bool% IsProgrammed,
    [Out] System::Runtime::InteropServices::ComTypes::FILETIME% timestamp,
    [Out] String^% filename,
    [Out] Guid% guid )
```

Queries Download information from the STG. If download information was stored by the use of SetStgProgramInfo, this function can be used to retrieve it.

Parameters

IsProgrammed	Flag wether download information is valid.
timestamp	The timestamp of last download.
filename	The filename of the downlaoded waveform.

11.110.3.42 GetStgVersionInfo() `void GetStgVersionInfo (`

```
[Out] String^% SwVersion,
[Out] String^% HwVersion )
```

Queries software and hardware version.

Parameters

SwVersion	The current Software Version of the STG.
HwVersion	The Hardware Revision of the STG.

11.110.3.43 GetSyncoutMap() `virtual uint32_t GetSyncoutMap (`

```
uint32_t channel )  [virtual]
```

Gets the mapping between external syncout outputs and internal syncout channels.

Parameters

channel	The external syncout output channel number (zero based).

Returns

The bitmap of internal syncout channels mapped to channel.

11.110.3.44 GetTimeResolutionInNanoSeconds() `virtual int32_t GetTimeResolutionInNanoSeconds ( ) [virtual]`

Gets the time resolution of the STG.

Returns

The time resolution in nanoseconds.

11.110.3.45 GetTotalMemory() `uint32_t GetTotalMemory ( )`

Gets the total amount of memory available on the STG (all segments).

Returns

The total memory available on the STG in bytes.

11.110.3.46 GetTriggerSource()

```
virtual TriggerSourceEnumNet GetTriggerSource (
        unsigned int triggernum ) [virtual]
```

11.110.3.47 GetVoltageRangeInMicroVolt()

```
virtual int32_t GetVoltageRangeInMicroVolt (
        uint32_t channel ) [virtual]
```

Gets the Voltage Range of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Range of the specified channel in Microvolts.

11.110.3.48 GetVoltageRangeInMicroVoltByIndex()

```
virtual uint32_t GetVoltageRangeInMicroVoltBy↩
Index (
        uint32_t channel,
        uint32_t index ) [virtual]
```

Gets the voltage range for the given channel and index (STG5 only).

Parameters

channel	The channel.
index	The channel.

Returns

The voltage range.

11.110.3.49 GetVoltageRangeListInMicroVolt()

```
virtual System::Collections::Generic::List<int32_↩
t> ^ GetVoltageRangeListInMicroVolt (
        uint32_t channel ) [virtual]
```

Gets a list of current ranges supported by the device (STG5 only).

11.110.3.50 GetVoltageRangeSelectedIndex()

```
virtual uint32_t GetVoltageRangeSelectedIndex (
        uint32_t channel ) [virtual]
```

Gets the currently selected range index for the voltage output (not used yet).

Parameters

channel	The channel to change.

Returns

The currently selected range index.

11.110.3.51 GetVoltageResolutionInMicroVolt()

```
virtual int32_t GetVoltageResolutionInMicroVolt (
            uint32_t channel ) [virtual]
```

Gets the Voltage Resolution of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Resolution of the specified channel in Microvolts.

11.110.3.52 GetVoltageResolutionInMicroVoltByIndex()

```
virtual uint32_t GetVoltageResolutionIn↩
MicroVoltByIndex (
            uint32_t channel,
            uint32_t index ) [virtual]
```

Gets the voltage resolution for the given channel and index (STG5 only).

Parameters

channel	The channel.
index	The channel.

Returns

The voltage resolution.

11.110.3.53 ListModeSendStart()

```
virtual void ListModeSendStart (
            unsigned int electrodeGroupMask ) [virtual]
```

Activate (arm) the Listmode for the selected electrode groups.

Parameters

electrodeGroupMask	The bitmask of electrode groups for which the listmode is activated.

11.110.3.54 ListModeSendStop() `virtual void ListModeSendStop ( unsigned int electrodeGroupMask ) [virtual]`

Deactivate the Listmode for the selected electrode groups.

Parameters

electrodeGroupMask	The bitmask of electrodegroups for which the listmode is deactivated.

11.110.3.55 SendStart() `void SendStart ( uint32_t triggermap )`

Start (Trigger) the STG. The startup delay is in the range of a few ms.

Parameters

triggermap	A bitmap of triggers which will be started.

11.110.3.56 SendStop() [1/2] `void SendStop ( uint32_t triggermap )`

Stop some or all triggers of the STG.

Parameters

triggermap	A bitmap of triggers which will be stopped.

11.110.3.57 SendStop() [2/2] `void SendStop ( uint32_t triggermap, int options )`

Stop some or all triggers of the STG.

Parameters

triggermap	A bitmap of triggers which will be stopped.
options	bitmap of options, currently only STOP_OPTION_SAVESTOP (0x80) is defined, which bypasses the stop commands when a syncout assossiated with a given sync-out has bit 1 (0x02) set. Can be used e.g. to prevent a stop while a biphasic stimulation pulse is active..

11.110.3.58 SetAutocalibrationDisabled()

```
virtual void SetAutocalibrationDisabled (
    unsigned int channel,
    bool disable ) [virtual]
```

Sets the autocalibration configuration.

Parameters

channel	The channel number.
disable	`true` if autocalibration is to be disabled.

11.110.3.59 SetBlankingEnable() [1/4]

```
virtual void SetBlankingEnable (
    uint32_t electrode,
    array< bool >^ enable ) [virtual]
```

Defines whether an electrode should be blanked while stimulation is in progress.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.60 SetBlankingEnable() [2/4]

```
virtual void SetBlankingEnable (
    uint32_t electrode,
    bool enable ) [virtual]
```

Defines whether an electrode should be blanked while stimulation is in progress.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.61 SetBlankingEnable() [3/4] virtual void SetBlankingEnable (

```
uint32_t Scu_HS,
uint32_t electrode,
array< bool >^ enable )  [virtual]
```

Defines whether an electrode should be blanked while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.62 SetBlankingEnable() [4/4] virtual void SetBlankingEnable (

```
uint32_t Scu_HS,
uint32_t electrode,
bool enable )  [virtual]
```

Defines whether an electrode should be blanked while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.63 SetCurrentMode() [1/2] virtual void SetCurrentMode ( ) [virtual]

Sets all channels to current mode (STG3008-FA and STG400x only).

11.110.3.64 SetCurrentMode() [2/2] virtual void SetCurrentMode (

```
unsigned int channel )  [virtual]
```

Sets a channel to current mode (STG3008-FA and STG400x only).

Parameters

channel	The channel to change.

11.110.3.65 SetCurrentRangeSelectedIndex() `virtual void SetCurrentRangeSelectedIndex (`

```
uint32_t channel,
uint32_t rangeIndex )  [virtual]
```

Sets the range index for the current output (STG5 only).

Parameters

channel	The channel to change.
rangeIndex	The new range index.

11.110.3.66 SetDacAmplificationFactor() `virtual void SetDacAmplificationFactor (`

```
uint32_t DacNumber,
double Factor )  [virtual]
```

Set the amplification factor for a DAC.

Parameters

DacNumber	The number of the DAC.
Factor	the amplifcation factor for that DAC, range is from -1.99999 to +1.99999.

11.110.3.67 SetDigoutMode() `virtual void SetDigoutMode (`

```
Stg200xDigoutModeEnumNet digoutMode )  [virtual]
```

Sets the operation mode of the digital outport port, can be Monitor, Manual or SyncOut

Parameters

digoutMode	The new operation mode.

11.110.3.68 SetDigoutValue() `virtual void SetDigoutValue (`

```
uint32_t digoutValue )  [virtual]
```

Sets the Value on the digital output port when in manual mode.

Parameters

digoutValue	The new value on the digital outputs.

11.110.3.69 SetElectrodeDacMux() [1/4]

```
virtual void SetElectrodeDacMux (
    uint32_t electrode,
    uint32_t listmodeIndex,
    array< ElectrodeDacMuxEnumNet >^ dacMux ) [virtual]
```

Defines the DAC to use for an electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
dacMux	The DAC to use, can be ElectrodeDacMuxEnumNet.Stg1 (1), ElectrodeDacMuxEnumNet.Stg2 (2) or ElectrodeDacMuxEnumNet.Stg3 (3). To ground an electrode, use ElectrodeDacMuxEnumNet.Ground (0).

11.110.3.70 SetElectrodeDacMux() [2/4]

```
virtual void SetElectrodeDacMux (
    uint32_t electrode,
    uint32_t listmodeIndex,
    ElectrodeDacMuxEnumNet dacMux ) [virtual]
```

Defines the DAC to use for an electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
dacMux	The DAC to use, can be ElectrodeDacMuxEnumNet.Stg1 (1), ElectrodeDacMuxEnumNet.Stg2 (2) or ElectrodeDacMuxEnumNet.Stg3 (3). To ground an electrode, use ElectrodeDacMuxEnumNet.Ground (0).

11.110.3.71 SetElectrodeDacMux() [3/4]

```
virtual void SetElectrodeDacMux (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex,
    array< ElectrodeDacMuxEnumNet >^ dacMux ) [virtual]
```

Defines the DAC to use for an electrode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
dacMux	The DAC to use, can be ElectrodeDacMuxEnumNet.Stg1 (1), ElectrodeDacMuxEnumNet.Stg2 (2) or ElectrodeDacMuxEnumNet.Stg3 (3). To ground an electrode, use ElectrodeDacMuxEnumNet.Ground (0).

11.110.3.72 SetElectrodeDacMux() [4/4]

```
virtual void SetElectrodeDacMux (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex,
    ElectrodeDacMuxEnumNet dacMux ) [virtual]
```

Defines the DAC to use for an electrode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
dacMux	The DAC to use, can be ElectrodeDacMuxEnumNet.Stg1 (1), ElectrodeDacMuxEnumNet.Stg2 (2) or ElectrodeDacMuxEnumNet.Stg3 (3). To ground an electrode, use ElectrodeDacMuxEnumNet.Ground (0).

11.110.3.73 SetElectrodeEnable() [1/4]

```
virtual void SetElectrodeEnable (
    uint32_t electrode,
    uint32_t listmodeIndex,
    array< bool >^ enable )  [virtual]
```

Enables or disables the stimulation switch for an electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.74 SetElectrodeEnable() [2/4]

```
virtual void SetElectrodeEnable (
    uint32_t electrode,
    uint32_t listmodeIndex,
    bool enable )  [virtual]
```

Enables or disables the stimulation switch for an electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.75 SetElectrodeEnable() [3/4]

```
virtual void SetElectrodeEnable (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex,
    array< bool >^ enable )  [virtual]
```

Enables or disables the stimulation switch for an electrode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.76 SetElectrodeEnable() [4/4]

```
virtual void SetElectrodeEnable (
    uint32_t Scu_HS,
    uint32_t electrode,
    uint32_t listmodeIndex,
    bool enable )  [virtual]
```

Enables or disables the stimulation switch for an electrode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.77 SetElectrodeMode() [1/4]

```
virtual void SetElectrodeMode (
    uint32_t electrode,
    array< ElectrodeModeEnumNet >^ mode ) [virtual]
```

Puts an electrode in either automatic or manual mode.

Parameters

electrode	The electrode number.

Returns

0 for automatic and 3 for manual mode.

11.110.3.78 SetElectrodeMode() [2/4]

```
virtual void SetElectrodeMode (
    uint32_t electrode,
    ElectrodeModeEnumNet mode ) [virtual]
```

Puts an electrode in either automatic or manual mode.

Parameters

electrode	The electrode number.

Parameters

mode	0 for automatic and 3 for manual mode.

11.110.3.79 SetElectrodeMode() [3/4]

```
virtual void SetElectrodeMode (
    uint32_t Scu_HS,
    uint32_t electrode,
    array< ElectrodeModeEnumNet >^ mode ) [virtual]
```

Puts an electrode in either automatic or manual mode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Returns

0 for automatic and 3 for manual mode.

11.110.3.80 SetElectrodeMode() [4/4]

```
virtual void SetElectrodeMode (
    uint32_t Scu_HS,
    uint32_t electrode,
    ElectrodeModeEnumNet mode ) [virtual]
```

Puts an electrode in either automatic or manual mode.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.

Parameters

mode	0 for automatic and 3 for manual mode.

11.110.3.81 SetEnableAmplifierProtectionSwitch() [1/4] virtual void SetEnableAmplifierProtection↩ Switch (

```
            uint32_t electrode,
            array< bool >^ enable )  [virtual]
```

Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.82 SetEnableAmplifierProtectionSwitch() [2/4] virtual void SetEnableAmplifierProtection↩ Switch (

```
            uint32_t electrode,
            bool enable )  [virtual]
```

Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.83 SetEnableAmplifierProtectionSwitch() [3/4] virtual void SetEnableAmplifierProtection↩ Switch (

```
            uint32_t Scu_HS,
            uint32_t electrode,
            array< bool >^ enable )  [virtual]
```

Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.84 SetEnableAmplifierProtectionSwitch() [4/4]

```
virtual void SetEnableAmplifierProtectionSwitch (
            uint32_t Scu_HS,
            uint32_t electrode,
            bool enable ) [virtual]
```

Defines whether the Amplifier Protection Switch is openend while stimulation is in progress.

Parameters

Scu_HS	The SCU headstage number.

Parameters

electrode	The electrode number.
enable	True if the switch is to be opened, false if it is to remain closed while stimulation is in progress.

11.110.3.85 SetExternalElectrodeEnable() [1/2]

```
virtual void SetExternalElectrodeEnable (
            uint32_t electrode,
            uint32_t listmodeIndex,
            array< bool >^ enable ) [virtual]
```

Enables or disables the stimulation switch for an external electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.86 SetExternalElectrodeEnable() [2/2]

```
virtual void SetExternalElectrodeEnable (
    uint32_t electrode,
    uint32_t listmodeIndex,
    bool enable ) [virtual]
```

Enables or disables the stimulation switch for an external electrode.

Parameters

electrode	The electrode number.

Parameters

listmodeIndex	The index for listmode.
enable	1 to enable the electrode, 0 to disable.

11.110.3.87 SetFAAmplification()

```
virtual void SetFAAmplification (
    unsigned int amplification ) [virtual]
```

11.110.3.88 SetHeadstage()

```
virtual void SetHeadstage (
    unsigned int headstage ) [virtual]
```

11.110.3.89 SetListmodeIndexRange()

```
virtual void SetListmodeIndexRange (
    unsigned int electrodeGroup,
    unsigned int startIndex,
    unsigned int endIndex,
    unsigned int mode ) [virtual]
```

Define the range of list mode indexes to use for the given electrode group.

Parameters

electrodeGroup	The electrodegroup for which the range is defined.

Parameters

startIndex	The index of the first active element in the listmode list.
endIndex	The index of the last active element in the listmode list.
mode	0 for "start with startIndex", 1 for "start with endIndex".

11.110.3.90 SetListmodeTriggerSource() [1/2]

```
virtual void SetListmodeTriggerSource (
    unsigned int electrodeGroup,
    TriggerSourceEnumNet triggersource ) [virtual]
```

Define the signal which triggers the transition from one list mode entry to the next. After reaching the last entry in the list, the first entry is selected. For triggersource use the Enum which corresponds to the device in use, for example use *SCUDigitalSourceEnumNet* and cast to *TriggerSourceEnumNet* if working with an SCU device.

Parameters

electrodeGroup	The electrodegroup for which the triggersource is defined.

Parameters

triggersource	One of the possible sources for the transition.

11.110.3.91 SetListmodeTriggerSource() [2/2]

```
virtual void SetListmodeTriggerSource (
    unsigned int electrodeGroup,
    TriggerSourceEnumNet triggersource,
    int bitnumOffset ) [virtual]
```

Define the signal which triggers the transition from one list mode entry to the next. After reaching the last entry in the list, the first entry is selected. For triggersource use the Enum which corresponds to the device in use, for example use *SCUDigitalSourceEnumNet* and cast to *TriggerSourceEnumNet* if working with an SCU device.

Parameters

electrodeGroup	The electrodegroup for which the triggersource is defined.

Parameters

triggersource	One of the possible sources for the transition.
bitnumOffset	Number to add to the numeric value of the *triggersource* enum.

11.110.3.92 SetMeasurementMode() `virtual void SetMeasurementMode ( unsigned int channel ) [virtual]`

Sets a channel to measurement mode (STG3008-FA).

Parameters

channel	The channel to change.

11.110.3.93 SetOutputRate() `void SetOutputRate ( uint32_t rate )`

Change the output rate of the STG. Valid rates are from 1000 Hz to 50000 Hz.

Parameters

rate	The new output rate in Hz.

11.110.3.94 SetStgProgramInfo() `void SetStgProgramInfo ( DateTime timestamp, String^ filename, Guid guid )`

Store Download information in the STG. This function can be used to store the filename and timestamp of the last download for later query.

Parameters

timestamp	The timestamp of last download.
filename	The filename of the downlaoded waveform.

11.110.3.95 SetSyncoutMap() `virtual void SetSyncoutMap (`

```
uint32_t channel,
uint32_t syncoutMap )  [virtual]
```

Sets the mapping between external syncout outputs and internal syncout channels.

Parameters

channel	The external syncout output channel number (zero based).
syncoutMap	A bitmap of internal syncout channels to map to channel.

11.110.3.96 SetTriggerSource() [1/3]

```
virtual void SetTriggerSource (
unsigned int triggernum,
DigitalSource< digitalsourceenum >^ triggersource,
int bitnum_offset )  [virtual]
```

11.110.3.97 SetTriggerSource() [2/3]

```
virtual void SetTriggerSource (
unsigned int triggernum,
TriggerSourceEnumNet triggersource )  [virtual]
```

11.110.3.98 SetTriggerSource() [3/3]

```
virtual void SetTriggerSource (
unsigned int triggernum,
TriggerSourceEnumNet triggersource,
int bitnum_offset )  [virtual]
```

11.110.3.99 SetVoltageMode() [1/2]

```
virtual void SetVoltageMode ( )  [virtual]
```

Sets all channels to voltage mode (STG3008-FA and STG400x only).

11.110.3.100 SetVoltageMode() [2/2]

```
virtual void SetVoltageMode (
unsigned int channel )  [virtual]
```

Sets a channel to voltage mode (STG3008-FA and STG400x only).

Parameters

channel	The channel to change.

11.110.3.101 SetVoltageRangeSelectedIndex()

```
virtual void SetVoltageRangeSelectedIndex (
uint32_t channel,
uint32_t rangeIndex )  [virtual]
```

Sets the range index for the voltage output (not used yet).

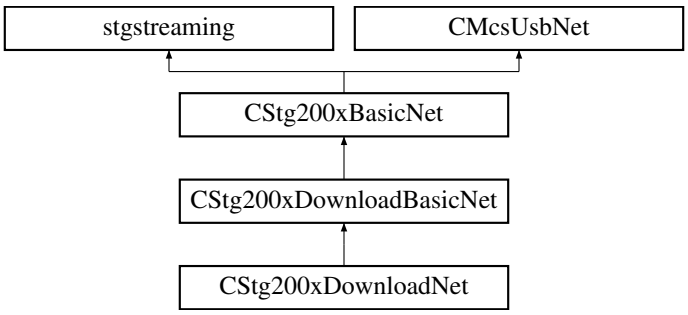
Parameters

channel	The channel to change.
rangeIndex	The new range index.

11.111 CStg200xDownloadBasicNet Class Reference

CStg200xDownloadBasicNet is the base class to control the download mode of the MCS STG device.

Inheritance diagram for CStg200xDownloadBasicNet:



Public Member Functions

- virtual void SetupTrigger (uint32_t first_trigger, array< uint32_t >^ channelmap, array< uint32_t >^ syncoutmap, array< uint32_t >^ repeat)

  Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.
- virtual void SetupTriggerSingle (uint32_t trigger, uint32_t channelmap, uint32_t syncoutmap, uint32_t repeat)

  Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.
- void GetTrigger ([Out] array< uint32_t >^% channelmap, [Out] array< uint32_t >^% syncoutmap, [Out] array< uint32_t >^% repeat)

  Queries the trigger settings for the STG. Note that all memory segments have their own trigger setting.
- void GetSweepCount ([Out] array< uint32_t >^% sweeps, [Out] array< uint32_t >^% triggers)

  Get the sweep and trigger count of the STG.
  - *The triggercount tells how many times each trigger was active and is reset to zero on download of new channel data.*
  - *The sweepcount tells how many times each trigger was already repeated. This count is set to zero on trigger and counts up to repeat in CStg200xDownloadBasicNet::SetupTrigger.*
- void ForceStatusEvent ()

  Force a status event.
- void ResetStatus (uint32_t triggermap)

  Reset the status flag.
- uint32_t GetMemoryUsageDAC (uint32_t Channel)

  Queries the memory usage of the current segment and selected analog DAC channel.
- uint32_t GetMemoryUsageSyncout (uint32_t Channel)

Queries the memory usage of the current segment and selected syncout channel.

- virtual void ClearSyncData (uint32_t channel)

  Delete a SyncOut pattern for a channel from STG memory.

- virtual void SendSyncData (uint32_t channel, array< uint16_t >^ pData, array< uint64_t >^ tData)

  Uploads sync output data to the STG.
  Sends sync output data to a given channel on the STG. The list of datapoints will be sent to the selected sync output channel. Sync output data previously sent to the channel is overwritten.
  Each datapoint is represented by an integer value and can be either 0 or 1.
  The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs. If your application can not handle 64 bit integers, use the STG200x_SendSyncData32() call instead.

- virtual void ClearChannelData (uint32_t channel)

  Delete a stimulus pattern for a channel from STG memory

- virtual void SendChannelData (uint32_t channel, array< uint16_t >^ pData, array< uint64_t >^ tData)

  Uploads analog data (stimulus patterns) to the STG.
  Sends datapoints to a given channel on the STG. The list of datapoints will be sent to the selected channel. Data previously sent to the channel is overwritten.
  Each datapoint is represented by an integer value in the range from 0 to 4095 (bit 0 to 11), its sign is taken from bit 12, 0 is for positive amplitude, and 1 for negative amplitude Bits 13 to 15 have to be zero.
  The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

- virtual void EnableAutoReset ()

  Enable AutoReset of the STG Status.

- virtual void DisableAutoReset ()

  Disable AutoReset of the STG Status.

- virtual void SetupRetriggerMode (int8_t trigger, RetriggerActionEnumNet same_trigger, RetriggerActionEnumNet other_trigger)

  Define the action on triggers while the STG is running.
  The STG has three options how to handle a successive trigger while a trigger is active.
  - *stop this trigger (default action)*
  - *restart this trigger*
  - *ignore the signal*

- virtual void SetupRetriggerMode (RetriggerActionEnumNet same_trigger, RetriggerActionEnumNet other_↩ trigger)

  Define the action on triggers while the STG is running.
  The STG has three options how to handle a successive trigger while a trigger is active.
  - *stop this trigger (default action)*
  - *restart this trigger*
  - *ignore the signal*

Properties

- CStimulusFunctionNet^ Stimulus `[get]`

Additional Inherited Members

11.111.1 Detailed Description

CStg200xDownloadBasicNet is the base class to control the download mode of the MCS STG device.

11.111.2 Member Function Documentation

11.111.2.1 ClearChannelData() virtual void ClearChannelData (uint32_t *channel*) [virtual]

Delete a stimulus pattern for a channel from STG memory

Parameters

channel	Specifies the channel to clear.

11.111.2.2 ClearSyncData() virtual void ClearSyncData (uint32_t *channel*) [virtual]

Delete a SyncOut pattern for a channel from STG memory.

Parameters

channel	Specifies the syncout channel to clear.

11.111.2.3 DisableAutoReset() virtual void DisableAutoReset ( ) [virtual]

Disable AutoReset of the STG Status.

If autoreset is disabled, the STG status switches to FINISHED after the defined number of sweeps is finished. To switch back to the IDLE status, use CStg200xDownload::ResetStatus()

11.111.2.4 EnableAutoReset() virtual void EnableAutoReset ( ) [virtual]

Enable AutoReset of the STG Status.

This is the default on power up. If autoreset is enabled, the STG status switches to FINISHED only for one poll cycle after this, it switches to IDLE automatically.

11.111.2.5 ForceStatusEvent() void ForceStatusEvent ( )

Force a status event.

Force the DLL to create a PollMessage event and to call the pPollCallback function, even if no new status information is available.

11.111.2.6 GetMemoryUsageDAC() uint32_t GetMemoryUsageDAC (uint32_t *Channel*)

Queries the memory usage of the current segment and selected analog DAC channel.

The currently used memory is reported for the requested channel.

Parameters

Channel	channel for the amount of interested usage.

Returns

Returns the usage in STG memory.

11.111.2.7 GetMemoryUsageSyncout() `uint32_t GetMemoryUsageSyncout ( uint32_t Channel )`

Queries the memory usage of the current segment and selected syncout channel.

The currently used memory is reported for the requested channel.

Parameters

Channel	channel for the amount of interested usage.

Returns

Returns the usage in STG memory.

11.111.2.8 GetSweepCount() `void GetSweepCount ( [Out] array< uint32_t >^% sweeps, [Out] array< uint32_t >^% triggers )`

Get the sweep and trigger count of the STG.

- The triggercount tells how many times each trigger was active and is reset to zero on download of new channel data.
- The sweepcount tells how many times each trigger was already repeated. This count is set to zero on trigger and counts up to repeat in CStg200xDownloadBasicNet::SetupTrigger.

Parameters

sweeps	on return contains the number of sweeps for each trigger.
triggers	on return contains the number of trigger events seen for each trigger.

11.111.2.9 GetTrigger() `void GetTrigger ( [Out] array< uint32_t >^% channelmap,`

```
[Out] array< uint32_t >^% syncoutmap,
[Out] array< uint32_t >^% repeat )
```

Queries the trigger settings for the STG. Note that all memory segments have their own trigger setting.

Parameters

channelmap	For each trigger, a bitmap of channels that belong to this trigger.

Parameters

syncoutmap	For each trigger, a bitmap of syncouts that belong to this trigger.
repeat	For each trigger, define the number of times this trigger should be repeated.

11.111.2.10 ResetStatus() `void ResetStatus (`

```
uint32_t triggermap )
```

Reset the status flag.

Parameters

triggermap	bitmap of trigger for which to reset the status.

11.111.2.11 SendChannelData() `virtual void SendChannelData (`

```
uint32_t channel,
array< uint16_t >^ pData,
array< uint64_t >^ tData )  [virtual]
```

Uploads analog data (stimulus patterns) to the STG.

Sends datapoints to a given channel on the STG. The list of datapoints will be sent to the selected channel. Data previously sent to the channel is overwritten.

Each datapoint is represented by an integer value in the range from 0 to 4095 (bit 0 to 11), its sign is taken from bit 12, 0 is for positive amplitude, and 1 for negative amplitude Bits 13 to 15 have to be zero.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Parameters

channel	Specifies the channel to append the data to.
pData	A list of datapoints.
tData	A list of durations as int64_t. The time is given in units of µs.

11.111.2.12 SendSyncData()

```
virtual void SendSyncData (
    uint32_t channel,
    array< uint16_t >^ pData,
    array< uint64_t >^ tData )  [virtual]
```

Uploads sync output data to the STG.

Sends sync output data to a given channel on the STG. The list of datapoints will be sent to the selected sync output channel. Sync output data previously sent to the channel is overwritten.

Each datapoint is represented by an integer value and can be either 0 or 1.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs. If your application can not handle 64 bit integers, use the STG200x_SendSyncData32() call instead.

Parameters

channel	Specifies the sync output channel to append the data to.
pData	A list of datapoints.
tData	A list of durations as int64_t. The time is given in units of µs.

11.111.2.13 SetupRetriggerMode() [1/2]

```
virtual void SetupRetriggerMode (
    int8_t trigger,
    RetriggerActionEnumNet same_trigger,
    RetriggerActionEnumNet other_trigger )  [virtual]
```

Define the action on triggers while the STG is running.

The STG has three options how to handle a successive trigger while a trigger is active.

- stop this trigger (default action)
- restart this trigger
- ignore the signal

Parameters

trigger	The trigger to change.
same_trigger	Action for successive triggers in Normal Mode, and for triggers to the currently selected segment in Multi - File Mode.
other_trigger	Action for successive triggers in Multi-File Mode for a trigger on a segment not currently selected.Not used in Normal Mode.

11.111.2.14 SetupRetriggerMode() [2/2]

```
virtual void SetupRetriggerMode (
```

```
RetriggerActionEnumNet same_trigger,
RetriggerActionEnumNet other_trigger )  [virtual]
```

Define the action on triggers while the STG is running.

The STG has three options how to handle a successive trigger while a trigger is active.

- stop this trigger (default action)
- restart this trigger
- ignore the signal

Parameters

same_trigger	Action for successive triggers in Normal Mode, and for triggers to the currently selected segment in Multi - File Mode.
other_trigger	Action for successive triggers in Multi-File Mode for a trigger on a segment not currently selected.Not used in Normal Mode.

11.111.2.15 SetupTrigger() `virtual void SetupTrigger (`

```
uint32_t first_trigger,
array< uint32_t >^ channelmap,
array< uint32_t >^ syncoutmap,
array< uint32_t >^ repeat )  [virtual]
```

Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.

Parameters

first_trigger	The number of the first trigger to change.

Parameters

channelmap	For each trigger, a bitmap of channels that belong to this trigger.

Parameters

syncoutmap	For each trigger, a bitmap of syncouts that belong to this trigger.
repeat	For each trigger, define the number of times this trigger should be repeated.

11.111.2.16 SetupTriggerSingle()

```
virtual void SetupTriggerSingle (
    uint32_t trigger,
    uint32_t channelmap,
    uint32_t syncoutmap,
    uint32_t repeat ) [virtual]
```

Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.

Parameters

trigger	The trigger to change.

Parameters

channelmap	A bitmap of channels that belong to this trigger.

Parameters

syncoutmap	A bitmap of syncouts that belong to this trigger.
repeat	The number of times this trigger should be repeated.

11.111.3 Property Documentation

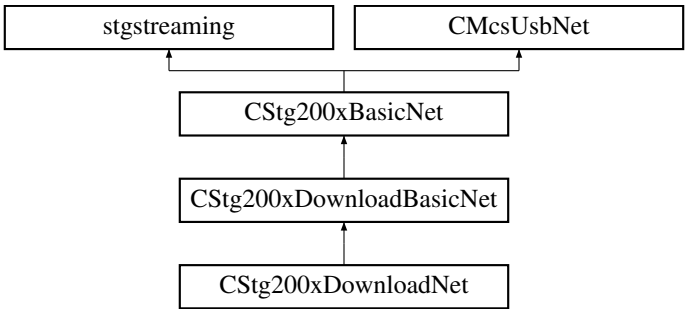
11.111.3.1 Stimulus

```
CStimulusFunctionNet^ Stimulus [get]
```

11.112 CStg200xDownloadNet Class Reference

Main class for the STG download mode This class implements the STG download mode interface.

Inheritance diagram for CStg200xDownloadNet:



Public Member Functions

- CStg200xDownloadNet ()

  Use this constructor if you do not want to use the status callback.
- CStg200xDownloadNet (OnStgPollStatus^ pollStatus)

  Use this constructor if you want to use the status callback.
- ~CStg200xDownloadNet ()
- void PrepareAndSendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType)

  Prepare and send data to a given channel on the STG. Previous data sent to that channel is erased first.
- void PrepareAndAppendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType)

  Prepare and append data to a given channel on the STG.
- void ClearChannel_PrepareAndSendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType, bool doClear)

  Prepare and append data to a given channel on the STG.
- void SendSegmentDefine (array< uint32_t >^ segment_list)

  Defines the segment memory layout of the STG.
- void SendSegmentStart (uint32_t triggermap, uint32_t segment, Stg200xSegmentFlagsEnumNet segmentflags)

  Switchs segment and starts trigger.
- void SendSegmentSelect (uint32_t segment, Stg200xSegmentFlagsEnumNet segmentflags)

  Switchs segment.
- void EnableMultiFileMode (uint32_t submode)

  Enable the Multi-File mode of the STG.
- void DisableMultiFileMode ()

  Disable the Multi-File mode of the STG
- StgStatusNet ^ QueryTriggerstatus ()
- void SetOutputMap (array< uint32_t >^ ChannelLayout)
- int32_t GetModuleTemp (unsigned int channel)
- uint32_t GetModuleCurrent (unsigned int channel)

Events

- OnStgPollStatus^ Stg200xPollStatusEvent `[add, remove, raise]`
- OnMwPollStatus^ MwPollStatusEvent `[add, remove, raise]`

Additional Inherited Members

11.112.1 Detailed Description

Main class for the STG download mode This class implements the STG download mode interface.

11.112.2 Constructor & Destructor Documentation

11.112.2.1 CStg200xDownloadNet() [1/2] CStg200xDownloadNet ( )

Use this constructor if you do not want to use the status callback.

11.112.2.2 CStg200xDownloadNet() [2/2] CStg200xDownloadNet (OnStgPollStatus^ *pollStatus*)

Use this constructor if you want to use the status callback.

11.112.2.3 ~CStg200xDownloadNet() ~CStg200xDownloadNet ( )

11.112.3 Member Function Documentation

11.112.3.1 ClearChannel_PrepareAndSendData() void ClearChannel_PrepareAndSendData (uint32_t *channel*, array< int32_t >^ *amplitude*, array< uint64_t >^ *duration*, STG_DestinationEnumNet *destType*, bool *doClear*)

Prepare and append data to a given channel on the STG.

Each datapoint is represented by an signed 32bit integer value. When using voltage stimulation, the values are in multiple of 1 uV, thus the possible range is += 2000 V. When using current stimulation, the values are in multiple of 1 nA, this the possible range is += 2000 mA.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Blocks of data which should repeat can be defined by prepending such a block with an entry in the arrays where both amplitude and duration is zero. The end of such an block is marked by an entry where the duration is set to zero and the amplitude beeing set to the number of times the block should run. Blocks can be nested.

Parameters

channel	The channel number to send data to.

Parameters

amplitude	A list of amplitudes in units of µV and nA in voltage and current mode, respectively.

Parameters

duration	A list of durations in units of µs.
destType	specifies wheather the data is for syncout, current or voltage stimulation.

11.112.3.2 DisableMultiFileMode() `void DisableMultiFileMode ( )`

Disable the Multi-File mode of the STG

Switch the STG back to normal mode. In this mode, trigger inputs are assigned to channels, not to segments.

11.112.3.3 EnableMultiFileMode() `void EnableMultiFileMode ( uint32_t submode )`

Enable the Multi-File mode of the STG.

In Multi-File mode, the trigger inputs switch between segments. To use this mode, define up to as many segments as trigger inputs are available and fill each segment with a stimulus pattern.

Now a trigger on trigger input 1 switches the STG to the first segment and starts all triggers in this segment. Likewise, a trigger on trigger input 2, 3 and 4 selects the respective segment and start all triggers in this segment So the Multi-File Mode can be used to predefine up to four different stimuli which can be selected without the need for a computer connection.

Parameters

submode	The submode. Submode 0 is regular Multi-File mode as described above, submode 1 is extended Multi-File mode, where the segment is selected based on the digital pattern on the digital inputs. In this mode, 256 different segments can be defined and used.

11.112.3.4 GetModuleCurrent() `uint32_t GetModuleCurrent ( unsigned int channel )`

11.112.3.5 GetModuleTemp() `int32_t GetModuleTemp ( unsigned int channel )`

11.112.3.6 PrepareAndAppendData()

```
void PrepareAndAppendData (
    uint32_t channel,
    array< int32_t >^ amplitude,
    array< uint64_t >^ duration,
    STG_DestinationEnumNet destType )
```

Prepare and append data to a given channel on the STG.

Each datapoint is represented by an signed 32bit integer value. When using voltage stimulation, the values are in multiple of 1 uV, thus the possible range is += 2000 V. When using current stimulation, the values are in multiple of 1 nA, this the possible range is += 2000 mA.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Blocks of data which should repeat can be defined by prepending such a block with an entry in the arrays where both amplitude and duration is zero. The end of such an block is marked by an entry where the duration is set to zero and the amplitude beeing set to the number of times the block should run. Blocks can be nested.

Parameters

channel	The channel number to send data to.

Parameters

amplitude	A list of amplitudes in units of µV and nA in voltage and current mode, respectively.

Parameters

duration	A list of durations in units of µs.
destType	specifies wheather the data is for syncout, current or voltage stimulation.

11.112.3.7 PrepareAndSendData()

```
void PrepareAndSendData (
    uint32_t channel,
    array< int32_t >^ amplitude,
    array< uint64_t >^ duration,
    STG_DestinationEnumNet destType )
```

Prepare and send data to a given channel on the STG. Previous data sent to that channel is erased first.

Each datapoint is represented by an signed 32bit integer value. When using voltage stimulation, the values are in multiple of 1 uV, thus the possible range is += 2000 V. When using current stimulation, the values are in multiple of 1 nA, this the possible range is += 2000 mA.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Blocks of data which should repeat can be defined by prepending such a block with an entry in the arrays where both amplitude and duration is zero. The end of such an block is marked by an entry where the duration is set to zero and the amplitude beeing set to the number of times the block should run. Blocks can be nested.

Parameters

channel	The channel number to send data to.

Parameters

amplitude	A list of amplitudes in units of µV and nA in voltage and current mode, respectively.

Parameters

duration	A list of durations in units of µs.
destType	specifies wheather the data is for syncout, current or voltage stimulation.

11.112.3.8 QueryTriggerstatus() `StgStatusNet ^ QueryTriggerstatus ( )`

11.112.3.9 SendSegmentDefine() `void SendSegmentDefine ( array< uint32_t >^ segment_list )`

Defines the segment memory layout of the STG.

On reset, the STG has one segment containing all available memory.

With this command, the STG memory can be devided into several segments. Each segment can be filled with stimulus data.

Parameters

segment_list	The List of memory sizes (one per segment).

11.112.3.10 SendSegmentSelect() void SendSegmentSelect (uint32_t *segment*, Stg200xSegmentFlagsEnumNet *segmentflags*)

Switchs segment.

Parameters

segment	The number of the segment to select.

Parameters

segmentflags	A bitmap of flags, bit 1: assign all channels to the trigger number equal to the segment.

11.112.3.11 SendSegmentStart() void SendSegmentStart (uint32_t *triggermap*, uint32_t *segment*, Stg200xSegmentFlagsEnumNet *segmentflags*)

Switchs segment and starts trigger.

Parameters

triggermap	A bitmap of triggers that will be started.

Parameters

segment	The number of the segment to select.

Parameters

segmentflags	A bitmap of flags, bit 1: assign all channels to the trigger number equal to the segment.

11.112.3.12 SetOutputMap() void SetOutputMap (array< uint32_t >^ *ChannelLayout*)

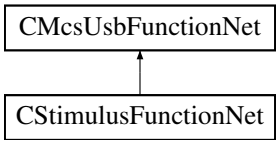
11.112.4 Event Documentation

11.112.4.1 MwPollStatusEvent `OnMwPollStatus^ MwPollStatusEvent [add], [remove], [raise]`

11.112.4.2 Stg200xPollStatusEvent `OnStgPollStatus^ Stg200xPollStatusEvent [add], [remove], [raise]`

11.113 CStimulusFunctionNet Class Reference

Inheritance diagram for CStimulusFunctionNet:



Classes

- class SidebandData
- class StimulusDeviceDataAndUnrolledData

Public Member Functions

- CStimulusFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ stimulusFunction↩ PointerContainer)
- CStimulusFunctionNet (CMcsUsbNet^ mcsusb)
- void StartPoll ()

  Starts the interrupt fetching thread and delivers events
- void StopPoll ()

  Stops the interrupt fetching thread and delivers events
- void ForceStatusEvent ()

  Force a status event. Force the DLL to create a PollMessage event and to call the pPollCallback function, even if no new status information is available.
- void SendStart (uint32_t triggermap)

  Start (Trigger) the STG. The startup delay is in the range of a few ms.
- void SendStop (uint32_t triggermap)

  Stop some or all triggers of the STG.
- void SendStop (uint32_t triggermap, int options)

  Stop some or all triggers of the STG.
- void ClearChannelData (int channel)

  Delete a Stimulus Pattern from STG memory
- void ClearSyncData (int channel)

  Delete a Syncout Pattern from STG memory

- void PrepareAndSendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType)

  Prepare and send data to a given channel on the STG. Previous data sent to that channel is erased first.
- void PrepareAndAppendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType)

  Prepare and append data to a given channel on the STG.
- void ClearChannel_PrepareAndSendData (uint32_t channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType, bool doClear)
- StimulusDeviceDataAndUnrolledData ^ PrepareData (int channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType)
- void SendPreparedData (int channel, StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled, STG_DestinationEnumNet destType)
- SidebandData ^ CreateSideband (array< int32_t >^ StimulusActive, array< int32_t >^ Syncout, array< uint64_t >^ Duration, uint32_t Bit0Time, uint32_t Bit3Time, uint32_t Bit4Time)

  Creates the Sideband Channel for the MEA2100 device.
- void ClearMultiplexedData ()

  Clears the Stimulation Memory in the STG device.
- void SendMultiplexedData (array< uint16_t >^ data)

  Sends stimulus data in multiplexed form. All 16 bits words for the enabled DAC and digital channels are muxed together per time slice.
- int GetMultiplexedDataChannelsInBlock ()

  Gets the number of stimulus data channels to send per time slice. Might be greater than the number of configured channels. Fill unused channels with dummy data in SendMultiplexedData
- int GetDACResolution ()

  Gets number of bits of the DAC resolution.
- int GetVoltageRangeInMicroVolt (uint32_t channel)

  Gets the Voltage Range of the specified channel in Microvolts.
- int GetVoltageResolutionInMicroVolt (uint32_t channel)

  Gets the Voltage Resolution of the specified channel in Microvolts.
- int GetCurrentRangeInNanoAmp (uint32_t channel)

  Gets the Current Range of the specified channel in Nanoamps.
- int GetCurrentResolutionInNanoAmp (uint32_t channel)

  Gets the Current Resolution of the specified channel in Nanoamps.
- void SetupTrigger (uint32_t first_trigger, array< uint32_t >^ channelmap, array< uint32_t >^ syncoutmap, array< uint32_t >^ repeat)

  Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.
- void SetupTriggerSingle (uint32_t trigger, uint32_t channelmap, uint32_t syncoutmap, uint32_t repeat)

  Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.
- uint32_t GetTotalMemory ()

  Get the total amount of memory available on the STG (all segments).
- uint32_t GetAvailableMemory ()

  Get the amount of memory available in the currently selected segment of the STG.
- int GetNumberOfAnalogChannels ()

  Get the number of STG channels.

Events

- OnStgPollStatus^ PollStatusEvent

Additional Inherited Members

11.113.1 Constructor & Destructor Documentation

11.113.1.1 CStimulusFunctionNet() [1/2] CStimulusFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *stimulusFunctionPointerContainer*)

11.113.1.2 CStimulusFunctionNet() [2/2] CStimulusFunctionNet (CMcsUsbNet^ *mcsusb*)

11.113.2 Member Function Documentation

11.113.2.1 ClearChannel_PrepareAndSendData() void ClearChannel_PrepareAndSendData (uint32_t *channel*, array< int32_t >^ *amplitude*, array< uint64_t >^ *duration*, STG_DestinationEnumNet *destType*, bool *doClear*)

11.113.2.2 ClearChannelData() void ClearChannelData (int *channel*)

Delete a Stimulus Pattern from STG memory

Parameters

channel	specifies the channel to clear.

11.113.2.3 ClearMultiplexedData() void ClearMultiplexedData ( )

Clears the Stimulation Memory in the STG device.

11.113.2.4 ClearSyncData() void ClearSyncData (int *channel*)

Delete a Syncout Pattern from STG memory

Parameters

channel	specifies the channel to clear.

11.113.2.5 CreateSideband()

```
SidebandData ^ CreateSideband (
    array< int32_t >^ StimulusActive,
    array< int32_t >^ Syncout,
    array< uint64_t >^ Duration,
    uint32_t Bit0Time,
    uint32_t Bit3Time,
    uint32_t Bit4Time )
```

Creates the Sideband Channel for the MEA2100 device.

Each datapoint is represented by an signed 32bit integer value. A value 0 means that the stimulation is active during that time. A value 1 means that the stimulation is not active during that time.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Parameters

StimulusActive	A list of datapoints which define weather the Stimulus is active or idle at that time as int32.

Parameters

Duration	A list of durations as uint64. The time is given in units of µs.
Bit0Time	Time in µs for which Bit 0 (Blanking) is to be extended.

Parameters

Bit3Time	Time in µs for which Bit 3 (Stimulus Enable) is to be extended.

Parameters

Bit4Time	Time in µs for which Bit 4 (Stimulus Selector) is to be extended.

Returns

Error Status. 0 on success.

11.113.2.6 ForceStatusEvent() `void ForceStatusEvent ( )`

Force a status event. Force the DLL to create a PollMessage event and to call the pPollCallback function, even if no new status information is available.

11.113.2.7 GetAvailableMemory() `uint32_t GetAvailableMemory ( )`

Get the amount of memory available in the currently selected segment of the STG.

Returns

The total memory available on the STG in bytes.

11.113.2.8 GetCurrentRangeInNanoAmp() `int GetCurrentRangeInNanoAmp ( uint32_t channel )`

Gets the Current Range of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Range of the specified channel in Nanoamps.

11.113.2.9 GetCurrentResolutionInNanoAmp() `int GetCurrentResolutionInNanoAmp ( uint32_t channel )`

Gets the Current Resolution of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Resolution of the specified channel in Nanoamps.

11.113.2.10 GetDACResolution() `int GetDACResolution ( )`

Gets number of bits of the DAC resolution.

Returns

The DAC resolution in bits.

11.113.2.11 GetMultiplexedDataChannelsInBlock() `int GetMultiplexedDataChannelsInBlock ( )`

Gets the number of stimulus data channels to send per time slice. Might be greater than the number of configured channels. Fill unused channels with dummy data in SendMultiplexedData

11.113.2.12 GetNumberOfAnalogChannels() `int GetNumberOfAnalogChannels ( )`

Get the number of STG channels.

Returns

The number of STG channels.

11.113.2.13 GetTotalMemory() `uint32_t GetTotalMemory ( )`

Get the total amount of memory available on the STG (all segments).

Returns

The total memory available on the STG in bytes.

11.113.2.14 GetVoltageRangeInMicroVolt() `int GetVoltageRangeInMicroVolt ( uint32_t channel )`

Gets the Voltage Range of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Range of the specified channel in Microvolts.

11.113.2.15 GetVoltageResolutionInMicroVolt()

```
int GetVoltageResolutionInMicroVolt (
    uint32_t channel )
```

Gets the Voltage Resolution of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Resolution of the specified channel in Microvolts.

11.113.2.16 PrepareAndAppendData()

```
void PrepareAndAppendData (
    uint32_t channel,
    array< int32_t >^ amplitude,
    array< uint64_t >^ duration,
    STG_DestinationEnumNet destType )
```

Prepare and append data to a given channel on the STG.

Each datapoint is represented by an signed 32bit integer value. When using voltage stimulation, the values are in multiple of 1 uV, thus the possible range is += 2000 V. When using current stimulation, the values are in multiple of 1 nA, this the possible range is += 2000 mA.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Blocks of data which should repeat can be defined by prepending such a block with an entry in the arrays where both amplitude and duration is zero. The end of such an block is marked by an entry where the duration is set to zero and the amplitude beeing set to the number of times the block should run. Blocks can be nested.

Parameters

channel	The channel number to send data to.

Parameters

amplitude	A list of amplitudes in units of µV and nA in voltage and current mode, respectively.

Parameters

duration	A list of durations in units of µs.
destType	specifies wheather the data is for syncout, current or voltage stimulation.

Returns

Error Status. 0 on success.

11.113.2.17 PrepareAndSendData()

```
void PrepareAndSendData (
    uint32_t channel,
    array< int32_t >^ amplitude,
    array< uint64_t >^ duration,
    STG_DestinationEnumNet destType )
```

Prepare and send data to a given channel on the STG. Previous data sent to that channel is erased first.

Each datapoint is represented by an signed 32bit integer value. When using voltage stimulation, the values are in multiple of 1 uV, thus the possible range is += 2000 V. When using current stimulation, the values are in multiple of 1 nA, this the possible range is += 2000 mA.

The duration is given as a list of 64 bit integers. Durations are given in units of µs. The STG has a resolution of 20 µs.

Blocks of data which should repeat can be defined by prepending such a block with an entry in the arrays where both amplitude and duration is zero. The end of such an block is marked by an entry where the duration is set to zero and the amplitude beeing set to the number of times the block should run. Blocks can be nested.

Parameters

channel	The channel number to send data to.

Parameters

amplitude	A list of amplitudes in units of µV and nA in voltage and current mode, respectively.

Parameters

duration	A list of durations in units of µs.
destType	specifies wheather the data is for syncout, current or voltage stimulation.

Returns

Error Status. 0 on success.

11.113.2.18 PrepareData()

```
StimulusDeviceDataAndUnrolledData ^ PrepareData (
    int channel,
    array< int32_t >^ amplitude,
    array< uint64_t >^ duration,
    STG_DestinationEnumNet destType )
```

11.113.2.19 SendMultiplexedData()

```
void SendMultiplexedData (
    array< uint16_t >^ data )
```

Sends stimulus data in multiplexed form. All 16 bits words for the enabled DAC and digital channels are muxed together per time slice.

Parameters

data	Array of data to be sent.

11.113.2.20 SendPreparedData()

```
void SendPreparedData (
    int channel,
    StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled,
    STG_DestinationEnumNet destType )
```

11.113.2.21 SendStart()

```
void SendStart (
    uint32_t triggermap )
```

Start (Trigger) the STG. The startup delay is in the range of a few ms.

Parameters

triggermap	A bitmap of triggers which will be started.

11.113.2.22 SendStop() [1/2] void SendStop (uint32_t *triggermap*)

Stop some or all triggers of the STG.

Parameters

triggermap	A bitmap of triggers which will be stopped.

11.113.2.23 SendStop() [2/2] void SendStop (uint32_t *triggermap*, int *options*)

Stop some or all triggers of the STG.

Parameters

triggermap	A bitmap of triggers which will be stopped.
options	bitmap of options, currently only STOP_OPTION_SAVESTOP (0x80) is defined, which bypasses the stop commands when a syncout assossiated with a given sync-out has bit 1 (0x02) set. Can be used e.g. to prevent a stop while a biphasic stimulation pulse is active..

11.113.2.24 SetupTrigger() void SetupTrigger (uint32_t *first_trigger*, array< uint32_t >^ *channelmap*, array< uint32_t >^ *syncoutmap*, array< uint32_t >^ *repeat*)

Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.

Parameters

first_trigger	The number of the first trigger to change.

Parameters

channelmap	For each trigger, a bitmap of channels that belong to this trigger.

Parameters

syncoutmap	For each trigger, a bitmap of syncouts that belong to this trigger.
repeat	For each trigger, define the number of times this trigger should be repeated.

11.113.2.25 SetupTriggerSingle() `void SetupTriggerSingle (`

```
uint32_t trigger,
uint32_t channelmap,
uint32_t syncoutmap,
uint32_t repeat )
```

Configures the trigger settings for the STG. Note that all memory segments have their own trigger setting.

Parameters

trigger	The trigger to change.

Parameters

channelmap	A bitmap of channels that belong to this trigger.

Parameters

syncoutmap	A bitmap of syncouts that belong to this trigger.
repeat	The number of times this trigger should be repeated.

11.113.2.26 StartPoll() `void StartPoll ( )`

Starts the interrupt fetching thread and delivers events

11.113.2.27 StopPoll() `void StopPoll ( )`

Stops the interrupt fetching thread and delivers events

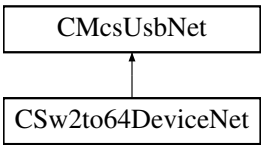
11.113.3 Event Documentation

11.113.3.1 PollStatusEvent `OnStgPollStatus^ PollStatusEvent`

11.114 CSw2to64DeviceNet Class Reference

The class to control the MCS-USB-Sw2to64 device.

Inheritance diagram for CSw2to64DeviceNet:



Public Member Functions

- CSw2to64DeviceNet ()
- ~CSw2to64DeviceNet ()
- unsigned short GetNumber ()

  Gets the number of channels that can be switched in this box.
- array< unsigned char >^ GetChannels ()

  Gets the current switch positions as char array.
- void SetChannels (array< unsigned char >^ pattern)

  Sets the switch positions from a char array.
- unsigned char GetChannel (unsigned short index)

  Gets one current switch position.
- void SetChannel (unsigned short index, unsigned char pattern)

  Sets one switch position.

Additional Inherited Members

11.114.1 Detailed Description

The class to control the MCS-USB-Sw2to64 device.

This class controls the settings of the MCS-USB-Sw2to64. The box has two inputs for signals. Each of the 64 outputs can be connected to one of the input signals, could be held open or connected ground. Valid switch states are 0, 1, 2 or 3 for each of the settings.

11.114.2 Constructor & Destructor Documentation

11.114.2.1 CSw2to64DeviceNet() `CSw2to64DeviceNet ( )`

11.114.2.2 ~CSw2to64DeviceNet() `~CSw2to64DeviceNet ( )`

11.114.3 Member Function Documentation

11.114.3.1 GetChannel() `unsigned char GetChannel ( unsigned short index )`

Gets one current switch position.

Parameters

in	*index*	number of channel to read the switch position from

Returns

switch position of desired channel

11.114.3.2 GetChannels() `array<unsigned char> ^ GetChannels ( )`

Gets the current switch positions as char array.

Returns

array of char with the size of the number of channels, each char has the setting of a channel

11.114.3.3 GetNumber() `unsigned short GetNumber ( )`

Gets the number of channels that can be switched in this box.

The box can have a different number of channels it can switch. Up to now usually 64 channels are returned

11.114.3.4 SetChannel() `void SetChannel ( unsigned short index, unsigned char pattern )`

Sets one switch position.

Parameters

in	*index*	number of channel to write the switch position to
in	*pattern*	switch position of the channel

11.114.3.5 SetChannels() `void SetChannels ( array< unsigned char >^ pattern )`

Sets the switch positions from a char array.

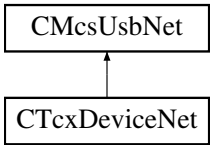
Parameters

in	*pattern*	array of char with the size of the number of channels, each char has the setting of a channel

11.115 CTcxDeviceNet Class Reference

Class to control a Temperature Controller (TCX)

Inheritance diagram for CTcxDeviceNet:



Public Member Functions

- CTcxDeviceNet ()

  Initializes a new instance of CTcxDeviceNet class.
- ~CTcxDeviceNet ()
- unsigned int GetNumControlChannels ()

  Gets the number of channels the device can control/regulate.
- unsigned int GetNumMeasureChannels ()

  Gets the number of channels the device can measure.
- int GetValue (unsigned int channel)

  Gets the temperate of the specified channel in units of 0.1 ℃.
- int GetValueHires (unsigned int channel)

  Gets the temperate of the specified channel in units of 0.01 ℃.
- int GetHeaterTemp (unsigned int channel)

  Gets the temperate of the specified heater in units of 0.1 ℃.
- int GetHeaterLimit (unsigned int device)

  Gets the temperate limit of the specified heater in units of 0.1 ℃.
- double GetMaxHeaterPowerMultiwell ()

  queries the max. heater power that the Multiwell temperature controller will apply; unit: W; useful range: 5.2W..7.6W

- void SetMaxHeaterPowerMultiwell (double MaxPowerWatt)

  sets the max. heater power that the Multiwell temperature controller will apply; unit: W; useful range: 5.2W..7.6W
- bool GetHasThermocouple ()

  Gets weather the device supports a thermocouple.
- bool GetEnableHeaterLimit (unsigned int device)
- bool GetEnableThermocouple (unsigned int device)
- TcxSensorTypeEnumNet GetSensorType (unsigned int device)
- String ^ GetUnit (unsigned int channel)
- unsigned int GetBoardTemp ()

  Gets the temperate of the mainboard in units of 0.1 ℃.
- unsigned int GetVolti (unsigned int channel)
- unsigned int GetNumDevices ()
- void SetSetpoint (unsigned int channel, int sp)

  Sets the target temperate of specified channel in units of 0.1 ℃.
- void SetDevice (unsigned int channel, int device)
- void SetOnOff (unsigned int channel, bool on)

  Switches the specified channel on or off.
- void SetCalibration (unsigned int channel, int calib)
- void SetP (unsigned int device, int p_coeff)

  Sets the P-coefficient of the specified device.
- void SetI (unsigned int device, int i_coeff)

  Sets the I-coefficient of the specified device.
- void SetD (unsigned int device, int d_coeff)

  Sets the D-coefficient of the specified device.
- void SetMaxP (unsigned int device, int maxp)

  Sets the maximum heater power of the specified device.
- void SetHeaterLimit (unsigned int device, int heater_limit)
- void SetEnableHeaterLimit (unsigned int device, bool enable)
- void SetEnableThermocouple (unsigned int device, bool enable)
- void SetSensorType (unsigned int device, TcxSensorTypeEnumNet type)
- void SetDevname (unsigned int device, String^ Devicename)
- int GetSetpoint (unsigned int channel)

  Gets the target temperate of specified channel in units of 0.1 ℃.
- int GetDevice (unsigned int channel)
- int GetOnOff (unsigned int channel)

  Gets if the specified channel is on or off.
- int GetCalibration (unsigned int channel)
- int GetP (unsigned int device)

  Gets the P-coefficient of the specified device.
- int GetI (unsigned int device)

  Gets the I-coefficient of the specified device.
- int GetD (unsigned int device)

  Gets the D-coefficient of the specified device.
- int GetMaxP (unsigned int device)

  Gets the maximum heater power of the specified device.
- String ^ GetDevname (unsigned int device)
- TcxDeviceTypeEnumNet GetDeviceType ()
- int GetSetpointMin (unsigned int channel)
- int GetCalibrationMin (unsigned int channel)
- int GetPMin (unsigned int device)
- int GetIMin (unsigned int device)
- int GetDMin (unsigned int device)

- int GetMaxpMin (unsigned int device)
- int GetSetpointMax (unsigned int channel)
- int GetCalibrationMax (unsigned int channel)
- int GetPMax (unsigned int device)
- int GetIMax (unsigned int device)
- int GetDMax (unsigned int device)
- int GetMaxpMax (unsigned int device)
- int GetSetpointDecp (unsigned int channel)
- int GetCalibrationDecp (unsigned int channel)
- int GetPDecp (unsigned int device)
- int GetIDecp (unsigned int device)
- int GetDDecp (unsigned int device)
- int GetMaxpDecp (unsigned int device)
- int GetResX (unsigned int channel)
- int GetResS (unsigned int channel)
- int GetRes1 (unsigned int channel)
- int GetRes2 (unsigned int channel)
- int GetPwrSet (unsigned int channel)
- int GetPwrOut (unsigned int channel)
- int GetDuty (unsigned int channel)

  Gets the duty cycle of the heating element.
- int GetUOut (unsigned int channel)

  Gets the voltage on the heating element.
- int GetIOut (unsigned int channel)

  Gets the current through the heating element.
- int GetROut (unsigned int channel)

  Gets the resistance of the heating element.
- int GetPOut (unsigned int channel)

  Gets the output power of the heating element.
- int GetCurrent (unsigned int channel)
- int GetThermocoupleTemp (unsigned int channel)
- int GetThermocoupleTempAbs (unsigned int channel)
- int GetThermocoupleReferenceTemp (unsigned int channel)
- unsigned int GetThermocoupleNanovoltPerKelvin (unsigned int channel)

  Gets the proportional constant for the thermocouple.
- void SetThermocoupleNanovoltPerKelvin (unsigned int channel, unsigned int value)

  Sets the proportional constant for the thermocouple.
- int GetThermocoupleCalibration (unsigned int channel)
- void CalibrateThermocouple (unsigned int channel)
- void SetDeviceType (TcxDeviceTypeEnumNet devicetype)
- void FactoryReset ()

Additional Inherited Members

11.115.1 Detailed Description

Class to control a Temperature Controller (TCX)

11.115.2 Constructor & Destructor Documentation

11.115.2.1 CTcxDeviceNet() CTcxDeviceNet ( )

Initializes a new instance of CTcxDeviceNet class.

11.115.2.2 ~CTcxDeviceNet() ~CTcxDeviceNet ( )

11.115.3 Member Function Documentation

11.115.3.1 CalibrateThermocouple() void CalibrateThermocouple (unsigned int *channel*)

11.115.3.2 FactoryReset() void FactoryReset ( )

11.115.3.3 GetBoardTemp() unsigned int GetBoardTemp ( )

Gets the temperate of the mainboard in units of 0.1 ℃.

11.115.3.4 GetCalibration() int GetCalibration (unsigned int *channel*)

11.115.3.5 GetCalibrationDecp() int GetCalibrationDecp (unsigned int *channel*)

11.115.3.6 GetCalibrationMax() int GetCalibrationMax (unsigned int *channel*)

11.115.3.7 GetCalibrationMin() int GetCalibrationMin (unsigned int *channel*)

11.115.3.8 GetCurrent() int GetCurrent (unsigned int *channel*)

11.115.3.9 GetD() int GetD (unsigned int *device*)

Gets the D-coefficient of the specified device.

11.115.3.10 GetDDecp() int GetDDecp (unsigned int *device*)

11.115.3.11 GetDevice() int GetDevice (unsigned int *channel*)

11.115.3.12 GetDeviceType() TcxDeviceTypeEnumNet GetDeviceType ( )

11.115.3.13 GetDevname() String ^ GetDevname (unsigned int *device*)

11.115.3.14 GetDMax() int GetDMax (unsigned int *device*)

11.115.3.15 GetDMin() int GetDMin (unsigned int *device*)

11.115.3.16 GetDuty() int GetDuty (unsigned int *channel*)

Gets the duty cycle of the heating element.

Parameters

channel	The channel number.

Returns

The duty cycle in percent, the value of 320 ∗ 64 corresponds to 100 %.

11.115.3.17 GetEnableHeaterLimit() `bool GetEnableHeaterLimit (`

`unsigned int` *device* `)`

11.115.3.18 GetEnableThermocouple() `bool GetEnableThermocouple (`

`unsigned int` *device* `)`

11.115.3.19 GetHasThermocouple() `bool GetHasThermocouple ( )`

Gets weather the device supports a thermocouple.

11.115.3.20 GetHeaterLimit() `int GetHeaterLimit (`

`unsigned int` *device* `)`

Gets the temperate limit of the specified heater in units of 0.1 ℃.

11.115.3.21 GetHeaterTemp() `int GetHeaterTemp (`

`unsigned int` *channel* `)`

Gets the temperate of the specified heater in units of 0.1 ℃.

11.115.3.22 GetI() `int GetI (`

`unsigned int` *device* `)`

Gets the I-coefficient of the specified device.

11.115.3.23 GetIDecp() int GetIDecp (unsigned int *device*)

11.115.3.24 GetIMax() int GetIMax (unsigned int *device*)

11.115.3.25 GetIMin() int GetIMin (unsigned int *device*)

11.115.3.26 GetIOut() int GetIOut (unsigned int *channel*)

Gets the current through the heating element.

Parameters

channel	The channel number.

Returns

The current in units of mA.

11.115.3.27 GetMaxHeaterPowerMultiwell() double GetMaxHeaterPowerMultiwell ( )

queries the max. heater power that the Multiwell temperature controller will apply; unit: W; useful range: 5.2W..7.6W

11.115.3.28 GetMaxP() int GetMaxP (unsigned int *device*)

Gets the maximum heater power of the specified device.

11.115.3.29 GetMaxpDecp() int GetMaxpDecp (unsigned int *device*)

11.115.3.30 GetMaxpMax() int GetMaxpMax (unsigned int *device*)

11.115.3.31 GetMaxpMin() int GetMaxpMin (unsigned int *device*)

11.115.3.32 GetNumControlChannels() unsigned int GetNumControlChannels ( )

Gets the number of channels the device can control/regulate.

11.115.3.33 GetNumDevices() unsigned int GetNumDevices ( )

11.115.3.34 GetNumMeasureChannels() unsigned int GetNumMeasureChannels ( )

Gets the number of channels the device can measure.

11.115.3.35 GetOnOff() int GetOnOff (unsigned int *channel*)

Gets if the specified channel is on or off.

11.115.3.36 GetP() int GetP (unsigned int *device*)

Gets the P-coefficient of the specified device.

11.115.3.37 GetPDecp() int GetPDecp (unsigned int *device*)

11.115.3.38 GetPMax() int GetPMax (unsigned int *device*)

11.115.3.39 GetPMin() int GetPMin (unsigned int *device*)

11.115.3.40 GetPOut() int GetPOut (unsigned int *channel*)

Gets the output power of the heating element.

Parameters

channel	The channel number.

Returns

The resistance in units of mW.

11.115.3.41 GetPwrOut() `int GetPwrOut (`

`unsigned int` *channel*)

11.115.3.42 GetPwrSet() `int GetPwrSet (`

`unsigned int` *channel*)

11.115.3.43 GetRes1() `int GetRes1 (`

`unsigned int` *channel*)

11.115.3.44 GetRes2() `int GetRes2 (`

`unsigned int` *channel*)

11.115.3.45 GetResS() `int GetResS (`

`unsigned int` *channel*)

11.115.3.46 GetResX() `int GetResX (`

`unsigned int` *channel*)

11.115.3.47 GetROut() `int GetROut (`

`unsigned int` *channel*)

Gets the resistance of the heating element.

Parameters

channel	The channel number.

Returns

The resistance in units of 0.1 Ohm.

11.115.3.48 GetSensorType() `TcxSensorTypeEnumNet GetSensorType (`

`unsigned int device )`

11.115.3.49 GetSetpoint() `int GetSetpoint (`

`unsigned int channel )`

Gets the target temperate of specified channel in units of 0.1℃.

11.115.3.50 GetSetpointDecp() `int GetSetpointDecp (`

`unsigned int channel )`

11.115.3.51 GetSetpointMax() `int GetSetpointMax (`

`unsigned int channel )`

11.115.3.52 GetSetpointMin() `int GetSetpointMin (`

`unsigned int channel )`

11.115.3.53 GetThermocoupleCalibration() `int GetThermocoupleCalibration (`

`unsigned int channel )`

11.115.3.54 GetThermocoupleNanovoltPerKelvin() `unsigned int GetThermocoupleNanovoltPerKelvin (`

`unsigned int channel )`

Gets the proportional constant for the thermocouple.

Parameters

channel	Thermocouple channel number.

Returns

The proportional constant in Nanovolt per Kelvin.

11.115.3.55 GetThermocoupleReferenceTemp() `int GetThermocoupleReferenceTemp ( unsigned int channel )`

11.115.3.56 GetThermocoupleTemp() `int GetThermocoupleTemp ( unsigned int channel )`

11.115.3.57 GetThermocoupleTempAbs() `int GetThermocoupleTempAbs ( unsigned int channel )`

11.115.3.58 GetUnit() `String ^ GetUnit ( unsigned int channel )`

11.115.3.59 GetUOut() `int GetUOut ( unsigned int channel )`

Gets the voltage on the heating element.

Parameters

channel	The channel number.

Returns

The voltage in units of mV.

11.115.3.60 GetValue()

```
int GetValue (
    unsigned int channel )
```

Gets the temperate of the specified channel in units of 0.1℃.

11.115.3.61 GetValueHires()

```
int GetValueHires (
    unsigned int channel )
```

Gets the temperate of the specified channel in units of 0.01℃.

11.115.3.62 GetVolti()

```
unsigned int GetVolti (
    unsigned int channel )
```

11.115.3.63 SetCalibration()

```
void SetCalibration (
    unsigned int channel,
    int calib )
```

11.115.3.64 SetD()

```
void SetD (
    unsigned int device,
    int d_coeff )
```

Sets the D-coefficient of the specified device.

11.115.3.65 SetDevice()

```
void SetDevice (
    unsigned int channel,
    int device )
```

11.115.3.66 SetDeviceType()

```
void SetDeviceType (
    TcxDeviceTypeEnumNet devicetype )
```

11.115.3.67 SetDevname()

```
void SetDevname (
    unsigned int device,
    String^ Devicename )
```

11.115.3.68 SetEnableHeaterLimit()

```
void SetEnableHeaterLimit (
    unsigned int device,
    bool enable )
```

11.115.3.69 SetEnableThermocouple()

```
void SetEnableThermocouple (
    unsigned int device,
    bool enable )
```

11.115.3.70 SetHeaterLimit()

```
void SetHeaterLimit (
    unsigned int device,
    int heater_limit )
```

11.115.3.71 SetI()

```
void SetI (
    unsigned int device,
    int i_coeff )
```

Sets the I-coefficient of the specified device.

11.115.3.72 SetMaxHeaterPowerMultiwell()

```
void SetMaxHeaterPowerMultiwell (
    double MaxPowerWatt )
```

sets the max. heater power that the Multiwell temperature controller will apply; unit: W; useful range: 5.2W..7.6W

11.115.3.73 SetMaxP()

```
void SetMaxP (
    unsigned int device,
    int maxp )
```

Sets the maximum heater power of the specified device.

11.115.3.74 SetOnOff()

```
void SetOnOff (
    unsigned int channel,
    bool on )
```

Switches the specified channel on or off.

Parameters

channel	The channel number.

11.115.3.75 SetP() `void SetP (`

```
unsigned int device,
int p_coeff )
```

Sets the P-coefficient of the specified device.

11.115.3.76 SetSensorType() `void SetSensorType (`

```
unsigned int device,
TcxSensorTypeEnumNet type )
```

11.115.3.77 SetSetpoint() `void SetSetpoint (`

```
unsigned int channel,
int sp )
```

Sets the target temperate of specified channel in units of 0.1 °C.

11.115.3.78 SetThermocoupleNanovoltPerKelvin() `void SetThermocoupleNanovoltPerKelvin (`

```
unsigned int channel,
unsigned int value )
```

Sets the proportional constant for the thermocouple.

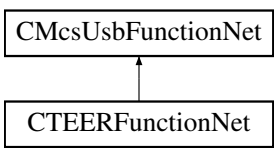
Parameters

channel	Thermocouple channel number.
value	Proportinal constant in Nanovolt per Kelvin.

11.116 CTEERFunctionNet Class Reference

CTEERFunctionNet is the class to control the TEER device

Inheritance diagram for CTEERFunctionNet:



Public Member Functions

- CTEERFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pTEERFunctionPointer↩ Container)

  Initializes a new instance of the CTEERFunctionNet class.
- CTEERFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CTEERFunctionNet ()
- !CTEERFunctionNet ()
- uint32_t GetPeriod_us ()

  gets the period of TEER stimulation in us
- void SetPeriod_us (uint32_t period_us)

  sets the period of TEER stimulation in us
- uint32_t GetAmplitude_nA ()

  gets TEER stimulation amplitude in nA
- void SetAmplitude_nA (uint32_t Amplitude_nA)

  sets TEER stimulation amplitude in nA
- TeerWaveformEnumNet GetWaveform ()

  gets TEER stimulation waveform (sine/rect)
- void SetWaveform (TeerWaveformEnumNet Waveform)

  sets TEER stimulation waveform (sine/rect)
- TeerClampModeEnumNet GetClampMode ()

  gets TEER clamp mode (voltage/current)
- void SetClampMode (TeerClampModeEnumNet ClampMode)

  sets TEER clamp mode (voltage/current)
- void StartSampling (uint32_t NumberOfCycles)

  starts TEER stimulation (duration: n cycles) and samples during last cycle
- void StopSampling ()

  stops TEER stimulation and sampling
- uint32_t IsSamplingFinished ()

  returns false iff stimulation/sampling is going on, otherwise true
- void SetControllerParams (uint32_t P, uint32_t I, uint32_t D)

  sets PID controller parameters for voltage clamp mode
- void GetControllerParams ([System::Runtime::InteropServices::Out]uint32_t% P, [System::Runtime::↩ InteropServices::Out]uint32_t% I, [System::Runtime::InteropServices::Out]uint32_t% D)

  gets PID controller parameters for voltage clamp mode
- array< int32_t > ^ GetSampleBufferChunk (int Buffer_Length)

  private function to query max. 100 bytes of sample buffer; called internally
- array< int32_t > ^ GetSampleVoltageBuffer_uV (int Buffer_Length)

  returns voltage sample buffer (max. 500 values); unit: uV
- uint32_t GetMaxChunkSize_Byte ()

  private function to be called internally only
- uint32_t GetBytesPerSample ()

  private function to be called internally only
- uint32_t GetNumberOfAvailableSamples ()

  private function to be called internally only
- void SetBufferIndex (uint32_t NewBufferIndex)

  pre-selects sample buffer to be tranferred by GetSampleVoltageBuffer_uV()
- uint32_t GetAdapterCode ()

  gets the adapter code
- uint32_t GetRotaryPositionCode ()

  gets the rotary position code

- void SetExternalLED (uint32_t NewState)

  sets the external LED
- void SetCurrentEnable (bool NewCurrentEnable)

  when disabled, no current will flow through chamber
- bool GetCurrentEnable ()

  when disabled, no current will flow through chamber
- int32_t GetUptimeSeconds ()

  returns time in seconds since device was powered up
- void StartInternalCalibration ()

  starts determination of internal DAC-offset; result is used internally; NON-BLOCKING call
- bool IsInternalCalibrationFinished ()

  queries whether internal calibration has finished
- int GetDacZero ()

  returns DAC-offset (result of internal calibration); use to check for plausibility only
- void CancelInternalCalibration ()

  in case the internal calibration "hangs", this will cancel it
- void SetLiquidResistance (int32_t NewLiquidResistance_Ohm)

  sets the resistance of the liquid in ohms
- int32_t GetLiquidResistance ()

  gets the resitance of the liquid in ohms
- int GetScaleFactorU1 ()

  returns U1 scale factor times 10^6 (result of internal calibration)
- int GetScaleFactorU2 ()

  returns U2 scale factor times 10^6 (result of internal calibration)
- int GetAdcOffsetU1 ()

  returns ADC offset of U1 channel (result of internal calibration)
- int GetAdcOffsetU2 ()

  returns ADC offset of U2 channel (result of internal calibration)
- int GetFrameErrorCounter ()

  returns number of times (since bootup) sample memory got overwritten
- int GetSampleRate ()

  returns sample rate in Hz

Additional Inherited Members

11.116.1 Detailed Description

CTEERFunctionNet is the class to control the TEER device

11.116.2 Constructor & Destructor Documentation

11.116.2.1 CTEERFunctionNet() [1/2]

```
CTEERFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pTEERFunctionPointerContainer )
```

Initializes a new instance of the CTEERFunctionNet class.

11.116.2.2 CTEERFunctionNet() [2/2] CTEERFunctionNet (CMcsUsbNet^ *mcsusb*)

11.116.2.3 ~CTEERFunctionNet() virtual ~CTEERFunctionNet ( ) [virtual]

11.116.2.4 "!CTEERFunctionNet() !CTEERFunctionNet ( )

11.116.3 Member Function Documentation

11.116.3.1 CancelInternalCalibration() void CancelInternalCalibration ( )

in case the internal calibration "hangs", this will cancel it

11.116.3.2 GetAdapterCode() uint32_t GetAdapterCode ( )

gets the adapter code

Returns

the adapter code

11.116.3.3 GetAdcOffsetU1() int GetAdcOffsetU1 ( )

returns ADC offset of U1 channel (result of internal calibration)

Returns

the ADC offset for U1

11.116.3.4 GetAdcOffsetU2() int GetAdcOffsetU2 ( )

returns ADC offset of U2 channel (result of internal calibration)

Returns

the ADC offset for U2

11.116.3.5 GetAmplitude_nA() `uint32_t GetAmplitude_nA ( )`

gets TEER stimulation amplitude in nA

Returns

current stimulation amplitude in nA

11.116.3.6 GetBytesPerSample() `uint32_t GetBytesPerSample ( )`

private function to be called internally only

Returns

not documented

11.116.3.7 GetClampMode() `TeerClampModeEnumNet GetClampMode ( )`

gets TEER clamp mode (voltage/current)

Returns

current TEER clamp mode

11.116.3.8 GetControllerParams() `void GetControllerParams (`

```
[System::Runtime::InteropServices::Out] uint32_t% P,
[System::Runtime::InteropServices::Out] uint32_t% I,
[System::Runtime::InteropServices::Out] uint32_t% D )
```

gets PID controller parameters for voltage clamp mode

Parameters

P	the P value
I	the I value
D	the D value

11.116.3.9 GetCurrentEnable() `bool GetCurrentEnable ( )`

when disabled, no current will flow through chamber

Returns

false when disabled, true when enabled

11.116.3.10 GetDacZero() `int GetDacZero ( )`

returns DAC-offset (result of internal calibration); use to check for plausibility only

Returns

the DAC offset

11.116.3.11 GetFrameErrorCounter() `int GetFrameErrorCounter ( )`

returns number of times (since bootup) sample memory got overwritten

Returns

the number of errors

11.116.3.12 GetLiquidResistance() `int32_t GetLiquidResistance ( )`

gets the resitance of the liquid in ohms

Returns

the resistance in ohms

11.116.3.13 GetMaxChunkSize_Byte() `uint32_t GetMaxChunkSize_Byte ( )`

private function to be called internally only

Returns

not documented

11.116.3.14 GetNumberOfAvailableSamples() `uint32_t GetNumberOfAvailableSamples ( )`

private function to be called internally only

Returns

not documented

11.116.3.15 GetPeriod_us() `uint32_t GetPeriod_us ( )`

gets the period of TEER stimulation in us

Returns

the period in us

11.116.3.16 GetRotaryPositionCode() `uint32_t GetRotaryPositionCode ( )`

gets the rotary position code

Returns

the rotary position code

11.116.3.17 GetSampleBufferChunk() `array<int32_t> ^ GetSampleBufferChunk ( int Buffer_Length )`

private function to query max. 100 bytes of sample buffer; called internally

Parameters

Buffer_Length	The maximal length of Buffer.

Returns

not documented

11.116.3.18 GetSampleRate() `int GetSampleRate ( )`

returns sample rate in Hz

Returns

the sample rate in Hz

11.116.3.19 GetSampleVoltageBuffer_uV() `array<int32_t> ^ GetSampleVoltageBuffer_uV ( int Buffer_Length )`

returns voltage sample buffer (max. 500 values); unit: uV

Parameters

Buffer_Length	The maximal length of Buffer.

Returns

the voltage sample buffer

11.116.3.20 GetScaleFactorU1() `int GetScaleFactorU1 ( )`

returns U1 scale factor times 10^6 (result of internal calibration)

Returns

the U1 scale factor

11.116.3.21 GetScaleFactorU2() `int GetScaleFactorU2 ( )`

returns U2 scale factor times 10^6 (result of internal calibration)

Returns

the U2 scale factor

11.116.3.22 GetUptimeSeconds() `int32_t GetUptimeSeconds ( )`

returns time in seconds since device was powered up

Returns

seconds since power-on

11.116.3.23 GetWaveform() `TeerWaveformEnumNet GetWaveform ( )`

gets TEER stimulation waveform (sine/rect)

Returns

waveform enum

11.116.3.24 IsInternalCalibrationFinished() `bool IsInternalCalibrationFinished ( )`

queries whether internal calibration has finished

Returns

true if calibration has finished

11.116.3.25 IsSamplingFinished() `uint32_t IsSamplingFinished ( )`

returns false iff stimulation/sampling is going on, otherwise true

Returns

true if sampling is finished

11.116.3.26 SetAmplitude_nA() `void SetAmplitude_nA ( uint32_t Amplitude_nA )`

sets TEER stimulation amplitude in nA

Parameters

Amplitude_nA	new stimulation amplitude in nA

11.116.3.27 SetBufferIndex() `void SetBufferIndex ( uint32_t NewBufferIndex )`

pre-selects sample buffer to be tranferred by GetSampleVoltageBuffer_uV()

Parameters

NewBufferIndex	0 - chamber voltage; 1 - compliance voltage

11.116.3.28 SetClampMode() void SetClampMode (TeerClampModeEnumNet *ClampMode*)

sets TEER clamp mode (voltage/current)

Parameters

ClampMode	new TEER clamp mode

11.116.3.29 SetControllerParams() void SetControllerParams (uint32_t *P*, uint32_t *I*, uint32_t *D*)

sets PID controller parameters for voltage clamp mode

Parameters

P	the P value
I	the I value
D	the D value

11.116.3.30 SetCurrentEnable() void SetCurrentEnable (bool *NewCurrentEnable*)

when disabled, no current will flow through chamber

Parameters

NewCurrentEnable	disabled when false, enabled when true

11.116.3.31 SetExternalLED() void SetExternalLED (uint32_t *NewState*)

sets the external LED

Parameters

NewState	state

11.116.3.32 SetLiquidResistance() `void SetLiquidResistance (`

`int32_t NewLiquidResistance_Ohm )`

sets the resistance of the liquid in ohms

Parameters

NewLiquidResistance_Ohm	the resistance in ohms

11.116.3.33 SetPeriod_us() `void SetPeriod_us (`

`uint32_t period_us )`

sets the period of TEER stimulation in us

Parameters

period_us	the period in us

11.116.3.34 SetWaveform() `void SetWaveform (`

`TeerWaveformEnumNet Waveform )`

sets TEER stimulation waveform (sine/rect)

Parameters

Waveform	waveform enum

11.116.3.35 StartInternalCalibration() `void StartInternalCalibration ( )`

starts determination of internal DAC-offset; result is used internally; NON-BLOCKING call

11.116.3.36 StartSampling() `void StartSampling (`

`uint32_t NumberOfCycles )`

starts TEER stimulation (duration: n cycles) and samples during last cycle

Parameters

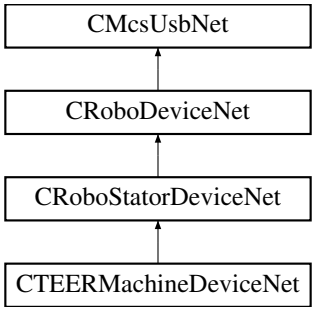
NumberOfCycles	number of cycles (sine or rect) to output (0 - loop forever)

11.116.3.37 StopSampling() `void StopSampling ( )`

stops TEER stimulation and sampling

11.117 CTEERMachineDeviceNet Class Reference

Inheritance diagram for CTEERMachineDeviceNet:



Public Member Functions

- CTEERMachineDeviceNet ()
- ~CTEERMachineDeviceNet ()

Properties

- CTEERFunctionNet^ TEERFunctionNet `[get]`

Additional Inherited Members

11.117.1 Constructor & Destructor Documentation

11.117.1.1 CTEERMachineDeviceNet() `CTEERMachineDeviceNet ( )`

11.117.1.2 ~CTEERMachineDeviceNet() `~CTEERMachineDeviceNet ( )`

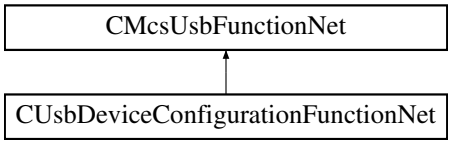
11.117.2 Property Documentation

11.117.2.1 TEERFunctionNet CTEERFunctionNet^ TEERFunctionNet [get]

11.118 CUsbDeviceConfigurationFunctionNet Class Reference

CUsbDeviceConfigurationFunctionNet is the class to configure the USB firmware

Inheritance diagram for CUsbDeviceConfigurationFunctionNet:



Public Member Functions

- CUsbDeviceConfigurationFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ p↩ UsbDeviceConfigurationFunctionPointerContainer)

  Initializes a new instance of the CUsbDeviceConfigurationFunctionNet class.
- CUsbDeviceConfigurationFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CUsbDeviceConfigurationFunctionNet ()
- !CUsbDeviceConfigurationFunctionNet ()
- void SetDeviceName (String^ name)

  sets the USB device name for configurable devices
- void SetDeviceId (ProductIdEnumNet id)

  sets the USB device name for configurable devices

Additional Inherited Members

11.118.1 Detailed Description

CUsbDeviceConfigurationFunctionNet is the class to configure the USB firmware

11.118.2 Constructor & Destructor Documentation

11.118.2.1 CUsbDeviceConfigurationFunctionNet() [1/2] CUsbDeviceConfigurationFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pUsbDeviceConfigurationFunctionPointerContainer*)

Initializes a new instance of the CUsbDeviceConfigurationFunctionNet class.

11.118.2.2 CUsbDeviceConfigurationFunctionNet() [2/2] CUsbDeviceConfigurationFunctionNet (CMcsUsbNet^ *mcsusb*)

11.118.2.3 ~CUsbDeviceConfigurationFunctionNet() virtual ~CUsbDeviceConfigurationFunctionNet ( ) [virtual]

11.118.2.4 "!CUsbDeviceConfigurationFunctionNet() !CUsbDeviceConfigurationFunctionNet ( )

11.118.3 Member Function Documentation

11.118.3.1 SetDeviceId() void SetDeviceId (ProductIdEnumNet *id*)

sets the USB device name for configurable devices

Parameters

id	

11.118.3.2 SetDeviceName() void SetDeviceName (String^ *name*)

sets the USB device name for configurable devices

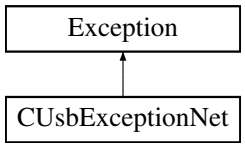
Parameters

name	

11.119 CUsbExceptionNet Class Reference

Exception class that is thrown in case of an USB error.

Inheritance diagram for CUsbExceptionNet:



Public Member Functions

- CUsbExceptionNet (uint32_t status)

  Constructor of a CUsbException.
- CUsbExceptionNet (uint32_t status, String^ message)

Properties

- uint32_t Status [get]

11.119.1 Detailed Description

Exception class that is thrown in case of an USB error.

11.119.2 Constructor & Destructor Documentation

11.119.2.1 CUsbExceptionNet() [1/2] CUsbExceptionNet (uint32_t *status*)

Constructor of a CUsbException.

Parameters

status	the status number

11.119.2.2 CUsbExceptionNet() [2/2] CUsbExceptionNet (uint32_t *status*, String^ *message*)

11.119.3 Property Documentation

11.119.3.1 Status uint32_t Status [get]

11.120 CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet Class Reference

Public Member Functions

- CVoltageRangeInfoNet (int vr, String^ vrString)

Public Attributes

- int VoltageRangeInMicroVolt
- String ^ VoltageRangeDisplayStringMilliVolt

11.120.1 Constructor & Destructor Documentation

11.120.1.1 CVoltageRangeInfoNet() `CVoltageRangeInfoNet (`

```
int vr,
String^ vrString )
```

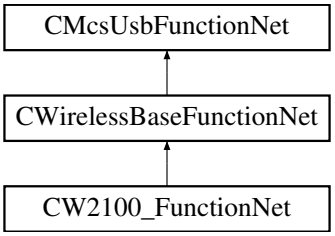
11.120.2 Member Data Documentation

11.120.2.1 VoltageRangeDisplayStringMilliVolt `String ^ VoltageRangeDisplayStringMilliVolt`

11.120.2.2 VoltageRangeInMicroVolt `int VoltageRangeInMicroVolt`

11.121 CW2100_FunctionNet Class Reference

Inheritance diagram for CW2100_FunctionNet:



Classes

- struct AudioChannelsNet

Public Member Functions

- CW2100_FunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ w2100_Function↩ PointerContainer)
- CW2100_FunctionNet (CMcsUsbNet^ mcsusb)
- array< HeadStageIDType^> ^ GetAvailableHeadstages (unsigned int max_length)
- void SelectHeadstage (unsigned int IDorEntry, int TimeSlotNr)
- void DeselectHeadstage (int TimeSlotNr)
- void DeselectAllHeadstages ()
- HeadStageIDTypeState ^ GetSelectedHeadstageState (int TimeSlotNr)
- BatteryState ^ GetBatteryState (int TimeSlotNr)
- System::String ^ GetUserDefinedName (unsigned short ID)
- System::String ^ GetUserDefinedNameFromSelectedHS (int TimeSlotNr)
- System::String ^ GetUserDefinedNameCache (unsigned short ID)
- uint32_t GetUserDefinedNameCache (unsigned short ID, [System::Runtime::InteropServices::Out]System↩ ::String^% Name)
- W2100_StimulusParametersNet ^ GetStiumlusParameters (unsigned short ID)
- W2100_StimulusParametersNet ^ GetStimulusParametersFromSelectedHS (int TimeSlotNr)
- W2100_StimulusParametersNet ^ GetStimulusParametersCache (unsigned int typeValue)
- uint32_t GetStimulusParametersCache (unsigned int typeValue, [System::Runtime::InteropServices::↩ Out]W2100_StimulusParametersNet^% StimulusParameters)
- void SetSelectedChannels (array< BYTE >^ channels, int TimeSlotNr)
- array< BYTE > ^ GetSelectedChannels (int TimeSlotNr)
- void SetMultiHeadstageMode (bool Mode)
- bool GetMultiHeadstageMode ()
- void SetHeadstageSamplingActive (bool Active, int TimeSlotNr)
- bool GetHeadstageSamplingActive (int TimeSlotNr)
- void SetHeadstageToSleep (unsigned int Sleep16ms, int TimeSlotNr)
- void SetHeadstageOnOff (unsigned short On, int TimeSlotNr)
- unsigned short GetHeadstageOnOff (int TimeSlotNr)
- unsigned int GetAnalogOutChannel ([System::Runtime::InteropServices::Out]int % automatic, unsigned short index)
- void SetAnalogOutChannel (int automatic, unsigned short index, unsigned int Channel)
- array< unsigned int > ^ GetAnalogOutFilter ([System::Runtime::InteropServices::Out]int % automatic)
- void SetAnalogOutFilter (int automatic, array< unsigned int >^ Coeffs)
- AnalogOut_DAC_Range_EnumNet GetDacRange ()
- void SetDacRange (AnalogOut_DAC_Range_EnumNet range)
- CFilterPropertyNet ^ GetFilterProperty (W2100DacqGroupChannelEnumNet GroupID, unsigned int index)
- array< CFilterPropertyNet^> ^ GetFilterProperties (W2100DacqGroupChannelEnumNet GroupID)
- void SetAccelGyroEnabled (W2100_Accel_Gyro_Select_EnumNet enable, int TimeSlotNr)
- W2100_Accel_Gyro_Select_EnumNet GetAccelGyroEnabled (int TimeSlotNr)
- void SetAccelGyroDesiredRate (int rate, int TimeSlotNr)
- int GetAccelGyroDesiredRate (int TimeSlotNr)
- int GetAccelGyroCurrentRate (int TimeSlotNr)
- void SetAccelRange (int range, int TimeSlotNr)
- int GetAccelRange (int TimeSlotNr)
- void SetGyroRange (int range, int TimeSlotNr)
- int GetGyroRange (int TimeSlotNr)
- void SetAudioChannels (array< AudioChannelsNet^>^ channels)
- array< AudioChannelsNet^> ^ GetAudioChannels ()
- unsigned int GetPicFirmwareType (int TimeSlotNr)
- unsigned int GetFPGAFirmwareType (int TimeSlotNr)

Static Public Member Functions

- static void ClearUserDefinedNameCache ()
- static void ClearUserDefinedNameCache (unsigned short ID)
- static void ClearStimulusParametersCache ()
- static void ClearStimulusParametersCache (unsigned short ID)

Properties

- CW2100_StimulatorFunctionNet^ Stimulator [get]
- CPulseGeneratorFunctionNet^ PulseGenerator [get]

Additional Inherited Members

11.121.1 Constructor & Destructor Documentation

11.121.1.1 CW2100_FunctionNet() [1/2]

```
CW2100_FunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ w2100_FunctionPointerContainer )
```

11.121.1.2 CW2100_FunctionNet() [2/2]

```
CW2100_FunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.121.2 Member Function Documentation

11.121.2.1 ClearStimulusParametersCache() [1/2]

```
static void ClearStimulusParametersCache ( )
[static]
```

11.121.2.2 ClearStimulusParametersCache() [2/2]

```
static void ClearStimulusParametersCache (
    unsigned short ID )  [static]
```

11.121.2.3 ClearUserDefinedNameCache() [1/2]

```
static void ClearUserDefinedNameCache ( )  [static]
```

11.121.2.4 ClearUserDefinedNameCache() [2/2]

```
static void ClearUserDefinedNameCache (
    unsigned short ID )  [static]
```

11.121.2.5 DeselectAllHeadstages()

```
void DeselectAllHeadstages ( )
```

11.121.2.6 DeselectHeadstage()

```
void DeselectHeadstage (
    int TimeSlotNr )
```

11.121.2.7 GetAccelGyroCurrentRate()

```
int GetAccelGyroCurrentRate (
    int TimeSlotNr )
```

11.121.2.8 GetAccelGyroDesiredRate()

```
int GetAccelGyroDesiredRate (
    int TimeSlotNr )
```

11.121.2.9 GetAccelGyroEnabled()

```
W2100_Accel_Gyro_Select_EnumNet GetAccelGyroEnabled (
    int TimeSlotNr )
```

11.121.2.10 GetAccelRange()

```
int GetAccelRange (
    int TimeSlotNr )
```

11.121.2.11 GetAnalogOutChannel()

```
unsigned int GetAnalogOutChannel (
    [System::Runtime::InteropServices::Out] int % automatic,
    unsigned short index )
```

11.121.2.12 GetAnalogOutFilter()

```
array<unsigned int> ^ GetAnalogOutFilter (
    [System::Runtime::InteropServices::Out] int % automatic )
```

11.121.2.13 GetAudioChannels()

```
array<AudioChannelsNet^> ^ GetAudioChannels ( )
```

11.121.2.14 GetAvailableHeadstages()

```
array<HeadStageIDType^> ^ GetAvailableHeadstages (
    unsigned int max_length )
```

11.121.2.15 GetBatteryState()

```
BatteryState ^ GetBatteryState (
    int TimeSlotNr )
```

11.121.2.16 GetDacRange()

```
AnalogOut_DAC_Range_EnumNet GetDacRange ( )
```

11.121.2.17 GetFilterProperties()

```
array<CFilterPropertyNet^> ^ GetFilterProperties (
    W2100DacqGroupChannelEnumNet GroupID )
```

11.121.2.18 GetFilterProperty()

```
CFilterPropertyNet ^ GetFilterProperty (
    W2100DacqGroupChannelEnumNet GroupID,
    unsigned int index )
```

11.121.2.19 GetFPGAFirmwareType()

```
unsigned int GetFPGAFirmwareType (
    int TimeSlotNr )
```

11.121.2.20 GetGyroRange()

```
int GetGyroRange (
    int TimeSlotNr )
```

11.121.2.21 GetHeadstageOnOff()

```
unsigned short GetHeadstageOnOff (
    int TimeSlotNr )
```

11.121.2.22 GetHeadstageSamplingActive()

```
bool GetHeadstageSamplingActive (
    int TimeSlotNr )
```

11.121.2.23 GetMultiHeadstageMode()

```
bool GetMultiHeadstageMode ( )
```

11.121.2.24 GetPicFirmwareType()

```
unsigned int GetPicFirmwareType (
            int TimeSlotNr )
```

11.121.2.25 GetSelectedChannels()

```
array<BYTE> ^ GetSelectedChannels (
            int TimeSlotNr )
```

11.121.2.26 GetSelectedHeadstageState()

```
HeadStageIDTypeState ^ GetSelectedHeadstageState (
            int TimeSlotNr )
```

11.121.2.27 GetStimulusParametersCache() [1/2]

```
W2100_StimulusParametersNet ^ GetStimulus↩
ParametersCache (
            unsigned int typeValue )
```

11.121.2.28 GetStimulusParametersCache() [2/2]

```
uint32_t GetStimulusParametersCache (
            unsigned int typeValue,
            [System::Runtime::InteropServices::Out] W2100_StimulusParametersNet^% Stimulus↩
Parameters )
```

11.121.2.29 GetStimulusParametersFromSelectedHS()

```
W2100_StimulusParametersNet ^ GetStimulus↩
ParametersFromSelectedHS (
            int TimeSlotNr )
```

11.121.2.30 GetStiumlusParameters()

```
W2100_StimulusParametersNet ^ GetStiumlusParameters (
            unsigned short ID )
```

11.121.2.31 GetUserDefinedName()

```
System::String ^ GetUserDefinedName (
            unsigned short ID )
```

11.121.2.32 GetUserDefinedNameCache() [1/2]

```
System::String ^ GetUserDefinedNameCache (
            unsigned short ID )
```

11.121.2.33 GetUserDefinedNameCache() [2/2] uint32_t GetUserDefinedNameCache (

```
unsigned short ID,
[System::Runtime::InteropServices::Out] System::String^% Name )
```

11.121.2.34 GetUserDefinedNameFromSelectedHS() System::String ^ GetUserDefinedNameFrom↩ SelectedHS (

```
int TimeSlotNr )
```

11.121.2.35 SelectHeadstage() void SelectHeadstage (

```
unsigned int IDorEntry,
int TimeSlotNr )
```

11.121.2.36 SetAccelGyroDesiredRate() void SetAccelGyroDesiredRate (

```
int rate,
int TimeSlotNr )
```

11.121.2.37 SetAccelGyroEnabled() void SetAccelGyroEnabled (

```
W2100_Accel_Gyro_Select_EnumNet enable,
int TimeSlotNr )
```

11.121.2.38 SetAccelRange() void SetAccelRange (

```
int range,
int TimeSlotNr )
```

11.121.2.39 SetAnalogOutChannel() void SetAnalogOutChannel (

```
int automatic,
unsigned short index,
unsigned int Channel )
```

11.121.2.40 SetAnalogOutFilter() void SetAnalogOutFilter (

```
int automatic,
array< unsigned int >^ Coeffs )
```

11.121.2.41 SetAudioChannels()

```
void SetAudioChannels (
    array< AudioChannelsNet^>^ channels )
```

11.121.2.42 SetDacRange()

```
void SetDacRange (
    AnalogOut_DAC_Range_EnumNet range )
```

11.121.2.43 SetGyroRange()

```
void SetGyroRange (
    int range,
    int TimeSlotNr )
```

11.121.2.44 SetHeadstageOnOff()

```
void SetHeadstageOnOff (
    unsigned short On,
    int TimeSlotNr )
```

11.121.2.45 SetHeadstageSamplingActive()

```
void SetHeadstageSamplingActive (
    bool Active,
    int TimeSlotNr )
```

11.121.2.46 SetHeadstageToSleep()

```
void SetHeadstageToSleep (
    unsigned int Sleep16ms,
    int TimeSlotNr )
```

11.121.2.47 SetMultiHeadstageMode()

```
void SetMultiHeadstageMode (
    bool Mode )
```

11.121.2.48 SetSelectedChannels()

```
void SetSelectedChannels (
    array< BYTE >^ channels,
    int TimeSlotNr )
```

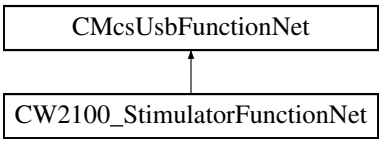
11.121.3 Property Documentation

11.121.3.1 PulseGenerator `CPulseGeneratorFunctionNet^ PulseGenerator [get]`

11.121.3.2 Stimulator `CW2100_StimulatorFunctionNet^ Stimulator [get]`

11.122 CW2100_StimulatorFunctionNet Class Reference

Inheritance diagram for CW2100_StimulatorFunctionNet:



Public Member Functions

- CW2100_StimulatorFunctionNet (CMcsUsbNet^ mcsusb)
- void SendStart (uint32_t triggermap)

  Start (Trigger) the STG. The startup delay is in the range of a few ms.
- void SendStop (uint32_t triggermap)

  Stop some or all triggers of the STG.
- CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareData (int channel, array< int32_t >^ amplitude, array< uint64_t >^ duration, STG_DestinationEnumNet destType, uint32_t repeat)
- CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareDataSync (int channel, array< int32_t >^ amplitude, array< uint32_t >^ Sync, array< uint64_t >^ duration, STG_DestinationEnumNet destType, uint32_t repeat)
- void SendPreparedData (int channel, CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled, STG_DestinationEnumNet destType)
- void ClearChannelData (int channel)

  Delete a Stimulus Pattern from STG memory
- int GetDACResolution ()

  Gets number of bits of the DAC resolution.
- int GetTimeResolutionInNanoSeconds ()

  Gets number of bits of the DAC resolution.
- int GetVoltageRangeInMicroVolt (uint32_t channel)

  Gets the Voltage Range of the specified channel in Microvolts.
- int GetVoltageResolutionInMicroVolt (uint32_t channel)

  Gets the Voltage Resolution of the specified channel in Microvolts.
- int GetCurrentRangeInNanoAmp (uint32_t channel)

  Gets the Current Range of the specified channel in Nanoamps.
- int GetCurrentResolutionInNanoAmp (uint32_t channel)

  Gets the Current Resolution of the specified channel in Nanoamps.
- uint32_t GetNumberOfAnalogChannels ()
- uint32_t GetNumberOfSyncoutChannels ()
- uint32_t GetNumberOfTriggerInputs ()
- void SelectTimeSlot (int TimeSlotNr)
- int GetTimeSlot ()
- uint32_t GetStimulationPatternMemory ()

- uint32_t GetBoostPreTime ()
- uint32_t GetBoostAlwaysOnMode ()
- void SetDigitalStimulatorTrigger (int TimeSlotNr, DigitalStimulatorTriggerEventEnumNet trigger_event, int trigger_number, W2100DigitalSourceEnumNet digstream_source, int bitnumber_offset)
- void GetDigitalStimulatorTrigger (int TimeSlotNr, DigitalStimulatorTriggerEventEnumNet trigger_event, int trigger_number, [System::Runtime::InteropServices::Out]W2100DigitalSourceEnumNet% digstream_source, [System::Runtime::InteropServices::Out]int% bitnumber_offset)
- void SetDigitalStimulatorTriggerSlope (int TimeSlotNr, DigitalStimulatorTriggerEventEnumNet trigger_event, int trigger_number, DigitalStimulatorTriggerSlopeEnumNet slope)
- DigitalStimulatorTriggerSlopeEnumNet GetDigitalStimulatorTriggerSlope (int TimeSlotNr, DigitalStimulatorTriggerEventEnumNe trigger_event, int trigger_number)
- void StartPoll ()
- void StopPoll ()

Static Public Attributes

- static const uint32_t BOOST_BIT = (1 << 0)
- static const uint32_t GND_SWITCH_BIT = (1 << 1)
- static const uint32_t SYNC_BIT0 = (1 << 2)
- static const uint32_t SYNC_BIT1 = (1 << 3)

Events

- OnStgPollStatus^ PollStatusEvent

Additional Inherited Members

11.122.1 Constructor & Destructor Documentation

11.122.1.1 CW2100_StimulatorFunctionNet() `CW2100_StimulatorFunctionNet ( CMcsUsbNet^ mcsusb )`

11.122.2 Member Function Documentation

11.122.2.1 ClearChannelData() `void ClearChannelData ( int channel )`

Delete a Stimulus Pattern from STG memory

Parameters

channel	specifies the channel to clear.

11.122.2.2 GetBoostAlwaysOnMode() `uint32_t GetBoostAlwaysOnMode ( )`

11.122.2.3 GetBoostPreTime() `uint32_t GetBoostPreTime ( )`

11.122.2.4 GetCurrentRangeInNanoAmp() `int GetCurrentRangeInNanoAmp ( uint32_t channel )`

Gets the Current Range of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Range of the specified channel in Nanoamps.

11.122.2.5 GetCurrentResolutionInNanoAmp() `int GetCurrentResolutionInNanoAmp ( uint32_t channel )`

Gets the Current Resolution of the specified channel in Nanoamps.

Parameters

channel	Channel which is queried.

Returns

The Current Resolution of the specified channel in Nanoamps.

11.122.2.6 GetDACResolution() `int GetDACResolution ( )`

Gets number of bits of the DAC resolution.

Returns

The DAC resolution in bits.

11.122.2.7 GetDigitalStimulatorTrigger()

```
void GetDigitalStimulatorTrigger (
            int TimeSlotNr,
            DigitalStimulatorTriggerEventEnumNet trigger_event,
            int trigger_number,
            [System::Runtime::InteropServices::Out] W2100DigitalSourceEnumNet% digstream_source,
            [System::Runtime::InteropServices::Out] int% bitnumber_offset )
```

11.122.2.8 GetDigitalStimulatorTriggerSlope()

```
DigitalStimulatorTriggerSlopeEnumNet GetDigitalStimulatorTriggerSlope (
            int TimeSlotNr,
            DigitalStimulatorTriggerEventEnumNet trigger_event,
            int trigger_number )
```

11.122.2.9 GetNumberOfAnalogChannels()

```
uint32_t GetNumberOfAnalogChannels ( )
```

11.122.2.10 GetNumberOfSyncoutChannels()

```
uint32_t GetNumberOfSyncoutChannels ( )
```

11.122.2.11 GetNumberOfTriggerInputs()

```
uint32_t GetNumberOfTriggerInputs ( )
```

11.122.2.12 GetStimulationPatternMemory()

```
uint32_t GetStimulationPatternMemory ( )
```

11.122.2.13 GetTimeResolutionInNanoSeconds()

```
int GetTimeResolutionInNanoSeconds ( )
```

Gets number of bits of the DAC resolution.

Returns

The time resolution in ns.

11.122.2.14 GetTimeSlot()

```
int GetTimeSlot ( )
```

11.122.2.15 GetVoltageRangeInMicroVolt()

```
int GetVoltageRangeInMicroVolt (
            uint32_t channel )
```

Gets the Voltage Range of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Range of the specified channel in Microvolts.

11.122.2.16 GetVoltageResolutionInMicroVolt()

```
int GetVoltageResolutionInMicroVolt (
        uint32_t channel )
```

Gets the Voltage Resolution of the specified channel in Microvolts.

Parameters

channel	Channel which is queried.

Returns

The Voltage Resolution of the specified channel in Microvolts.

11.122.2.17 PrepareData()

```
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareData (
        int channel,
        array< int32_t >^ amplitude,
        array< uint64_t >^ duration,
        STG_DestinationEnumNet destType,
        uint32_t repeat )
```

11.122.2.18 PrepareDataSync()

```
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData ^ PrepareDataSync (
        int channel,
        array< int32_t >^ amplitude,
        array< uint32_t >^ Sync,
        array< uint64_t >^ duration,
        STG_DestinationEnumNet destType,
        uint32_t repeat )
```

11.122.2.19 SelectTimeSlot()

```
void SelectTimeSlot (
        int TimeSlotNr )
```

11.122.2.20 SendPreparedData() void SendPreparedData (

```
int channel,
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData^ device_data_and_unrolled,
STG_DestinationEnumNet destType )
```

11.122.2.21 SendStart() void SendStart (

```
uint32_t triggermap )
```

Start (Trigger) the STG. The startup delay is in the range of a few ms.

Parameters

triggermap	A bitmap of triggers which will be started.

11.122.2.22 SendStop() void SendStop (

```
uint32_t triggermap )
```

Stop some or all triggers of the STG.

Parameters

triggermap	A bitmap of triggers which will be stopped.

11.122.2.23 SetDigitalStimulatorTrigger() void SetDigitalStimulatorTrigger (

```
int TimeSlotNr,
DigitalStimulatorTriggerEventEnumNet trigger_event,
int trigger_number,
W2100DigitalSourceEnumNet digstream_source,
int bitnumber_offset )
```

11.122.2.24 SetDigitalStimulatorTriggerSlope() void SetDigitalStimulatorTriggerSlope (

```
int TimeSlotNr,
DigitalStimulatorTriggerEventEnumNet trigger_event,
int trigger_number,
DigitalStimulatorTriggerSlopeEnumNet slope )
```

11.122.2.25 StartPoll() void StartPoll ( )

11.122.2.26 StopPoll() `void StopPoll ( )`

11.122.3 Member Data Documentation

11.122.3.1 BOOST_BIT `const uint32_t BOOST_BIT = (1 << 0) [static]`

11.122.3.2 GND_SWITCH_BIT `const uint32_t GND_SWITCH_BIT = (1 << 1) [static]`

11.122.3.3 SYNC_BIT0 `const uint32_t SYNC_BIT0 = (1 << 2) [static]`

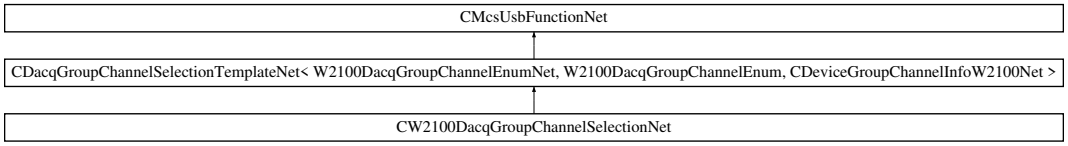
11.122.3.4 SYNC_BIT1 `const uint32_t SYNC_BIT1 = (1 << 3) [static]`

11.122.4 Event Documentation

11.122.4.1 PollStatusEvent `OnStgPollStatus^ PollStatusEvent`

11.123 CW2100DacqGroupChannelSelectionNet Class Reference

Inheritance diagram for CW2100DacqGroupChannelSelectionNet:



Public Member Functions

- CW2100DacqGroupChannelSelectionNet (CMcsUsbNet^ mcsusb)

Additional Inherited Members

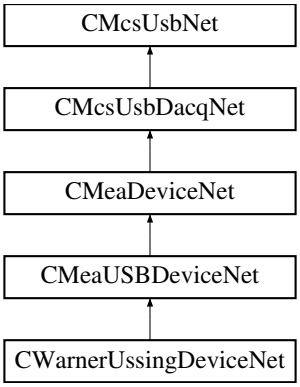
11.123.1 Constructor & Destructor Documentation

11.123.1.1 CW2100DacqGroupChannelSelectionNet() `CW2100DacqGroupChannelSelectionNet ( CMcsUsbNet^ mcsusb )`

11.124 CWarnerUssingDeviceNet Class Reference

CWarnerUssingDeviceNet is the class to control the Ussing device

Inheritance diagram for CWarnerUssingDeviceNet:



Public Member Functions

- CWarnerUssingDeviceNet ()
  Initializes a new instance of the CWarnerUssingDeviceNet class.
- virtual ~CWarnerUssingDeviceNet ()
- !CWarnerUssingDeviceNet ()

Properties

- CWarnerUssingFunctionNet^ WarnerUssingFunction `[get]`

Additional Inherited Members

11.124.1 Detailed Description

CWarnerUssingDeviceNet is the class to control the Ussing device

11.124.2 Constructor & Destructor Documentation

11.124.2.1 CWarnerUssingDeviceNet() `CWarnerUssingDeviceNet ( )`

Initializes a new instance of the CWarnerUssingDeviceNet class.

11.124.2.2 ~CWarnerUssingDeviceNet() `virtual ~CWarnerUssingDeviceNet ( ) [virtual]`

11.124.2.3 "!CWarnerUssingDeviceNet() `!CWarnerUssingDeviceNet ( )`

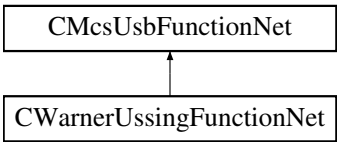
11.124.3 Property Documentation

11.124.3.1 WarnerUssingFunction `CWarnerUssingFunctionNet^ WarnerUssingFunction [get]`

11.125 CWarnerUssingFunctionNet Class Reference

CWarnerUssingFunctionNet is the class to control the Ussing device

Inheritance diagram for CWarnerUssingFunctionNet:



Public Member Functions

- CWarnerUssingFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pWarner↩ UssingFunctionPointerContainer)

  Initializes a new instance of the CWarnerUssingFunctionNet class.
- CWarnerUssingFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CWarnerUssingFunctionNet ()
- !CWarnerUssingFunctionNet ()
- int32_t GetChannelsCountOfChamber (int32_t ChamberId)

  gets number of channels in datastream from chamber amp with given index
- int32_t GetNumberOfHardwareSlotsForChambers ()

  gets number of physical hardware slots for chambers amps
- int32_t GetNumberOfAvailableChambers ()

  gets number of actually connected chamber amps
- bool IsChamberAvailable (int32_t ChamberId)

  checks whether chamber amp is connected to slot
- void SetPulse (int32_t ChamberId, UssingClampModeEnumNet StgMode, int32_t NumberOfRepetitions, array< int >^ Amplitudes, array< int >^ Durations, array< int >^ PulseMarker)

  defines stimulation pulse pattern for voltage or current stimulation; CAUTION: zero-length amplitude will be briefly applied -> choose matching to neighbour to avoid spikes
- void SetVoltageClampControllerParam_P (int32_t ChamberId, uint32_t P)

  sets P value of PID controller;
- void SetVoltageClampControllerParam_I (int32_t ChamberId, uint32_t I)

  sets I value of PID controller;

- void SetVoltageClampControllerParam_D (int32_t ChamberId, uint32_t D)

  sets D value of PID controller;
- uint32_t GetVoltageClampControllerParam_P (int32_t ChamberId)

  gets P value of PID controller;
- uint32_t GetVoltageClampControllerParam_I (int32_t ChamberId)

  gets I value of PID controller;
- uint32_t GetVoltageClampControllerParam_D (int32_t ChamberId)

  gets D value of PID controller;
- void SetClampMode (int32_t ChamberId, UssingClampModeEnumNet NewClampMode)

  sets clamp mode (voltage, current or open clamp)
- UssingClampModeEnumNet GetClampMode (int32_t ChamberId)

  gets clamp mode (voltage, current or open clamp; do not use when device is in internal calibration mode)
- bool IsInternalCalibrationFinished (int32_t ChamberId)

  when internal calibration is finished, values for U1,2_offset and U1,2_reference and DAC_offset are available
- int32_t GetU1Offset (int32_t ChamberId)
- int32_t GetU2Offset (int32_t ChamberId)
- int32_t GetU1Reference (int32_t ChamberId)
- int32_t GetU2Reference (int32_t ChamberId)
- int32_t GetDacZero (int32_t ChamberId)
- void SetHighCurrentMode (int32_t ChamberId)

  switch to high-current mode
- void SetLowCurrentMode (int32_t ChamberId)

  switch to low-current mode
- bool IsHighCurrentMode (int32_t ChamberId)
- uint32_t GetLowCurrentRange (int32_t ChamberId)

  query the range of the low current mode
- uint32_t GetHighCurrentRange (int32_t ChamberId)

  query the range of the high current mode
- uint32_t GetDacPampsPerDigitLowCurrentRange (int32_t ChamberId)

  get the resolution of the low current mode
- uint32_t GetDacPampsPerDigitHighCurrentRange (int32_t ChamberId)

  get the resolution of the high current mode
- uint32_t GetUnitsPerDigit (int32_t ChamberId, int32_t ChannelId)

  gets amps/volts per digit for specified chamber and channel
- int32_t GetUnitExponent (int32_t ChamberId, int32_t ChannelId)

  gets the unit exponent for specified chamber and channel
- UssingUnitEnumNet GetUnitName (int32_t ChamberId, int32_t ChannelId)

  gets the channel's unit name
- String ^ GetUnitDescription (int32_t ChamberId, int32_t ChannelId)

  gets the description for the unit
- array< int > ^ GetAvailableChambers ()

  returns array with (zero-based) ChamberIds of all available chambers
- int32_t GetUptimeSeconds (int32_t ChamberId)

  gets the uptime in seconds
- void SetIdleModeOffset (int32_t ChamberId, UssingClampModeEnumNet ClampMode, int32_t NewIdle↩ Offset)

  sets the offset (voltage or current) that will be applied when clamping is DISABLED
- int32_t GetIdleModeOffset (int32_t ChamberId, UssingClampModeEnumNet ClampMode)

  gets the offset (voltage or current) that will be applied when clamping is DISABLED
- void SetEnablePulse (int32_t ChamberId, UssingClampModeEnumNet ClampMode, bool Enable)

  enable pulse of given chamber and mode (voltage/current clamp) of this chamber

- bool IsPulseEnabled (int32_t ChamberId, UssingClampModeEnumNet ClampMode)
  returns true when pulse of given chamber and current mode (voltage/current clamp) of this chamber is ENABLED
- void SetLiquidResistance (int32_t ChamberId, int32_t NewLiquidResistance_Ohm)
  sets the resistance of the liquid
- int32_t GetLiquidResistance (int32_t ChamberId)
  gets the resistance of the liquid
- int32_t GetComplianceVoltageThreshold (int32_t ChamberId)
  returns compliance voltage threshold in uV; when Uc is above, current source is overloaded
- bool CompensateElectrodeOffset (int32_t ChamberId)
  blocking call to compensate electrode offset of one chamber; returns true when successful
- bool WaitForChamber (int32_t ChamberId)
  blocking call that waits for chamber boot-up calibration to complete
- bool WaitForAllChambers ()
  blocking call that waits for ALL chambers' boot-up calibration to complete

Additional Inherited Members

11.125.1 Detailed Description

CWarnerUssingFunctionNet is the class to control the Ussing device

11.125.2 Constructor & Destructor Documentation

11.125.2.1 CWarnerUssingFunctionNet() [1/2]

```
CWarnerUssingFunctionNet (
    CMcsUsbNet^ mcsusb,
    CMcsUsbFunctionPointerContainer^ pWarnerUssingFunctionPointerContainer )
```

Initializes a new instance of the CWarnerUssingFunctionNet class.

11.125.2.2 CWarnerUssingFunctionNet() [2/2]

```
CWarnerUssingFunctionNet (
    CMcsUsbNet^ mcsusb )
```

11.125.2.3 ~CWarnerUssingFunctionNet()

```
virtual ~CWarnerUssingFunctionNet ( ) [virtual]
```

11.125.2.4 "!CWarnerUssingFunctionNet()

```
!CWarnerUssingFunctionNet ( )
```

11.125.3 Member Function Documentation

11.125.3.1 CompensateElectrodeOffset()

```
bool CompensateElectrodeOffset (
    int32_t ChamberId )
```

blocking call to compensate electrode offset of one chamber; returns true when successful

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

true if compensation succeeded

11.125.3.2 GetAvailableChambers() `array<int> ^ GetAvailableChambers ( )`

returns array with (zero-based) ChamberIds of all available chambers

11.125.3.3 GetChannelsCountOfChamber() `int32_t GetChannelsCountOfChamber ( int32_t ChamberId )`

gets number of channels in datastream from chamber amp with given index

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

return value of zero means that amp is not placed

11.125.3.4 GetClampMode() `UssingClampModeEnumNet GetClampMode ( int32_t ChamberId )`

gets clamp mode (voltage, current or open clamp; do not use when device is in internal calibration mode)

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the current clamp mode

11.125.3.5 GetComplianceVoltageThreshold() int32_t GetComplianceVoltageThreshold (int32_t *ChamberId*)

returns compliance voltage threshold in uV; when Uc is above, current source is overloaded

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the compliance voltage threshold in uV

11.125.3.6 GetDacPampsPerDigitHighCurrentRange() uint32_t GetDacPampsPerDigitHighCurrentRange (int32_t *ChamberId*)

get the resolution of the high current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

unit: pA/digit in high current mode

11.125.3.7 GetDacPampsPerDigitLowCurrentRange() uint32_t GetDacPampsPerDigitLowCurrentRange (int32_t *ChamberId*)

get the resolution of the low current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

pA/digit in low current mode

11.125.3.8 GetDacZero() `int32_t GetDacZero (`

`int32_t` *ChamberId*)

- diagnostic function only - ; gets real zero value of DAC in digits (0 -> neg. current; 32767 -> near zero; 65535 -> pos. current)

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the zero value of the DAC

11.125.3.9 GetHighCurrentRange() `uint32_t GetHighCurrentRange (`

`int32_t` *ChamberId*)

query the range of the high current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

low current range in nA

11.125.3.10 GetIdleModeOffset() `int32_t GetIdleModeOffset (`

`int32_t` *ChamberId*,
`UssingClampModeEnumNet` *ClampMode*)

gets the offset (voltage or current) that will be applied when clamping is DISABLED

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ClampMode	voltage or current clamp stimulation

Returns

unit: nA or uV

11.125.3.11 GetLiquidResistance() int32_t GetLiquidResistance (int32_t *ChamberId*)

gets the resistance of the liquid

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the liquid restistance in ohm

11.125.3.12 GetLowCurrentRange() uint32_t GetLowCurrentRange (int32_t *ChamberId*)

query the range of the low current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

low current range in nA

11.125.3.13 GetNumberOfAvailableChambers() int32_t GetNumberOfAvailableChambers ( )

gets number of actually connected chamber amps

Returns

the number of actually connected chambers

11.125.3.14 GetNumberOfHardwareSlotsForChambers() int32_t GetNumberOfHardwareSlotsForChambers ( )

gets number of physical hardware slots for chambers amps

Returns

the number of hardware chamber slots on the backplane

11.125.3.15 GetU1Offset() int32_t GetU1Offset (int32_t *ChamberId*)

- diagnostic function only -

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

U1 offset

11.125.3.16 GetU1Reference() `int32_t GetU1Reference ( int32_t ChamberId )`

- diagnostic function only -

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

U1 reference

11.125.3.17 GetU2Offset() `int32_t GetU2Offset ( int32_t ChamberId )`

- diagnostic function only -

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

U2 offset

11.125.3.18 GetU2Reference() `int32_t GetU2Reference ( int32_t ChamberId )`

- diagnostic function only -

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

U2 reference

11.125.3.19 GetUnitDescription()

```
String ^ GetUnitDescription (
    int32_t ChamberId,
    int32_t ChannelId )
```

gets the description for the unit

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ChannelId	index of channel (zero-based)

Returns

the description of the unix

11.125.3.20 GetUnitExponent()

```
int32_t GetUnitExponent (
    int32_t ChamberId,
    int32_t ChannelId )
```

gets the unit exponent for specified chamber and channel

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ChannelId	index of channel (zero-based)

Returns

example: return value -9 means that amps/volts per digit is in nano

11.125.3.21 GetUnitName() `UssingUnitEnumNet GetUnitName (`

```
int32_t ChamberId,
int32_t ChannelId )
```

gets the channel's unit name

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ChannelId	index of channel (zero-based)

Returns

the name of the unit

11.125.3.22 GetUnitsPerDigit() `uint32_t GetUnitsPerDigit (`

```
int32_t ChamberId,
int32_t ChannelId )
```

gets amps/volts per digit for specified chamber and channel

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ChannelId	index of channel (zero-based)

Returns

amps/volts per digit

11.125.3.23 GetUptimeSeconds() `int32_t GetUptimeSeconds (`

```
int32_t ChamberId )
```

gets the uptime in seconds

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

seconds since power-on

11.125.3.24 GetVoltageClampControllerParam_D() `uint32_t GetVoltageClampControllerParam_D ( int32_t ChamberId )`

gets D value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the D value

11.125.3.25 GetVoltageClampControllerParam_I() `uint32_t GetVoltageClampControllerParam_I ( int32_t ChamberId )`

gets I value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the I value

11.125.3.26 GetVoltageClampControllerParam_P() `uint32_t GetVoltageClampControllerParam_P ( int32_t ChamberId )`

gets P value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

the P value

11.125.3.27 IsChamberAvailable() bool IsChamberAvailable (int32_t *ChamberId*)

checks whether chamber amp is connected to slot

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

true if the chamber is available

11.125.3.28 IsHighCurrentMode() bool IsHighCurrentMode (int32_t *ChamberId*)

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

true if in hight current mode

11.125.3.29 IsInternalCalibrationFinished() bool IsInternalCalibrationFinished (int32_t *ChamberId*)

when internal calibration is finished, values for U1,2_offset and U1,2_reference and DAC_offset are available

Parameters

ChamberId	index of hardware chamber slot (zero-based)

Returns

true if finished

11.125.3.30 IsPulseEnabled() bool IsPulseEnabled (int32_t *ChamberId*, UssingClampModeEnumNet *ClampMode*)

returns true when pulse of given chamber and current mode (voltage/current clamp) of this chamber is ENABLED

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ClampMode	voltage or current clamp stimulation

Returns

when ENABLED, previously defined pulse pattern will be applied, otherwise the chamber current/voltage will be kept at specified offset level

11.125.3.31 SetClampMode()

```
void SetClampMode (
    int32_t ChamberId,
    UssingClampModeEnumNet NewClampMode )
```

sets clamp mode (voltage, current or open clamp)

Parameters

ChamberId	index of hardware chamber slot (zero-based)
NewClampMode	the clamp mode to use

11.125.3.32 SetEnablePulse()

```
void SetEnablePulse (
    int32_t ChamberId,
    UssingClampModeEnumNet ClampMode,
    bool Enable )
```

enable pulse of given chamber and mode (voltage/current clamp) of this chamber

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ClampMode	voltage or current clamp stimulation
Enable	when ENABLED, previously defined pulse pattern will be applied, otherwise the chamber current/voltage will be kept at specified offset level

11.125.3.33 SetHighCurrentMode()

```
void SetHighCurrentMode (
    int32_t ChamberId )
```

switch to high-current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

11.125.3.34 SetIdleModeOffset()

```
void SetIdleModeOffset (
    int32_t ChamberId,
    UssingClampModeEnumNet ClampMode,
    int32_t NewIdleOffset )
```

sets the offset (voltage or current) that will be applied when clamping is DISABLED

Parameters

ChamberId	index of hardware chamber slot (zero-based)
ClampMode	voltage or current clamp stimulation
NewIdleOffset	unit: nA or uV

11.125.3.35 SetLiquidResistance()

```
void SetLiquidResistance (
    int32_t ChamberId,
    int32_t NewLiquidResistance_Ohm )
```

sets the resistance of the liquid

Parameters

ChamberId	index of hardware chamber slot (zero-based)
NewLiquidResistance_Ohm	the liquid resistiance in ohm

11.125.3.36 SetLowCurrentMode()

```
void SetLowCurrentMode (
    int32_t ChamberId )
```

switch to low-current mode

Parameters

ChamberId	index of hardware chamber slot (zero-based)

11.125.3.37 SetPulse()

```
void SetPulse (
    int32_t ChamberId,
```

```
UssingClampModeEnumNet StgMode,
int32_t NumberOfRepetitions,
array< int >^ Amplitudes,
array< int >^ Durations,
array< int >^ PulseMarker )
```

defines stimulation pulse pattern for voltage or current stimulation; CAUTION: zero-length amplitude will be briefly applied -> choose matching to neighbour to avoid spikes

Parameters

ChamberId	index of hardware chamber slot (zero-based); send pattern to connected amp
StgMode	voltage or current clamp stimulation
NumberOfRepetitions	number of repetitions for pulse pattern (-1 for infinite; n means pattern is applied n+1 times)
Amplitudes	amplitude; unit in voltage clamp: uV; unit in current clamp: nA
Durations	duration in 100us; CAUTION: first element is applied only one; auto-loop back to second element after last one
PulseMarker	defines values on digital channel for each step (positive: digital channel "01", neg: "10", zero: "00")

11.125.3.38 SetVoltageClampControllerParam_D()

```
void SetVoltageClampControllerParam_D (
int32_t ChamberId,
uint32_t D )
```

sets D value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)
D	useful range: 0..700

11.125.3.39 SetVoltageClampControllerParam_I()

```
void SetVoltageClampControllerParam_I (
int32_t ChamberId,
uint32_t I )
```

sets I value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)
I	useful range: 80000..120000

11.125.3.40 SetVoltageClampControllerParam_P() `void SetVoltageClampControllerParam_P ( int32_t ChamberId, uint32_t P )`

sets P value of PID controller;

Parameters

ChamberId	index of hardware chamber slot (zero-based)
P	useful value: 130000

11.125.3.41 WaitForAllChambers() `bool WaitForAllChambers ( )`

blocking call that waits for ALL chambers' boot-up calibration to complete

Returns

returns false when at least one chamber's calibration fails (e.g. timeout...)

11.125.3.42 WaitForChamber() `bool WaitForChamber ( int32_t ChamberId )`

blocking call that waits for chamber boot-up calibration to complete

Parameters

ChamberId	index of hardware chamber slot (zero-based)

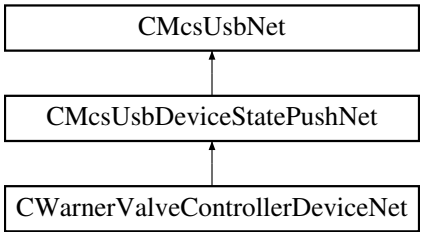
Returns

returns false when calibration fails (e.g. timeout...)

11.126 CWarnerValveControllerDeviceNet Class Reference

CWarnerValveControllerDeviceNet is the class to access the Warner Valve Controller

Inheritance diagram for CWarnerValveControllerDeviceNet:



Public Member Functions

- delegate void OnGetValveActive (uint16_t valve, int valveActive)
- delegate void OnGetValveManualState (uint16_t valve, int32_t valveManualState)
- delegate void OnGetValveManualGroup (uint16_t valve, int32_t valveManualGroup)
- delegate void OnGetValveMode (uint16_t valve, WvcValveModeEnumNet ValveMode)
- delegate void OnGetAnalogThresholdLow (uint16_t valve, int32_t threshold)
- delegate void OnGetAnalogThresholdHigh (uint16_t valve, int32_t threshold)
- delegate void OnGetDigitalPortDirection (uint16_t port, PortDirectionEnumNet direction)
- delegate void OnIsValveDigitalInInverted (uint16_t valve, bool isInverted)
- delegate void OnGetValveDigitalInPort (uint16_t valve, uint32_t digitalInPort)
- delegate void OnIsDigitalOutPortInverted (uint16_t digitalOutPort, bool isInverted)
- delegate void OnGetDigitalOutPortValve (uint16_t digitalOutPort, uint32_t valve)
- delegate void OnIsValveOpen (uint16_t valve, bool valveOpen)
- delegate void OnIsValveOpenInDigitalMode (uint16_t valve, bool valveOpen)
- delegate void OnIsValveOpenInAnalogMode (uint16_t valve, bool valveOpen)
- delegate void OnGetAnalogVoltage (int32_t voltage)
- delegate void OnTableEntryChanged (uint16_t tableNumber)
- delegate void OnGetTableNamebyIndex (uint16_t tableNumber, String^ tableName)
- delegate void OnGetActiveRunningTableNumber (uint32_t tableNumber)
- delegate void OnGetCurrentNumberOfValves (int32_t numberOfValves)
- delegate void OnGetValveBoardRevision (uint32_t revision)
- delegate void OnGetValveLedOn (bool ledon)
- delegate void OnGetDisplayMode (WvcDisplayModeEnumNet DisplayMode)
- CWarnerValveControllerDeviceNet ()

  Initializes a new instance of the CWarnerValveControllerDeviceNet class.
- virtual ~CWarnerValveControllerDeviceNet ()
- !CWarnerValveControllerDeviceNet ()
- int GetValveActive (uint16_t valve)

  Gets the valve active/inactive state
- void SetValveActive (uint16_t valve, int valveActive)

  Sets the valve active/inactive state
- uint32_t GetValvesActiveMap ()

  Gets the valves active/inactive states
- void SetValvesActiveMap (uint32_t valvesActive)

  Sets the valve active/inactive state
- int32_t GetValveManualState (uint16_t valve)

  Gets the valve manual on/off state
- void SetValveManualState (uint16_t valve, int32_t valveManualState)

  Sets the valve manual on/off state
- uint32_t GetValvesManualStateMap ()

  Gets the valves manual on/off states
- void SetValvesManualStateMap (uint32_t valveaManualState)

  Sets the valve manual on/off state
- int32_t GetValveManualGroup (uint16_t valve)

  Gets the valve manual group
- void SetValveManualGroup (uint16_t valve, int32_t valveManualGroup)

  Sets the valve manual group
- WvcValveModeEnumNet GetValveMode (uint16_t valve)

  Reads the valve mode
- void SetValveMode (uint16_t valve, WvcValveModeEnumNet ValveMode)

  Writes the valve mode
- int32_t GetAnalogThresholdLow (uint16_t valve)

Gets the lower threshold for the analog in port per valve

- void SetAnalogThresholdLow (uint16_t valve, int32_t threshold)

  Sets the lower threshold for the analog in port per valve
- int32_t GetAnalogThresholdHigh (uint16_t valve)

  Gets the upper threshold for the analog in port per valve
- void SetAnalogThresholdHigh (uint16_t valve, int32_t threshold)

  Sets the upper threshold for the analog in port per valve
- PortDirectionEnumNet GetDigitalPortDirection (uint16_t port)

  Gets the direction of a digital port
- void SetDigitalPortDirection (uint16_t port, PortDirectionEnumNet direction)

  Sets the direction of a digital port
- bool IsValveDigitalInInverted (uint16_t valve)

  Is digital in inverted
- void SetValveDigitalInInvert (uint16_t valve, bool isInverted)

  Invert digital in
- uint32_t GetValveDigitalInPort (uint16_t valve)

  Gets the number of the digital in port which is mapped to a valve
- void SetValveDigitalInPort (uint16_t valve, uint32_t digitalInPort)

  Map a digital in port to a valve
- bool IsDigitalOutPortInverted (uint16_t digitalOutPort)

  Gets the number of the valve which is mapped to a digital out port
- void SetDigitalOutPortInvert (uint16_t digitalOutPort, bool isInverted)

  Map a valve to a digital out port
- uint32_t GetDigitalOutPortValve (uint16_t digitalOutPort)

  Gets the number of the valve which is mapped to a digital out port
- void SetDigitalOutPortValve (uint16_t digitalOutPort, uint32_t valve)

  Map a valve to a digital out port
- void SetDefault ()

  Sets the settings of the valve controller to default
- bool IsValveOpen (uint16_t valve)

  Is valve open
- bool IsValveOpenInDigitalMode (uint16_t valve)

  True, if the valve would be open when the device is in digital mode
- bool IsValveOpenInAnalogMode (uint16_t valve)

  True, if the valve would be open when the device is in analog mode
- int32_t GetAnalogVoltage ()

  Reads the voltage on the analog in port
- void GetValveTableEntry (uint16_t valve, uint16_t index, [System::Runtime::InteropServices::Out]uint32_t% duration, [System::Runtime::InteropServices::Out]bool% state)

  Read an entry from the valve protocol table
- void SetValveTableEntry (uint16_t valve, uint16_t index, uint32_t duration, bool state)

  Write an entry to the valve protocol table
- void ClearValveTable (uint16_t valve)

  Clear the valve protocol table
- void LoadValveTable ()

  Load the current table from permanent memory
- void StoreValveTable ()

  Store the current table in permanent memory
- String ^ GetTableNamebyIndex (uint16_t tableNumber)

  Get the name of a protocol table
- String ^ GetTableName ()

Get the name of the current protocol table

- void SetTableName (String^ tableName)

  Set the name of the current protocol table

- uint32_t GetActiveRunningTableNumber ()

  Gets the number of the table that is active for running

- void SetActiveRunningTableNumber (uint32_t tableNumber)

  Sets the number of the tanle that is active for running

- uint32_t GetCurrentEditTableNumber ()

  Gets the number of the table that is current for editing

- void SetCurrentEditTableNumber (uint32_t tableNumber)

  Sets the number of the table that is current for editing

- void ClearTableName ()

  Clear the name of current protocol table

- void SetTableStep (uint16_t valve, int32_t steps)

  Skips the table protocol for a valve by steps

- void SetTableStepAll (int32_t steps)

  Skips the table protocol for all valves by steps

- int32_t GetTotalNumberOfValves ()

  Get the total number of valves in the system

- int32_t GetTotalNumberOfDigitalPorts ()

  Get the total number of digital ports in the system

- int32_t GetTotalTableSize ()

  Get the total table size in the system

- int32_t GetTotalNumberOfTables ()

  Get the total number of tables in the system

- int32_t GetCurrentNumberOfValves ()

  Get the current number of valves connected to the system

- uint32_t GetValveBoardRevision ()

  Gets the revision code of the valve board

- bool GetValveLedOn ()

  Gets the LED state of the valve board

- void SetValveLedOn (bool ledon)

  Gets the LED state of the valve board

- WvcDisplayModeEnumNet GetDisplayMode ()

  Reads the display mode

- void SetDisplayMode (WvcDisplayModeEnumNet DisplayMode, int32_t lockTimeMs)

  Writes the display mode

- String ^ GetValveBoardRevisionString ()

  Gets the revision name of the valve board

- void GetValveCurrent ([System::Runtime::InteropServices::Out]int16_t% switch_current, [System::Runtime↩
  ::InteropServices::Out]int16_t% hold_current)

  Gets the valve currents

- void SetValveCurrent (int16_t switch_current, int16_t hold_current)

  Sets the valve currents different from the default

Events

- OnGetValveActive^ GetValveActiveEvent [add, remove, raise]

  Event fires when the valve state for the valve number has changed
- OnGetValveManualState^ GetValveManualStateEvent [add, remove, raise]

  Event fires when the manual valve state for the valve number has changed
- OnGetValveManualGroup^ GetValveManualGroupEvent [add, remove, raise]

  Event fires when the manual valve group for the valve number has changed
- OnGetValveMode^ GetValveModeEvent [add, remove, raise]

  Event fires when the valve mode for the valve number has changed
- OnGetAnalogThresholdLow^ GetAnalogThresholdLowEvent [add, remove, raise]

  Event fires when the threshold in mV for the valve number has changed
- OnGetAnalogThresholdHigh^ GetAnalogThresholdHighEvent [add, remove, raise]

  Event fires when the threshold in mV for the valve number has changed
- OnGetDigitalPortDirection^ GetDigitalPortDirectionEvent [add, remove, raise]

  Event fires when the direction for the port number has changed
- OnIsValveDigitalInInverted^ IsValveDigitalInInvertedEvent [add, remove, raise]

  Event fires when is inverted for the valve number has changed
- OnGetValveDigitalInPort^ GetValveDigitalInPortEvent [add, remove, raise]

  Event fires when the digital in port for the valve number has changed
- OnIsDigitalOutPortInverted^ IsDigitalOutPortInvertedEvent [add, remove, raise]

  Event fires when is inverted for the digital out port has changed
- OnGetDigitalOutPortValve^ GetDigitalOutPortValveEvent [add, remove, raise]

  Event fires when the valve number for the digital out port has changed
- OnIsValveOpen^ IsValveOpenEvent [add, remove, raise]

  Event fires when is open for the valve number has changed
- OnIsValveOpenInDigitalMode^ IsValveOpenInDigitalModeEvent [add, remove, raise]

  Event fires when is open for the valve number has changed
- OnIsValveOpenInAnalogMode^ IsValveOpenInAnalogModeEvent [add, remove, raise]

  Event fires when is open for the valve number has changed
- OnGetAnalogVoltage^ GetAnalogVoltageEvent [add, remove, raise]

  Event fires when the voltage in mV has changed
- OnTableEntryChanged^ TableEntryChangedEvent [add, remove, raise]

  Event fires when an entry of a table changed
- OnGetTableNamebyIndex^ GetTableNamebyIndexEvent [add, remove, raise]

  Event fires when the name of the table for the table number has changed
- OnGetActiveRunningTableNumber^ GetActiveRunningTableNumberEvent [add, remove, raise]

  Event fires when the table number has changed
- OnGetCurrentNumberOfValves^ GetCurrentNumberOfValvesEvent [add, remove, raise]

  Event fires when the number of valves has changed
- OnGetValveBoardRevision^ GetValveBoardRevisionEvent [add, remove, raise]

  Event fires when the revision code has changed
- OnGetValveLedOn^ GetValveLedOnEvent [add, remove, raise]

  Event fires when the LED state has changed
- OnGetDisplayMode^ GetDisplayModeEvent [add, remove, raise]

  Event fires when the display mode has changed

Additional Inherited Members

11.126.1 Detailed Description

CWarnerValveControllerDeviceNet is the class to access the Warner Valve Controller

11.126.2 Constructor & Destructor Documentation

11.126.2.1 CWarnerValveControllerDeviceNet() `CWarnerValveControllerDeviceNet ( )`

Initializes a new instance of the CWarnerValveControllerDeviceNet class.

11.126.2.2 ~CWarnerValveControllerDeviceNet() `virtual ~CWarnerValveControllerDeviceNet ( ) [virtual]`

11.126.2.3 "!CWarnerValveControllerDeviceNet() `!CWarnerValveControllerDeviceNet ( )`

11.126.3 Member Function Documentation

11.126.3.1 ClearTableName() `void ClearTableName ( )`

Clear the name of current protocol table

11.126.3.2 ClearValveTable() `void ClearValveTable ( uint16_t valve )`

Clear the valve protocol table

Parameters

valve	The valve number

11.126.3.3 GetActiveRunningTableNumber() `uint32_t GetActiveRunningTableNumber ( )`

Gets the number of the table that is active for running

Returns

The table number

11.126.3.4 GetAnalogThresholdHigh() int32_t GetAnalogThresholdHigh (uint16_t *valve*)

Gets the upper threshold for the analog in port per valve

Parameters

valve	The valve number

Returns

The threshold in mV

11.126.3.5 GetAnalogThresholdLow() int32_t GetAnalogThresholdLow (uint16_t *valve*)

Gets the lower threshold for the analog in port per valve

Parameters

valve	The valve number

Returns

The threshold in mV

11.126.3.6 GetAnalogVoltage() int32_t GetAnalogVoltage ( )

Reads the voltage on the analog in port

Returns

The voltage in mV

11.126.3.7 GetCurrentEditTableNumber() uint32_t GetCurrentEditTableNumber ( )

Gets the number of the table that is current for editing

Returns

The table number

11.126.3.8 GetCurrentNumberOfValves() `int32_t GetCurrentNumberOfValves ( )`

Get the current number of valves connected to the system

Returns

The number of valves

11.126.3.9 GetDigitalOutPortValve() `uint32_t GetDigitalOutPortValve ( uint16_t digitalOutPort )`

Gets the number of the valve which is mapped to a digital out port

Parameters

digitalOutPort	The digital out port

Returns

The valve number

11.126.3.10 GetDigitalPortDirection() `PortDirectionEnumNet GetDigitalPortDirection ( uint16_t port )`

Gets the direction of a digital port

Parameters

port	The port number

Returns

the direction

11.126.3.11 GetDisplayMode() `WvcDisplayModeEnumNet GetDisplayMode ( )`

Reads the display mode

Returns

The display mode

11.126.3.12 GetTableName() `String ^ GetTableName ( )`

Get the name of the current protocol table

Returns

The name of the table

11.126.3.13 GetTableNamebyIndex() `String ^ GetTableNamebyIndex ( uint16_t tableNumber )`

Get the name of a protocol table

Parameters

tableNumber	The table number

Returns

The name of the table

11.126.3.14 GetTotalNumberOfDigitalPorts() `int32_t GetTotalNumberOfDigitalPorts ( )`

Get the total number of digital ports in the system

Returns

The number of digital ports

11.126.3.15 GetTotalNumberOfTables() `int32_t GetTotalNumberOfTables ( )`

Get the total number of tables in the system

Returns

The number of tables

11.126.3.16 GetTotalNumberOfValves() `int32_t GetTotalNumberOfValves ( )`

Get the total number of valves in the system

Returns

The number of valves

11.126.3.17 GetTotalTableSize() `int32_t GetTotalTableSize ( )`

Get the total table size in the system

Returns

The table size

11.126.3.18 GetValveActive() `int GetValveActive ( uint16_t valve )`

Gets the valve active/inactive state

Parameters

valve	The valve number

Returns

The valve state

11.126.3.19 GetValveBoardRevision() `uint32_t GetValveBoardRevision ( )`

Gets the revision code of the valve board

Returns

The revision code

11.126.3.20 GetValveBoardRevisionString() `String ^ GetValveBoardRevisionString ( )`

Gets the revision name of the valve board

Returns

The revision name

11.126.3.21 GetValveCurrent() `void GetValveCurrent (`

```
[System::Runtime::InteropServices::Out] int16_t% switch_current,
[System::Runtime::InteropServices::Out] int16_t% hold_current )
```

Gets the valve currents

Parameters

switch_current	The switch current (in DAC units)
hold_current	The hold current (in DAC units)

11.126.3.22 GetValveDigitalInPort() `uint32_t GetValveDigitalInPort (`

```
uint16_t valve )
```

Gets the number of the digital in port which is mapped to a valve

Parameters

valve	The valve number

Returns

The digital in port

11.126.3.23 GetValveLedOn() `bool GetValveLedOn ( )`

Gets the LED state of the valve board

Returns

The LED state

11.126.3.24 GetValveManualGroup() `int32_t GetValveManualGroup (`

```
uint16_t valve )
```

Gets the valve manual group

Parameters

valve	The valve number

Returns

The manual valve group

11.126.3.25 GetValveManualState() `int32_t GetValveManualState ( uint16_t valve )`

Gets the valve manual on/off state

Parameters

valve	The valve number

Returns

The manual valve state

11.126.3.26 GetValveMode() `WvcValveModeEnumNet GetValveMode ( uint16_t valve )`

Reads the valve mode

Parameters

valve	The valve number

Returns

The valve mode

11.126.3.27 GetValvesActiveMap() `uint32_t GetValvesActiveMap ( )`

Gets the valves active/inactive states

Returns

The valves states

11.126.3.28 GetValvesManualStateMap() uint32_t GetValvesManualStateMap ( )

Gets the valves manual on/off states

Returns

The manual valves states

11.126.3.29 GetValveTableEntry() void GetValveTableEntry (

```
uint16_t valve,
uint16_t index,
[System::Runtime::InteropServices::Out] uint32_t% duration,
[System::Runtime::InteropServices::Out] bool% state )
```

Read an entry from the valve protocol table

Parameters

valve	The valve number
index	The index in the table
duration	the duration in ms
state	the state

11.126.3.30 IsDigitalOutPortInverted() bool IsDigitalOutPortInverted (

```
uint16_t digitalOutPort )
```

Gets the number of the valve which is mapped to a digital out port

Parameters

digitalOutPort	The digital out port

Returns

is inverted

11.126.3.31 IsValveDigitalInInverted() bool IsValveDigitalInInverted (

```
uint16_t valve )
```

Is digital in inverted

Parameters

valve	The valve number

Returns

is inverted

11.126.3.32 IsValveOpen() `bool IsValveOpen ( uint16_t valve )`

Is valve open

Parameters

valve	The valve number

Returns

is open

11.126.3.33 IsValveOpenInAnalogMode() `bool IsValveOpenInAnalogMode ( uint16_t valve )`

True, if the valve would be open when the device is in analog mode

Parameters

valve	The valve number

Returns

is open

11.126.3.34 IsValveOpenInDigitalMode() `bool IsValveOpenInDigitalMode ( uint16_t valve )`

True, if the valve would be open when the device is in digital mode

Parameters

valve	The valve number

Returns

is open

11.126.3.35 LoadValveTable() void LoadValveTable ( )

Load the current table from permanent memory

11.126.3.36 OnGetActiveRunningTableNumber() delegate void OnGetActiveRunningTableNumber (uint32_t *tableNumber*)

11.126.3.37 OnGetAnalogThresholdHigh() delegate void OnGetAnalogThresholdHigh (uint16_t *valve*, int32_t *threshold*)

11.126.3.38 OnGetAnalogThresholdLow() delegate void OnGetAnalogThresholdLow (uint16_t *valve*, int32_t *threshold*)

11.126.3.39 OnGetAnalogVoltage() delegate void OnGetAnalogVoltage (int32_t *voltage*)

11.126.3.40 OnGetCurrentNumberOfValves() delegate void OnGetCurrentNumberOfValves (int32_t *numberOfValves*)

11.126.3.41 OnGetDigitalOutPortValve() delegate void OnGetDigitalOutPortValve (uint16_t *digitalOutPort*, uint32_t *valve*)

11.126.3.42 OnGetDigitalPortDirection() delegate void OnGetDigitalPortDirection (uint16_t *port*, PortDirectionEnumNet *direction*)

11.126.3.43 OnGetDisplayMode() delegate void OnGetDisplayMode (WvcDisplayModeEnumNet *DisplayMode*)

11.126.3.44 OnGetTableNamebyIndex()

```
delegate void OnGetTableNamebyIndex (
    uint16_t tableNumber,
    String^ tableName )
```

11.126.3.45 OnGetValveActive()

```
delegate void OnGetValveActive (
    uint16_t valve,
    int valveActive )
```

11.126.3.46 OnGetValveBoardRevision()

```
delegate void OnGetValveBoardRevision (
    uint32_t revision )
```

11.126.3.47 OnGetValveDigitalInPort()

```
delegate void OnGetValveDigitalInPort (
    uint16_t valve,
    uint32_t digitalInPort )
```

11.126.3.48 OnGetValveLedOn()

```
delegate void OnGetValveLedOn (
    bool ledon )
```

11.126.3.49 OnGetValveManualGroup()

```
delegate void OnGetValveManualGroup (
    uint16_t valve,
    int32_t valveManualGroup )
```

11.126.3.50 OnGetValveManualState()

```
delegate void OnGetValveManualState (
    uint16_t valve,
    int32_t valveManualState )
```

11.126.3.51 OnGetValveMode()

```
delegate void OnGetValveMode (
    uint16_t valve,
    WvcValveModeEnumNet ValveMode )
```

11.126.3.52 OnIsDigitalOutPortInverted()

```
delegate void OnIsDigitalOutPortInverted (
    uint16_t digitalOutPort,
    bool isInverted )
```

11.126.3.53 OnIsValveDigitalInInverted()

```
delegate void OnIsValveDigitalInInverted (
    uint16_t valve,
    bool isInverted )
```

11.126.3.54 OnIsValveOpen()

```
delegate void OnIsValveOpen (
    uint16_t valve,
    bool valveOpen )
```

11.126.3.55 OnIsValveOpenInAnalogMode()

```
delegate void OnIsValveOpenInAnalogMode (
    uint16_t valve,
    bool valveOpen )
```

11.126.3.56 OnIsValveOpenInDigitalMode()

```
delegate void OnIsValveOpenInDigitalMode (
    uint16_t valve,
    bool valveOpen )
```

11.126.3.57 OnTableEntryChanged()

```
delegate void OnTableEntryChanged (
    uint16_t tableNumber )
```

11.126.3.58 SetActiveRunningTableNumber()

```
void SetActiveRunningTableNumber (
    uint32_t tableNumber )
```

Sets the number of the tanle that is active for running

Parameters

tableNumber	The table number

11.126.3.59 SetAnalogThresholdHigh()

```
void SetAnalogThresholdHigh (
    uint16_t valve,
    int32_t threshold )
```

Sets the upper threshold for the analog in port per valve

Parameters

valve	The valve number
threshold	The threshold in mV

11.126.3.60 SetAnalogThresholdLow() `void SetAnalogThresholdLow (`

```
uint16_t valve,
int32_t threshold )
```

Sets the lower threshold for the analog in port per valve

Parameters

valve	The valve number
threshold	The threshold in mV

11.126.3.61 SetCurrentEditTableNumber() `void SetCurrentEditTableNumber (`

```
uint32_t tableNumber )
```

Sets the number of the table that is current for editing

Parameters

tableNumber	The table number

11.126.3.62 SetDefault() `void SetDefault ( )`

Sets the settings of the valve controller to default

11.126.3.63 SetDigitalOutPortInvert() `void SetDigitalOutPortInvert (`

```
uint16_t digitalOutPort,
bool isInverted )
```

Map a valve to a digital out port

Parameters

digitalOutPort	The digital out port
isInverted	True if digital out is to be inverted

11.126.3.64 SetDigitalOutPortValve() `void SetDigitalOutPortValve (`

```
uint16_t digitalOutPort,
uint32_t valve )
```

Map a valve to a digital out port

Parameters

digitalOutPort	The digital out port
valve	The valve number

11.126.3.65 SetDigitalPortDirection() `void SetDigitalPortDirection (`

```
uint16_t port,
PortDirectionEnumNet direction )
```

Sets the direction of a digital port

Parameters

port	The port number
direction	the direction

11.126.3.66 SetDisplayMode() `void SetDisplayMode (`

```
WvcDisplayModeEnumNet DisplayMode,
int32_t lockTimeMs )
```

Writes the display mode

Parameters

DisplayMode	The display mode
lockTimeMs	Locks the display for ms

11.126.3.67 SetTableName() `void SetTableName (`

```
String^ tableName )
```

Set the name of the current protocol table

Parameters

tableName	The name of the table

11.126.3.68 SetTableStep() `void SetTableStep (`

```
uint16_t valve,
int32_t steps )
```

Skips the table protocol for a valve by steps

Parameters

valve	The valve number
steps	Number of steps

11.126.3.69 SetTableStepAll() `void SetTableStepAll (`

```
int32_t steps )
```

Skips the table protocol for all valves by steps

Parameters

steps	Number of steps

11.126.3.70 SetValveActive() `void SetValveActive (`

```
uint16_t valve,
int valveActive )
```

Sets the valve active/inactive state

Parameters

valve	The valve number
valveActive	The valve state

11.126.3.71 SetValveCurrent() `void SetValveCurrent (`

```
int16_t switch_current,
int16_t hold_current )
```

Sets the valve currents different from the default

Parameters

switch_current	The switch current (in DAC units); -1 sets the device default current
hold_current	The hold current (in DAC units); -1 sets the device default current

11.126.3.72 SetValveDigitalInInvert() `void SetValveDigitalInInvert (`

```
uint16_t valve,
bool isInverted )
```

Invert digital in

Parameters

valve	The valve number
isInverted	True if digital in is to be inverted

11.126.3.73 SetValveDigitalInPort() `void SetValveDigitalInPort (`

```
uint16_t valve,
uint32_t digitalInPort )
```

Map a digital in port to a valve

Parameters

valve	The valve number
digitalInPort	The digital in port

11.126.3.74 SetValveLedOn() `void SetValveLedOn (`

```
bool ledon )
```

Gets the LED state of the valve board

Parameters

ledon	The LED state

11.126.3.75 SetValveManualGroup() `void SetValveManualGroup (`

```
uint16_t valve,
int32_t valveManualGroup )
```

Sets the valve manual group

Parameters

valve	The valve number
valveManualGroup	The manual valve group

11.126.3.76 SetValveManualState() `void SetValveManualState (`

```
uint16_t valve,
int32_t valveManualState )
```

Sets the valve manual on/off state

Parameters

valve	The valve number
valveManualState	The manual valve state

11.126.3.77 SetValveMode() `void SetValveMode (`

```
uint16_t valve,
WvcValveModeEnumNet ValveMode )
```

Writes the valve mode

Parameters

valve	The valve number
ValveMode	The valve mode

11.126.3.78 SetValvesActiveMap() `void SetValvesActiveMap (`

```
uint32_t valvesActive )
```

Sets the valve active/inactive state

Parameters

valvesActive	The valves states

11.126.3.79 SetValvesManualStateMap() `void SetValvesManualStateMap (`

```
uint32_t valveaManualState )
```

Sets the valve manual on/off state

Parameters

valveaManualState	The manual valves states

11.126.3.80 SetValveTableEntry() void SetValveTableEntry (uint16_t *valve*, uint16_t *index*, uint32_t *duration*, bool *state*)

Write an entry to the valve protocol table

Parameters

valve	The valve number
index	The index in the table
duration	the duration in ms
state	the state

11.126.3.81 StoreValveTable() void StoreValveTable ( )

Store the current table in permanent memory

11.126.4 Event Documentation

11.126.4.1 GetActiveRunningTableNumberEvent OnGetActiveRunningTableNumber^ GetActiveRunningTableNumberEvent [add], [remove], [raise]

Event fires when the table number has changed

11.126.4.2 GetAnalogThresholdHighEvent OnGetAnalogThresholdHigh^ GetAnalogThresholdHighEvent [add], [remove], [raise]

Event fires when the threshold in mV for the valve number has changed

11.126.4.3 GetAnalogThresholdLowEvent OnGetAnalogThresholdLow^ GetAnalogThresholdLowEvent [add], [remove], [raise]

Event fires when the threshold in mV for the valve number has changed

11.126.4.4 GetAnalogVoltageEvent OnGetAnalogVoltage^ GetAnalogVoltageEvent [add], [remove], [raise]

Event fires when the voltage in mV has changed

11.126.4.5 GetCurrentNumberOfValvesEvent OnGetCurrentNumberOfValves^ GetCurrentNumberOf↩ ValvesEvent [add], [remove], [raise]

Event fires when the number of valves has changed

11.126.4.6 GetDigitalOutPortValveEvent OnGetDigitalOutPortValve^ GetDigitalOutPortValveEvent [add], [remove], [raise]

Event fires when the valve number for the digital out port has changed

11.126.4.7 GetDigitalPortDirectionEvent OnGetDigitalPortDirection^ GetDigitalPortDirectionEvent [add], [remove], [raise]

Event fires when the direction for the port number has changed

11.126.4.8 GetDisplayModeEvent OnGetDisplayMode^ GetDisplayModeEvent [add], [remove], [raise]

Event fires when the display mode has changed

11.126.4.9 GetTableNamebyIndexEvent OnGetTableNamebyIndex^ GetTableNamebyIndexEvent [add], [remove], [raise]

Event fires when the name of the table for the table number has changed

11.126.4.10 GetValveActiveEvent OnGetValveActive^ GetValveActiveEvent [add], [remove], [raise]

Event fires when the valve state for the valve number has changed

11.126.4.11 GetValveBoardRevisionEvent

OnGetValveBoardRevision^ GetValveBoardRevisionEvent
[add], [remove], [raise]

Event fires when the revision code has changed

11.126.4.12 GetValveDigitalInPortEvent

OnGetValveDigitalInPort^ GetValveDigitalInPortEvent [add], [remove], [raise]

Event fires when the digital in port for the valve number has changed

11.126.4.13 GetValveLedOnEvent

OnGetValveLedOn^ GetValveLedOnEvent [add], [remove], [raise]

Event fires when the LED state has changed

11.126.4.14 GetValveManualGroupEvent

OnGetValveManualGroup^ GetValveManualGroupEvent [add], [remove], [raise]

Event fires when the manual valve group for the valve number has changed

11.126.4.15 GetValveManualStateEvent

OnGetValveManualState^ GetValveManualStateEvent [add], [remove], [raise]

Event fires when the manual valve state for the valve number has changed

11.126.4.16 GetValveModeEvent

OnGetValveMode^ GetValveModeEvent [add], [remove], [raise]

Event fires when the valve mode for the valve number has changed

11.126.4.17 IsDigitalOutPortInvertedEvent

OnIsDigitalOutPortInverted^ IsDigitalOutPortInverted↩
Event [add], [remove], [raise]

Event fires when is inverted for the digital out port has changed

11.126.4.18 IsValveDigitalInInvertedEvent OnIsValveDigitalInInverted^ IsValveDigitalInInverted↩ Event [add], [remove], [raise]

Event fires when is inverted for the valve number has changed

11.126.4.19 IsValveOpenEvent OnIsValveOpen^ IsValveOpenEvent [add], [remove], [raise]

Event fires when is open for the valve number has changed

11.126.4.20 IsValveOpenInAnalogModeEvent OnIsValveOpenInAnalogMode^ IsValveOpenInAnalogMode↩ Event [add], [remove], [raise]

Event fires when is open for the valve number has changed

11.126.4.21 IsValveOpenInDigitalModeEvent OnIsValveOpenInDigitalMode^ IsValveOpenInDigital↩ ModeEvent [add], [remove], [raise]

Event fires when is open for the valve number has changed

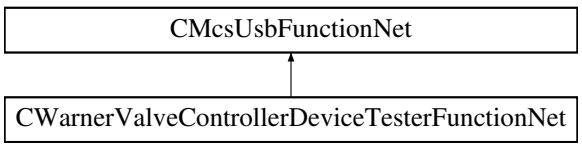
11.126.4.22 TableEntryChangedEvent OnTableEntryChanged^ TableEntryChangedEvent [add], [remove], [raise]

Event fires when an entry of a table changed

11.127 CWarnerValveControllerDeviceTesterFunctionNet Class Reference

CWarnerValveControllerDeviceTesterFunctionNet is the class to access the functions for the Warner Valve Controller Device Tester

Inheritance diagram for CWarnerValveControllerDeviceTesterFunctionNet:



Public Member Functions

- CWarnerValveControllerDeviceTesterFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ pWarnerValveControllerDeviceTesterFunctionPointerContainer)

  Initializes a new instance of the CWarnerValveControllerDeviceTesterFunctionNet class.
- CWarnerValveControllerDeviceTesterFunctionNet (CMcsUsbNet^ mcsusb)
- virtual ~CWarnerValveControllerDeviceTesterFunctionNet ()
- !CWarnerValveControllerDeviceTesterFunctionNet ()
- void SetADC (uint32_t onoff)

  Sets the ADC port of the tester
- uint32_t GetSync ()

  Gets the output from the sync port
- void SetTrigger (uint32_t trigger)

  Sets the input to the trigger port
- void SetTriggerSyncDirection (uint32_t direction)

  Sets the direction of the trigger/sync test port
- uint32_t GetIO ()

  Gets the output from the io ports
- void SetIO (uint32_t io)

  Sets the input to the io ports
- void SetIODirection (int32_t direction)

  Sets the direction of the IO test ports

Additional Inherited Members

11.127.1 Detailed Description

CWarnerValveControllerDeviceTesterFunctionNet is the class to access the functions for the Warner Valve Controller Device Tester

11.127.2 Constructor & Destructor Documentation

11.127.2.1 CWarnerValveControllerDeviceTesterFunctionNet() [1/2] CWarnerValveControllerDeviceTesterFunctionNet (CMcsUsbNet^ *mcsusb*, CMcsUsbFunctionPointerContainer^ *pWarnerValveControllerDeviceTesterFunctionPointerContainer*)

Initializes a new instance of the CWarnerValveControllerDeviceTesterFunctionNet class.

11.127.2.2 CWarnerValveControllerDeviceTesterFunctionNet() [2/2] CWarnerValveControllerDeviceTesterFunctionNet (CMcsUsbNet^ *mcsusb*)

11.127.2.3 ~CWarnerValveControllerDeviceTesterFunctionNet() virtual ~CWarnerValveControllerDeviceTesterFunctio ( ) [virtual]

11.127.2.4 "!CWarnerValveControllerDeviceTesterFunctionNet() !CWarnerValveControllerDeviceTesterFunctionNet ( )

11.127.3 Member Function Documentation

11.127.3.1 GetIO() uint32_t GetIO ( )

Gets the output from the io ports

Returns

The manual valves states

11.127.3.2 GetSync() uint32_t GetSync ( )

Gets the output from the sync port

Returns

The sync state

11.127.3.3 SetADC() void SetADC (uint32_t *onoff*)

Sets the ADC port of the tester

Parameters

onoff	The port state

11.127.3.4 SetIO() void SetIO (uint32_t *io*)

Sets the input to the io ports

Parameters

io	The manual valves states

11.127.3.5 SetIODirection() `void SetIODirection ( int32_t direction )`

Sets the direction of the IO test ports

Parameters

direction	The 16bit direction map: 1=IN 0=OUT

11.127.3.6 SetTrigger() `void SetTrigger ( uint32_t trigger )`

Sets the input to the trigger port

Parameters

trigger	The trigger state

11.127.3.7 SetTriggerSyncDirection() `void SetTriggerSyncDirection ( uint32_t direction )`

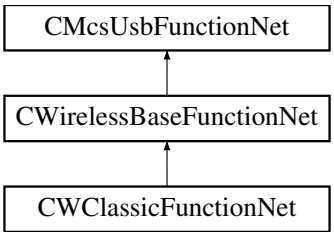
Sets the direction of the trigger/sync test port

Parameters

direction	The direction: 1=IN 0=OUT

11.128 CWClassicFunctionNet Class Reference

Inheritance diagram for CWClassicFunctionNet:



Public Member Functions

- CWClassicFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ wClassicFuntion↩ PointerContainer)
- CWClassicFunctionNet (CMcsUsbNet^ mcsusb)
- uint32_t ResetChannelmap (unsigned int virtualDevice)
- uint32_t SetChannelmap (unsigned char position, unsigned char channel, unsigned int Device)
- void SetHWSelectedChannels (array< bool >^ channels, unsigned int Device)
- void SetRFLostBehaviour (uint8_t stoponfailure, unsigned int Device)
- void SetHeadstageOnOff (uint16_t onoff)
- USHORT GetHeadstageOnOff ()
- void SetRFFrequencyHeadstage (uint8_t receiver_nb, unsigned short frequency)
- unsigned short GetRFFrequencyHeadstage (uint8_t receiver_nb)
- void SetRFFrequencyReceiver (uint8_t receiver_nb, uint8_t configuration, unsigned short frequency)
- void SetRFFrequencyReceiverEeprom (uint8_t receiver_nb, uint8_t configuration, unsigned short frequency)
- unsigned short GetRFFrequencyReceiver (uint8_t receiver_nb, uint8_t configuration)
- void SetSerialNumberHeadstage (unsigned short number)
- unsigned short GetSerialNumberHeadstage ()
- void SetSelectedHeadstage (uint8_t number)
- uint8_t GetSelectedHeadstage ()
- void ScanForHeadstages ()
- uint8_t GetScanHeadstagesResult (int max_wait_for_ms)
- void SetFilterParametersHeadstage (unsigned short index, array< int >^ buffer)
- array< int > ^ GetFilterParametersHeadstage (unsigned short index)
- bool GetHasRedLedHeadstage ()
- void SetHasChecksum (unsigned int has, unsigned int Device)
- unsigned int GetHasChecksum (unsigned int Device)
- void SetResetFilter (unsigned int reset, unsigned int Device)
- unsigned int GetResetFilter (unsigned int Device)
- void SetWPAType (unsigned short type, unsigned int Device)
- unsigned short GetWPAType (unsigned int Device)
- void SetWPADebugMode (unsigned int mode, unsigned int Device)
- unsigned int GetWPADebugMode (unsigned int Device)
- void SetRFPower (unsigned short power)
- unsigned short GetRFPower ()
- unsigned int GetRFConnectionStatus ()

Additional Inherited Members

11.128.1 Constructor & Destructor Documentation

11.128.1.1 CWClassicFunctionNet() [1/2] CWClassicFunctionNet (

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ wClassicFuntionPointerContainer )
```

11.128.1.2 CWClassicFunctionNet() [2/2] CWClassicFunctionNet (

```
CMcsUsbNet^ mcsusb )
```

11.128.2 Member Function Documentation

11.128.2.1 GetFilterParametersHeadstage() array<int> ^ GetFilterParametersHeadstage (

```
unsigned short index )
```

11.128.2.2 GetHasChecksum() unsigned int GetHasChecksum (

```
unsigned int Device )
```

11.128.2.3 GetHasRedLedHeadstage() bool GetHasRedLedHeadstage ( )

11.128.2.4 GetHeadstageOnOff() USHORT GetHeadstageOnOff ( )

11.128.2.5 GetResetFilter() unsigned int GetResetFilter (

```
unsigned int Device )
```

11.128.2.6 GetRFConnectionStatus() unsigned int GetRFConnectionStatus ( )

11.128.2.7 GetRFFrequencyHeadstage() unsigned short GetRFFrequencyHeadstage (

```
uint8_t receiver_nb )
```

11.128.2.8 GetRFFrequencyReceiver()

```
unsigned short GetRFFrequencyReceiver (
    uint8_t receiver_nb,
    uint8_t configuration )
```

11.128.2.9 GetRFPower()

```
unsigned short GetRFPower ( )
```

11.128.2.10 GetScanHeadstagesResult()

```
uint8_t GetScanHeadstagesResult (
    int max_wait_for_ms )
```

11.128.2.11 GetSelectedHeadstage()

```
uint8_t GetSelectedHeadstage ( )
```

11.128.2.12 GetSerialNumberHeadstage()

```
unsigned short GetSerialNumberHeadstage ( )
```

11.128.2.13 GetWPADebugMode()

```
unsigned int GetWPADebugMode (
    unsigned int Device )
```

11.128.2.14 GetWPAType()

```
unsigned short GetWPAType (
    unsigned int Device )
```

11.128.2.15 ResetChannelmap()

```
uint32_t ResetChannelmap (
    unsigned int virtualDevice )
```

11.128.2.16 ScanForHeadstages()

```
void ScanForHeadstages ( )
```

11.128.2.17 SetChannelmap()

```
uint32_t SetChannelmap (
    unsigned char position,
    unsigned char channel,
    unsigned int Device )
```

11.128.2.18 SetFilterParametersHeadstage()

```
void SetFilterParametersHeadstage (
    unsigned short index,
    array< int >^ buffer )
```

11.128.2.19 SetHasChecksum()

```
void SetHasChecksum (
    unsigned int has,
    unsigned int Device )
```

11.128.2.20 SetHeadstageOnOff()

```
void SetHeadstageOnOff (
    uint16_t onoff )
```

11.128.2.21 SetHWSelectedChannels()

```
void SetHWSelectedChannels (
    array< bool >^ channels,
    unsigned int Device )
```

11.128.2.22 SetResetFilter()

```
void SetResetFilter (
    unsigned int reset,
    unsigned int Device )
```

11.128.2.23 SetRFFrequencyHeadstage()

```
void SetRFFrequencyHeadstage (
    uint8_t receiver_nb,
    unsigned short frequency )
```

11.128.2.24 SetRFFrequencyReceiver()

```
void SetRFFrequencyReceiver (
    uint8_t receiver_nb,
    uint8_t configuration,
    unsigned short frequency )
```

11.128.2.25 SetRFFrequencyReceiverEeprom()

```
void SetRFFrequencyReceiverEeprom (
    uint8_t receiver_nb,
    uint8_t configuration,
    unsigned short frequency )
```

11.128.2.26 SetRFLostBehaviour()

```
void SetRFLostBehaviour (
    uint8_t stoponfailure,
    unsigned int Device )
```

11.128.2.27 SetRFPower()

```
void SetRFPower (
    unsigned short power )
```

11.128.2.28 SetSelectedHeadstage()

```
void SetSelectedHeadstage (
    uint8_t number )
```

11.128.2.29 SetSerialNumberHeadstage()

```
void SetSerialNumberHeadstage (
    unsigned short number )
```

11.128.2.30 SetWPADebugMode()

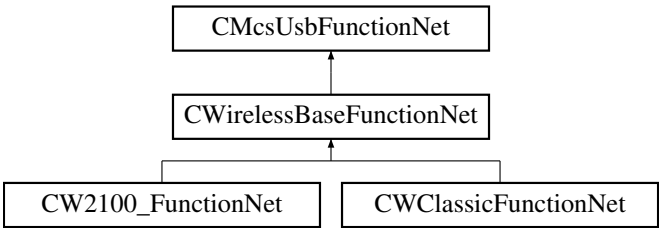
```
void SetWPADebugMode (
    unsigned int mode,
    unsigned int Device )
```

11.128.2.31 SetWPAType()

```
void SetWPAType (
    unsigned short type,
    unsigned int Device )
```

11.129 CWirelessBaseFunctionNet Class Reference

Inheritance diagram for CWirelessBaseFunctionNet:



Public Member Functions

- CWirelessBaseFunctionNet (CMcsUsbNet^ mcsusb, CMcsUsbFunctionPointerContainer^ mcsusbfunction)

Static Public Member Functions

- static String ^ CreateWirelessHeadstageSerialNumberString (unsigned short ID)

Additional Inherited Members

11.129.1 Constructor & Destructor Documentation

11.129.1.1 CWirelessBaseFunctionNet() `CWirelessBaseFunctionNet (`

```
CMcsUsbNet^ mcsusb,
CMcsUsbFunctionPointerContainer^ mcsusbfunction )
```

11.129.2 Member Function Documentation

11.129.2.1 CreateWirelessHeadstageSerialNumberString() `static String ^ CreateWirelessHeadstageSerialNumberString (`

```
unsigned short ID )  [static]
```

11.130 DeviceIdNet Struct Reference

Device Id.

Public Member Functions

- DeviceIdNet ()
- DeviceIdNet (VendorIdEnumNet vendor, ProductIdEnumNet product, int bcd, McsBusTypeEnumNet bustype)
- DeviceIdNet (DeviceIdNet% deviceId)
- DeviceIdNet operator= (DeviceIdNet% deviceId)

Public Attributes

- VendorIdEnumNet IdVendor
- ProductIdEnumNet IdProduct
- int BcdDevice
- McsBusTypeEnumNet BusType

11.130.1 Detailed Description

Device Id.

11.130.2 Constructor & Destructor Documentation

11.130.2.1 DeviceIdNet() [1/3] DeviceIdNet ( )

11.130.2.2 DeviceIdNet() [2/3] DeviceIdNet (

```
VendorIdEnumNet vendor,
ProductIdEnumNet product,
int bcd,
McsBusTypeEnumNet bustype )
```

11.130.2.3 DeviceIdNet() [3/3] DeviceIdNet (

```
DeviceIdNet% deviceId )
```

11.130.3 Member Function Documentation

11.130.3.1 operator=() DeviceIdNet operator= (

```
DeviceIdNet% deviceId )
```

11.130.4 Member Data Documentation

11.130.4.1 BcdDevice int BcdDevice

11.130.4.2 BusType McsBusTypeEnumNet BusType

11.130.4.3 IdProduct ProductIdEnumNet IdProduct

11.130.4.4 IdVendor VendorIdEnumNet IdVendor

11.131 DigitalSource< digitalsourceenum > Class Template Reference

Public Member Functions

- DigitalSource ()
- DigitalSource (digitalsourceenum source)
- int MaxBitNumber ()
- int MaxBitNumber (digitalsourceenum Source)

Static Public Member Functions

- static int MaxBitNumberStatic (digitalsourceenum Source)
- static int size ()

Properties

- digitalsourceenum Source `[get, set]`

11.131.1 Constructor & Destructor Documentation

11.131.1.1 DigitalSource() [1/2] DigitalSource ( )

11.131.1.2 DigitalSource() [2/2] DigitalSource (digitalsourceenum *source*)

11.131.2 Member Function Documentation

11.131.2.1 MaxBitNumber() [1/2] int MaxBitNumber ( )

11.131.2.2 MaxBitNumber() [2/2] int MaxBitNumber (digitalsourceenum *Source*)

11.131.2.3 MaxBitNumberStatic() static int MaxBitNumberStatic (digitalsourceenum *Source*) [static]

11.131.2.4 size() static int size ( ) [static]

11.131.3 Property Documentation

11.131.3.1 Source digitalsourceenum Source [get], [set]

11.132 DigitalSourceGeneral Class Reference

Public Member Functions

- DigitalSourceGeneral (Type^ type)
- DigitalSourceGeneral (Type^ type, int Source)
- int MaxBitNumber ()
- int MaxBitNumber (int Source)

Static Public Member Functions

- static int MaxBitNumber (Type^ type, int Source)
- static int size (Type^ type)

Properties

- int Source [get, set]

11.132.1 Constructor & Destructor Documentation

11.132.1.1 DigitalSourceGeneral() [1/2] DigitalSourceGeneral (Type^ *type*)

11.132.1.2 DigitalSourceGeneral() [2/2] DigitalSourceGeneral (Type^ *type*, int *Source*)

11.132.2 Member Function Documentation

11.132.2.1 MaxBitNumber() [1/3] int MaxBitNumber ( )

11.132.2.2 MaxBitNumber() [2/3] int MaxBitNumber (int *Source*)

11.132.2.3 MaxBitNumber() [3/3] static int MaxBitNumber (Type^ *type*, int *Source*) [static]

11.132.2.4 size() static int size (Type^ *type*) [static]

11.132.3 Property Documentation

11.132.3.1 Source int Source [get], [set]

11.133 DriverVersionNet Class Reference

Class gives firmware versions of the device's firmware destinations.

Public Member Functions

- DriverVersionNet ()
  Contructor.
- ~DriverVersionNet ()
  Destructor.
- unsigned int GetStatus (CFirmwareDestinationNet dest)
  Get status of firmware destination.
- unsigned int GetStatus (unsigned int index)
  Get status of firmware destination.
- unsigned int GetVersionInt (CFirmwareDestinationNet dest)
  Get the version number of firmware destination (major in high word, minor in low word)
- unsigned int GetVersionInt (unsigned int index)
  Get the version number of firmware destination (major in high word, minor in low word)
- unsigned int GetMajor (CFirmwareDestinationNet dest)
  Get the major version number of firmware destination.
- unsigned int GetMajor (unsigned int index)
  Get the major version number of firmware destination.

- unsigned int GetMinor (CFirmwareDestinationNet dest)

  Get the minor version number of firmware destination.
- unsigned int GetMinor (unsigned int index)

  Get the minor version number of firmware destination.
- unsigned int GetNumEntries ()

  Get the number of available firmware destinations.
- String ^ GetVersionString (CFirmwareDestinationNet dest)

  Get the version as a string in the format Major.Minor.
- String ^ GetVersionString (unsigned int index)

  Get the version as a string in the format Major.Minor.
- CFirmwareDestinationNet GetDestinationCode (unsigned int index)

  Get CFirmwareDestinationNet.
- String ^ GetDestinationName (CFirmwareDestinationNet dest)

  Get firmware destination name.
- String ^ GetDestinationName (unsigned int index)

  Get firmware destination name.
- String ^ GetSerialNumber (CFirmwareDestinationNet dest)

  Get the serial number of the destination, when no serial number if found, return an empty string.
- String ^ GetSerialNumber (unsigned int index)

  Get the serial number of the destination, when no serial number if found, return an empty string.

Static Public Member Functions

- static String ^ DriverVersionNet::FormatVersion (unsigned int v)

11.133.1 Detailed Description

Class gives firmware versions of the device's firmware destinations.

11.133.2 Constructor & Destructor Documentation

11.133.2.1 DriverVersionNet() `DriverVersionNet ( )`

Contructor.

11.133.2.2 ~DriverVersionNet() `~DriverVersionNet ( )`

Destructor.

11.133.3 Member Function Documentation

11.133.3.1 DriverVersionNet::FormatVersion()

```
static String ^ DriverVersionNet::FormatVersion (
    unsigned int v )  [static]
```

11.133.3.2 GetDestinationCode()

```
CFirmwareDestinationNet GetDestinationCode (
    unsigned int index )
```

Get CFirmwareDestinationNet.

Parameters

index	by index of firmware destination

11.133.3.3 GetDestinationName() [1/2] String ^ GetDestinationName (CFirmwareDestinationNet *dest*)

Get firmware destination name.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.4 GetDestinationName() [2/2] String ^ GetDestinationName (unsigned int *index*)

Get firmware destination name.

Parameters

index	by index of firmware destination

11.133.3.5 GetMajor() [1/2] unsigned int GetMajor (CFirmwareDestinationNet *dest*)

Get the major version number of firmware destination.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.6 GetMajor() [2/2] unsigned int GetMajor (unsigned int *index*)

Get the major version number of firmware destination.

Parameters

index	by index of firmware destination

11.133.3.7 GetMinor() [1/2] unsigned int GetMinor (CFirmwareDestinationNet *dest*)

Get the minor version number of firmware destination.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.8 GetMinor() [2/2] unsigned int GetMinor (unsigned int *index*)

Get the minor version number of firmware destination.

Parameters

index	by index of firmware destination

11.133.3.9 GetNumEntries() unsigned int GetNumEntries ( )

Get the number of available firmware destinations.

11.133.3.10 GetSerialNumber() [1/2] String ^ GetSerialNumber (CFirmwareDestinationNet *dest*)

Get the serial number of the destination, when no serial number if found, return an empty string.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.11 GetSerialNumber() [2/2] String ^ GetSerialNumber (unsigned int *index*)

Get the serial number of the destination, when no serial number if found, return an empty string.

Parameters

index	by index of firmware destination

11.133.3.12 GetStatus() [1/2] unsigned int GetStatus (CFirmwareDestinationNet *dest*)

Get status of firmware destination.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.13 GetStatus() [2/2] unsigned int GetStatus (unsigned int *index*)

Get status of firmware destination.

Parameters

index	by index of firmware destination

11.133.3.14 GetVersionInt() [1/2] unsigned int GetVersionInt (CFirmwareDestinationNet *dest*)

Get the version number of firmware destination (major in high word, minor in low word)

Parameters

dest	by CFirmwareDestionationNet

11.133.3.15 GetVersionInt() [2/2] unsigned int GetVersionInt (unsigned int *index*)

Get the version number of firmware destination (major in high word, minor in low word)

Parameters

index	by index of firmware destination

11.133.3.16 GetVersionString() [1/2] String ^ GetVersionString (CFirmwareDestinationNet *dest*)

Get the version as a string in the format Major.Minor.

Parameters

dest	by CFirmwareDestionationNet

11.133.3.17 GetVersionString() [2/2] String ^ GetVersionString (unsigned int *index*)

Get the version as a string in the format Major.Minor.

Parameters

index	by index of firmware

11.134 FirmwareDestinationNames Class Reference

Static Public Attributes

- static String ^ DSP = gcnew String("DSP")
- static String ^ USB = gcnew String("USB")
- static String ^ MCU1 = gcnew String("MCU1")
- static String ^ Bootstrap = gcnew String("Bootstrap")
- static String ^ MCSBUS1 = gcnew String("McsBus1")
- static String ^ MCSBUS2 = gcnew String("McsBus2")
- static String ^ MCSBUS3 = gcnew String("McsBus3")
- static String ^ MCSBUS4 = gcnew String("McsBus4")
- static String ^ MCSBUS5 = gcnew String("McsBus5")
- static String ^ MCSBUS6 = gcnew String("McsBus6")
- static String ^ MCSBUS7 = gcnew String("McsBus7")
- static String ^ MCSBUS8 = gcnew String("McsBus8")
- static String ^ MCSBUS9 = gcnew String("McsBus9")
- static String ^ MCSBUS10 = gcnew String("McsBus10")
- static String ^ MCSBUS11 = gcnew String("McsBus11")
- static String ^ MCSBUS12 = gcnew String("McsBus12")
- static String ^ MCSBUS13 = gcnew String("McsBus13")
- static String ^ BUS1_MCSBUS1 = gcnew String("Bus1McsBus1")
- static String ^ BUS1_MCSBUS2 = gcnew String("Bus1McsBus2")
- static String ^ PIC = gcnew String("PIC")
- static String ^ PIC2 = gcnew String("PIC2")
- static String ^ PIC3 = gcnew String("PIC3")
- static String ^ PIC4 = gcnew String("PIC4")

- static String ^ Altera = gcnew String("Altera")
- static String ^ FPGA2 = gcnew String("FPGA2")
- static String ^ FPGA3 = gcnew String("FPGA3")
- static String ^ FPGA4 = gcnew String("FPGA4")
- static String ^ FPGA5 = gcnew String("FPGA5")
- static String ^ FPGA6 = gcnew String("FPGA6")

11.134.1 Member Data Documentation

11.134.1.1 Altera `String ^ Altera = gcnew String( "Altera" ) [static]`

11.134.1.2 Bootstrap `String ^ Bootstrap = gcnew String( "Bootstrap" ) [static]`

11.134.1.3 BUS1_MCSBUS1 `String ^ BUS1_MCSBUS1 = gcnew String( "Bus1McsBus1" ) [static]`

11.134.1.4 BUS1_MCSBUS2 `String ^ BUS1_MCSBUS2 = gcnew String( "Bus1McsBus2" ) [static]`

11.134.1.5 DSP `String ^ DSP = gcnew String( "DSP" ) [static]`

11.134.1.6 FPGA2 `String ^ FPGA2 = gcnew String( "FPGA2" ) [static]`

11.134.1.7 FPGA3 `String ^ FPGA3 = gcnew String( "FPGA3" ) [static]`

11.134.1.8 FPGA4 `String ^ FPGA4 = gcnew String( "FPGA4" ) [static]`

11.134.1.9 FPGA5 `String ^ FPGA5 = gcnew String( "FPGA5" ) [static]`

11.134.1.10 FPGA6

```
String ^ FPGA6 = gcnew String( "FPGA6" )  [static]
```

11.134.1.11 MCSBUS1

```
String ^ MCSBUS1 = gcnew String( "McsBus1" )  [static]
```

11.134.1.12 MCSBUS10

```
String ^ MCSBUS10 = gcnew String( "McsBus10" )  [static]
```

11.134.1.13 MCSBUS11

```
String ^ MCSBUS11 = gcnew String( "McsBus11" )  [static]
```

11.134.1.14 MCSBUS12

```
String ^ MCSBUS12 = gcnew String( "McsBus12" )  [static]
```

11.134.1.15 MCSBUS13

```
String ^ MCSBUS13 = gcnew String( "McsBus13" )  [static]
```

11.134.1.16 MCSBUS2

```
String ^ MCSBUS2 = gcnew String( "McsBus2" )  [static]
```

11.134.1.17 MCSBUS3

```
String ^ MCSBUS3 = gcnew String( "McsBus3" )  [static]
```

11.134.1.18 MCSBUS4

```
String ^ MCSBUS4 = gcnew String( "McsBus4" )  [static]
```

11.134.1.19 MCSBUS5

```
String ^ MCSBUS5 = gcnew String( "McsBus5" )  [static]
```

11.134.1.20 MCSBUS6

```
String ^ MCSBUS6 = gcnew String( "McsBus6" )  [static]
```

11.134.1.21 MCSBUS7

```
String ^ MCSBUS7 = gcnew String( "McsBus7" )  [static]
```

11.134.1.22 MCSBUS8

```
String ^ MCSBUS8 = gcnew String( "McsBus8" )  [static]
```

11.134.1.23 MCSBUS9

```
String ^ MCSBUS9 = gcnew String( "McsBus9" )  [static]
```

11.134.1.24 MCU1

```
String ^ MCU1 = gcnew String( "MCU1" )  [static]
```

11.134.1.25 PIC

```
String ^ PIC = gcnew String( "PIC" )  [static]
```

11.134.1.26 PIC2

```
String ^ PIC2 = gcnew String( "PIC2" )  [static]
```

11.134.1.27 PIC3

```
String ^ PIC3 = gcnew String( "PIC3" )  [static]
```

11.134.1.28 PIC4

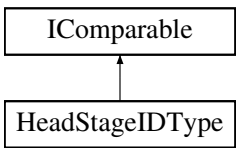
```
String ^ PIC4 = gcnew String( "PIC4" )  [static]
```

11.134.1.29 USB

```
String ^ USB = gcnew String( "USB" )  [static]
```

11.135 HeadStageIDType Class Reference

Inheritance diagram for HeadStageIDType:



Public Types

- enum class HeadstageTypeEnum {
  Unknown ,
  MeasuringOnly ,
  OpticalStimulation ,
  ElectricalStimulation }

Public Member Functions

- HeadStageIDType (unsigned int entry, CW2100_FunctionNet^ device)
- virtual System::String ^ ToString () override
- virtual bool Equals (Object^ obj) override
- virtual Int32 CompareTo (Object^ obj)

Properties

- bool Valid [get]
- unsigned int Entry [get]
- unsigned short ID [get]
- System::String^ SN [get]
- unsigned int TypeValue [get]
- System::String^ Type [get]
- HeadstageTypeEnum HeadstageType [get]
- System::String^ UserDefinedName [get]
- int NumberOfAnalogChannels [get]
- int NumberOfStimulationChannels [get]
- W2100_StimulusParametersNet^ StimulusParameters [get]
- bool HasIMU [get]
- bool W16IsW14 [get]
- bool HasOptoCurrentMessurement [get]

11.135.1 Member Enumeration Documentation

11.135.1.1 HeadstageTypeEnum enum HeadstageTypeEnum [strong]

Enumerator

Unknown	
MeasuringOnly	
OpticalStimulation	
ElectricalStimulation	

11.135.2 Constructor & Destructor Documentation

11.135.2.1 HeadStageIDType() HeadStageIDType (

```
unsigned int entry,
CW2100_FunctionNet^ device )
```

11.135.3 Member Function Documentation

11.135.3.1 CompareTo() virtual Int32 CompareTo (

```
Object^ obj )  [virtual]
```

11.135.3.2 Equals() virtual bool Equals (

```
Object^ obj )  [override], [virtual]
```

11.135.3.3 ToString() virtual System::String ^ ToString ( ) [override], [virtual]

11.135.4 Property Documentation

11.135.4.1 Entry unsigned int Entry [get]

11.135.4.2 HasIMU bool HasIMU [get]

11.135.4.3 HasOptoCurrentMessurement bool HasOptoCurrentMessurement [get]

11.135.4.4 HeadstageType HeadstageTypeEnum HeadstageType [get]

11.135.4.5 ID unsigned short ID [get]

11.135.4.6 NumberOfAnalogChannels `int NumberOfAnalogChannels [get]`

11.135.4.7 NumberOfStimulationChannels `int NumberOfStimulationChannels [get]`

11.135.4.8 SN `System:: String^ SN [get]`

11.135.4.9 StimulusParameters `W2100_StimulusParametersNet^ StimulusParameters [get]`

11.135.4.10 Type `System:: String^ Type [get]`

11.135.4.11 TypeValue `unsigned int TypeValue [get]`

11.135.4.12 UserDefinedName `System:: String^ UserDefinedName [get]`

11.135.4.13 Valid `bool Valid [get]`

11.135.4.14 W16IsW14 `bool W16IsW14 [get]`

11.136 HeadstageIDTypeObject Class Reference

Public Member Functions

- HeadstageIDTypeObject (HeadStageIDType^ idType)
- virtual String ^ ToString () override
- virtual bool Equals (Object^ obj) override
- virtual int GetHashCode () override

Public Attributes

- HeadStageIDType ^ _IdType
- String ^ _AdditionalText

Properties

- HeadStageIDType^ IdType [get]
- String^ AdditionalText [get, set]

11.136.1 Constructor & Destructor Documentation

11.136.1.1 HeadstageIDTypeObject() HeadstageIDTypeObject (HeadStageIDType^ *idType*)

11.136.2 Member Function Documentation

11.136.2.1 Equals() virtual bool Equals (Object^ *obj*) [override], [virtual]

11.136.2.2 GetHashCode() virtual int GetHashCode ( ) [override], [virtual]

11.136.2.3 ToString() virtual String ^ ToString ( ) [override], [virtual]

11.136.3 Member Data Documentation

11.136.3.1 _AdditionalText String ^ _AdditionalText

11.136.3.2 _IdType HeadStageIDType ^ _IdType

11.136.4 Property Documentation

11.136.4.1 AdditionalText `String^ AdditionalText [get], [set]`

11.136.4.2 IdType `HeadStageIDType^ IdType [get]`

11.137 HeadStageIDTypeState Class Reference

Properties

- unsigned int State `[get]`
- HeadStageIDType^ IdType `[get]`
- bool ControlState `[get]`
- bool DataState `[get]`

11.137.1 Property Documentation

11.137.1.1 ControlState `bool ControlState [get]`

11.137.1.2 DataState `bool DataState [get]`

11.137.1.3 IdType `HeadStageIDType^ IdType [get]`

11.137.1.4 State `unsigned int State [get]`

11.138 mkfilterNet Class Reference

Static Public Member Functions

- static int mkfilter (String^ filtertype, double value, String^ passtype, int order, double alpha1, double alpha2, [System::Runtime::InteropServices::Out] array< double >^% xcoeffs, [System::Runtime::InteropServices::Out] array< double >^% ycoeffs)
- static int mkfilter_MCS (int SamplesPerSecond, double R1, double R2, double C, double Amplification, double Correction, [System::Runtime::InteropServices::Out] array< double >^% xcoeffs, [System::Runtime::InteropServices::Out] array< double >^% ycoeffs)
- static int mkfilter_MCS (int SamplesPerSecond, double R1, double R2, double C, double Correction, [System::Runtime::InteropServices::Out] array< double >^% xcoeffs, [System::Runtime::InteropServices::Out] array< double >^% ycoeffs)
- static int mkfilter_MCS_k (int SamplesPerSecond, double R1, double R2, double C, double Amplification, double Correction, [System::Runtime::InteropServices::Out] array< double >^% coeffs)
- static int mkfilter_MCS_k (int SamplesPerSecond, double R1, double R2, double C, double Correction, [System::Runtime::InteropServices::Out] array< double >^% coeffs)
- static void mkfilter_coef_in_one_set (int n, [System::Runtime::InteropServices::In] array< double >^ xcoeffs, [System::Runtime::InteropServices::In] array< double >^ ycoeffs, [System::Runtime::InteropServices::Out] array< double >^% out_coeffs)
- static void mkfilter_scale_coef_in_one_set (int n, double scale, [System::Runtime::InteropServices::In] array< double >^ xcoeffs, [System::Runtime::InteropServices::In] array< double >^ ycoeffs, [System::Runtime::InteropServices::Out] array< double >^% out_coeffs)
- static void mkfilter_normalize_coeffs_short (short maxvalue, [System::Runtime::InteropServices::In] array< double >^ coeffs, [System::Runtime::InteropServices::Out] array< short >^% out_coeffs)
- static void mkfilter_normalize_coeffs_int (int maxvalue, [System::Runtime::InteropServices::In] array< double >^ coeffs, [System::Runtime::InteropServices::Out] array< int >^% out_coeffs)
- static void mkfilter_normalize_scale_coeffs_int (int maxvalue, [System::Runtime::InteropServices::In] array< double >^ coeffs, [System::Runtime::InteropServices::Out] array< int >^% out_coeffs)
- static double mkfilter_highpass_coeff (int SamplesPerSecond, double Frequency)
- static double mkfilter_highpass_k (int SamplesPerSecond, double Frequency)
- static double mkfilter_highpass_frequency_from_coeff (int SamplesPerSecond, double coeff)
- static double mkfilter_highpass_frequency_from_k (int SamplesPerSecond, double k)

11.138.1 Member Function Documentation

11.138.1.1 mkfilter()

```
static int mkfilter (
    String^ filtertype,
    double value,
    String^ passtype,
    int order,
    double alpha1,
    double alpha2,
    [System::Runtime::InteropServices::Out] array< double >^% xcoeffs,
    [System::Runtime::InteropServices::Out] array< double >^% ycoeffs ) [static]
```

11.138.1.2 mkfilter_coef_in_one_set()

```
static void mkfilter_coef_in_one_set (
    int n,
    [System::Runtime::InteropServices::In] array< double >^ xcoeffs,
    [System::Runtime::InteropServices::In] array< double >^ ycoeffs,
    [System::Runtime::InteropServices::Out] array< double >^% out_coeffs )  [static]
```

11.138.1.3 mkfilter_highpass_coeff()

```
static double mkfilter_highpass_coeff (
    int SamplesPerSecond,
    double Frequency )  [static]
```

11.138.1.4 mkfilter_highpass_frequency_from_coeff()

```
static double mkfilter_highpass_frequency_from_coeff (
    int SamplesPerSecond,
    double coeff )  [static]
```

11.138.1.5 mkfilter_highpass_frequency_from_k()

```
static double mkfilter_highpass_frequency_from_k (
    int SamplesPerSecond,
    double k )  [static]
```

11.138.1.6 mkfilter_highpass_k()

```
static double mkfilter_highpass_k (
    int SamplesPerSecond,
    double Frequency )  [static]
```

11.138.1.7 mkfilter_MCS() [1/2]

```
static int mkfilter_MCS (
    int SamplesPerSecond,
    double R1,
    double R2,
    double C,
    double Amplification,
    double Correction,
    [System::Runtime::InteropServices::Out] array< double >^% xcoeffs,
    [System::Runtime::InteropServices::Out] array< double >^% ycoeffs )  [static]
```

11.138.1.8 mkfilter_MCS() [2/2]

```
static int mkfilter_MCS (
    int SamplesPerSecond,
    double R1,
    double R2,
    double C,
    double Correction,
    [System::Runtime::InteropServices::Out] array< double >^% xcoeffs,
    [System::Runtime::InteropServices::Out] array< double >^% ycoeffs )  [static]
```

11.138.1.9 mkfilter_MCS_k() [1/2]

```
static int mkfilter_MCS_k (
    int SamplesPerSecond,
    double R1,
    double R2,
    double C,
    double Amplification,
    double Correction,
    [System::Runtime::InteropServices::Out] array< double >^% coeffs )  [static]
```

11.138.1.10 mkfilter_MCS_k() [2/2]

```
static int mkfilter_MCS_k (
    int SamplesPerSecond,
    double R1,
    double R2,
    double C,
    double Correction,
    [System::Runtime::InteropServices::Out] array< double >^% coeffs )  [static]
```

11.138.1.11 mkfilter_normalize_coeffs_int()

```
static void mkfilter_normalize_coeffs_int (
    int maxvalue,
    [System::Runtime::InteropServices::In] array< double >^ coeffs,
    [System::Runtime::InteropServices::Out] array< int >^% out_coeffs )  [static]
```

11.138.1.12 mkfilter_normalize_coeffs_short()

```
static void mkfilter_normalize_coeffs_short (
    short maxvalue,
    [System::Runtime::InteropServices::In] array< double >^ coeffs,
    [System::Runtime::InteropServices::Out] array< short >^% out_coeffs )  [static]
```

11.138.1.13 mkfilter_normalize_scale_coeffs_int()

```
static void mkfilter_normalize_scale_coeffs_int
(
    int maxvalue,
    [System::Runtime::InteropServices::In] array< double >^ coeffs,
    [System::Runtime::InteropServices::Out] array< int >^% out_coeffs )  [static]
```

11.138.1.14 mkfilter_scale_coef_in_one_set()

```
static void mkfilter_scale_coef_in_one_set (
    int n,
    double scale,
    [System::Runtime::InteropServices::In] array< double >^ xcoeffs,
    [System::Runtime::InteropServices::In] array< double >^ ycoeffs,
    [System::Runtime::InteropServices::Out] array< double >^% out_coeffs )  [static]
```

11.139 CRoboDeviceNet::RoboMainLowLevelCommands Class Reference

Public Member Functions

- void SetParameter (unsigned short command, unsigned short index, unsigned int value)
- void SetParameter (unsigned short command, unsigned short index, unsigned int value1, unsigned int value2)
- void SetUserParameter (unsigned short index, unsigned int value)

  Stores persistently 32 bit integer values on RoboMain
- void SetUserParameter (unsigned short index, int value)

  Stores persistently 32 bit integer values on RoboMain
- void GetParameter (unsigned short command, unsigned short index, [System::Runtime::InteropServices::↩ Out]unsigned int% value)
- void GetParameter (unsigned short command, unsigned short index, [System::Runtime::InteropServices::↩ Out]unsigned int% value1, [System::Runtime::InteropServices::Out]unsigned int% value2)
- void GetUserParameter (unsigned short index, [System::Runtime::InteropServices::Out]unsigned int% value)

  Reads 32 bit integer values stored persistently on RoboMain
- void GetUserParameter (unsigned short index, [System::Runtime::InteropServices::Out]int% value)

  Reads 32 bit integer values stored persistently on RoboMain
- void FindReferencePhase0 (unsigned char busaddress, char axes)
- void FindReferencePhase0 (unsigned char busaddress, char axes, int timeout)
- unsigned char HasRef (unsigned char busaddress, char axes)
- void SetHWRevision (unsigned int revision)
- unsigned int GetHWRevision ()
- void SetHWConfig (unsigned int config)
- unsigned int GetHWConfig ()
- void SetMinPressureWaitTime (unsigned int t)
- unsigned int GetMinPressureWaitTime ()
- void SetMinPressure (unsigned int pressure)
- unsigned int GetMinPressure ()
- void SetMaxPressureWaitTime (unsigned int t)
- unsigned int GetMaxPressureWaitTime ()
- void SetMinNoPressureWaitTime (unsigned int t)
- unsigned int GetMinNoPressureWaitTime ()
- void SetMaxNoPressure (unsigned int pressure)
- unsigned int GetMaxNoPressure ()
- void SetMaxNoPressureWaitTime (unsigned int t)
- unsigned int GetMaxNoPressureWaitTime ()
- void SetSearchReferenceMethod (unsigned char busaddress, char axes, unsigned int method)
- unsigned int GetSearchReferenceMethod (unsigned char busaddress, char axes)
- void SetSearchReferenceOffsetPos (unsigned char busaddress, char axes, int offsetpos)
- int GetSearchReferenceOffsetPos (unsigned char busaddress, char axes)
- void SetSearchReferenceFastSpeed (unsigned char busaddress, char axes, unsigned short speed)
- unsigned short GetSearchReferenceFastSpeed (unsigned char busaddress, char axes)
- void SetSearchReferenceFastAccel (unsigned char busaddress, char axes, unsigned short accel)
- unsigned short GetSearchReferenceFastAccel (unsigned char busaddress, char axes)
- void SetSearchReferenceFineSpeed (unsigned char busaddress, char axes, unsigned short speed)
- unsigned short GetSearchReferenceFineSpeed (unsigned char busaddress, char axes)
- void SetSearchReferenceFineAccel (unsigned char busaddress, char axes, unsigned short accel)
- unsigned short GetSearchReferenceFineAccel (unsigned char busaddress, char axes)
- void SetSearchReferenceMoveOut (unsigned char busaddress, char axes, int move)
- int GetSearchReferenceMoveOut (unsigned char busaddress, char axes)
- void SetAxisConfig (unsigned char busaddress, char axes, unsigned int config)
- unsigned int GetAxisConfig (unsigned char busaddress, char axes)
- void GetPhases (unsigned char busaddress, char axes, [System::Runtime::InteropServices::Out] unsigned short% phase0, [System::Runtime::InteropServices::Out] unsigned short% lastphase)

11.139.1 Member Function Documentation

11.139.1.1 FindReferencePhase0() [1/2]

```
void FindReferencePhase0 (
    unsigned char busaddress,
    char axes )
```

11.139.1.2 FindReferencePhase0() [2/2]

```
void FindReferencePhase0 (
    unsigned char busaddress,
    char axes,
    int timeout )
```

11.139.1.3 GetAxisConfig()

```
unsigned int GetAxisConfig (
    unsigned char busaddress,
    char axes )
```

11.139.1.4 GetHWConfig()

```
unsigned int GetHWConfig ( )
```

11.139.1.5 GetHWRevision()

```
unsigned int GetHWRevision ( )
```

11.139.1.6 GetMaxNoPressure()

```
unsigned int GetMaxNoPressure ( )
```

11.139.1.7 GetMaxNoPressureWaitTime()

```
unsigned int GetMaxNoPressureWaitTime ( )
```

11.139.1.8 GetMaxPressureWaitTime()

```
unsigned int GetMaxPressureWaitTime ( )
```

11.139.1.9 GetMinNoPressureWaitTime()

```
unsigned int GetMinNoPressureWaitTime ( )
```

11.139.1.10 GetMinPressure() unsigned int GetMinPressure ( )

11.139.1.11 GetMinPressureWaitTime() unsigned int GetMinPressureWaitTime ( )

11.139.1.12 GetParameter() [1/2] void GetParameter (

```
unsigned short command,
unsigned short index,
[System::Runtime::InteropServices::Out] unsigned int% value )
```

11.139.1.13 GetParameter() [2/2] void GetParameter (

```
unsigned short command,
unsigned short index,
[System::Runtime::InteropServices::Out] unsigned int% value1,
[System::Runtime::InteropServices::Out] unsigned int% value2 )
```

11.139.1.14 GetPhases() void GetPhases (

```
unsigned char busaddress,
char axes,
[System::Runtime::InteropServices::Out] unsigned short% phase0,
[System::Runtime::InteropServices::Out] unsigned short% lastphase )
```

11.139.1.15 GetSearchReferenceFastAccel() unsigned short GetSearchReferenceFastAccel (

```
unsigned char busaddress,
char axes )
```

11.139.1.16 GetSearchReferenceFastSpeed() unsigned short GetSearchReferenceFastSpeed (

```
unsigned char busaddress,
char axes )
```

11.139.1.17 GetSearchReferenceFineAccel() unsigned short GetSearchReferenceFineAccel (

```
unsigned char busaddress,
char axes )
```

11.139.1.18 GetSearchReferenceFineSpeed()

```
unsigned short GetSearchReferenceFineSpeed (
    unsigned char busaddress,
    char axes )
```

11.139.1.19 GetSearchReferenceMethod()

```
unsigned int GetSearchReferenceMethod (
    unsigned char busaddress,
    char axes )
```

11.139.1.20 GetSearchReferenceMoveOut()

```
int GetSearchReferenceMoveOut (
    unsigned char busaddress,
    char axes )
```

11.139.1.21 GetSearchReferenceOffsetPos()

```
int GetSearchReferenceOffsetPos (
    unsigned char busaddress,
    char axes )
```

11.139.1.22 GetUserParameter() [1/2]

```
void GetUserParameter (
    unsigned short index,
    [System::Runtime::InteropServices::Out] int% value )
```

Reads 32 bit integer values stored persistently on RoboMain

intention: provide free persistent user memory space on motor controller

Parameters

index	address offset of parameter; range: 0..15
value	data buffer

11.139.1.23 GetUserParameter() [2/2]

```
void GetUserParameter (
    unsigned short index,
    [System::Runtime::InteropServices::Out] unsigned int% value )
```

Reads 32 bit integer values stored persistently on RoboMain

intention: provide free persistent user memory space on motor controller

Parameters

index	address offset of parameter; range: 0..15
value	data buffer

11.139.1.24 HasRef()

```
unsigned char HasRef (
    unsigned char busaddress,
    char axes )
```

11.139.1.25 SetAxisConfig()

```
void SetAxisConfig (
    unsigned char busaddress,
    char axes,
    unsigned int config )
```

11.139.1.26 SetHWConfig()

```
void SetHWConfig (
    unsigned int config )
```

11.139.1.27 SetHWRevision()

```
void SetHWRevision (
    unsigned int revision )
```

11.139.1.28 SetMaxNoPressure()

```
void SetMaxNoPressure (
    unsigned int pressure )
```

11.139.1.29 SetMaxNoPressureWaitTime()

```
void SetMaxNoPressureWaitTime (
    unsigned int t )
```

11.139.1.30 SetMaxPressureWaitTime()

```
void SetMaxPressureWaitTime (
    unsigned int t )
```

11.139.1.31 SetMinNoPressureWaitTime()

```
void SetMinNoPressureWaitTime (
    unsigned int t )
```

11.139.1.32 SetMinPressure()

```
void SetMinPressure (
    unsigned int pressure )
```

11.139.1.33 SetMinPressureWaitTime()

```
void SetMinPressureWaitTime (
    unsigned int t )
```

11.139.1.34 SetParameter() [1/2]

```
void SetParameter (
    unsigned short command,
    unsigned short index,
    unsigned int value )
```

11.139.1.35 SetParameter() [2/2]

```
void SetParameter (
    unsigned short command,
    unsigned short index,
    unsigned int value1,
    unsigned int value2 )
```

11.139.1.36 SetSearchReferenceFastAccel()

```
void SetSearchReferenceFastAccel (
    unsigned char busaddress,
    char axes,
    unsigned short accel )
```

11.139.1.37 SetSearchReferenceFastSpeed()

```
void SetSearchReferenceFastSpeed (
    unsigned char busaddress,
    char axes,
    unsigned short speed )
```

11.139.1.38 SetSearchReferenceFineAccel()

```
void SetSearchReferenceFineAccel (
    unsigned char busaddress,
    char axes,
    unsigned short accel )
```

11.139.1.39 SetSearchReferenceFineSpeed()

```
void SetSearchReferenceFineSpeed (
    unsigned char busaddress,
    char axes,
    unsigned short speed )
```

11.139.1.40 SetSearchReferenceMethod()

```
void SetSearchReferenceMethod (
    unsigned char busaddress,
    char axes,
    unsigned int method )
```

11.139.1.41 SetSearchReferenceMoveOut()

```
void SetSearchReferenceMoveOut (
    unsigned char busaddress,
    char axes,
    int move )
```

11.139.1.42 SetSearchReferenceOffsetPos()

```
void SetSearchReferenceOffsetPos (
    unsigned char busaddress,
    char axes,
    int offsetpos )
```

11.139.1.43 SetUserParameter() [1/2]

```
void SetUserParameter (
    unsigned short index,
    int value )
```

Stores *persistently* 32 bit integer values on RoboMain

intention: provide free persistent user memory space on RoboMain

Parameters

index	address offset of parameter; range: 0..15
value	data to be stored

11.139.1.44 SetUserParameter() [2/2]

```
void SetUserParameter (
    unsigned short index,
    unsigned int value )
```

Stores *persistently* 32 bit integer values on RoboMain

intention: provide free persistent user memory space on RoboMain

Parameters

index	address offset of parameter; range: 0..15
value	data to be stored

11.140 CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands Class Reference

Public Member Functions

- void FindReferencePhase0XY ()
- void FindReferencePhase0XY (int timeout)

11.140.1 Member Function Documentation

11.140.1.1 FindReferencePhase0XY() [1/2] void FindReferencePhase0XY ( )

11.140.1.2 FindReferencePhase0XY() [2/2] void FindReferencePhase0XY (int *timeout*)

11.141 CFilterCoefficientsNet::s_FilterAttributesNet Struct Reference

Public Member Functions

- s_FilterAttributesNet (s_FilterAttributes attrib)
- s_FilterAttributes ToCpp ()

Public Attributes

- uint32_t PreCommaB
- uint32_t PostCommaB
- uint32_t CommaPositionB
- uint32_t PreCommaA
- uint32_t PostCommaA
- uint32_t CommaPositionA

11.141.1 Constructor & Destructor Documentation

11.141.1.1 s_FilterAttributesNet() s_FilterAttributesNet (s_FilterAttributes *attrib*)

11.141.2 Member Function Documentation

11.141.2.1 ToCpp() `s_FilterAttributes ToCpp ( )`

11.141.3 Member Data Documentation

11.141.3.1 CommaPositionA `uint32_t CommaPositionA`

11.141.3.2 CommaPositionB `uint32_t CommaPositionB`

11.141.3.3 PostCommaA `uint32_t PostCommaA`

11.141.3.4 PostCommaB `uint32_t PostCommaB`

11.141.3.5 PreCommaA `uint32_t PreCommaA`

11.141.3.6 PreCommaB `uint32_t PreCommaB`

11.142 CMeaAudioFunctionNet::s_setaudionet Struct Reference

Public Attributes

- int channel
- int amplification

11.142.1 Member Data Documentation

11.142.1.1 amplification `int amplification`

11.142.1.2 channel `int channel`

11.143 CStimulusFunctionNet::SidebandData Class Reference

Public Member Functions

- SidebandData ()
- ~SidebandData ()

  Destructor: called by Dispose()
- !SidebandData ()

  Finalizer: called by GC before collecting

Properties

- array< int32_t >^ Sideband `[get]`
- array< uint64_t >^ Duration `[get]`

11.143.1 Constructor & Destructor Documentation

11.143.1.1 SidebandData() `SidebandData ( )`

11.143.1.2 ~SidebandData() `~SidebandData ( )`

Destructor: called by Dispose()

11.143.1.3 "!SidebandData() `!SidebandData ( )`

Finalizer: called by GC before collecting

11.143.2 Property Documentation

11.143.2.1 Duration `array< uint64_t>^ Duration [get]`

11.143.2.2 Sideband `array< int32_t>^ Sideband [get]`

11.144 StgStatusNet Class Reference

Static Public Member Functions

- static StgStatusNet ^ FromIntPtr (IntPtr stgstatus)
- static StgStatusNet ^ FromPtr (stgstatus_t *stgstatus)

Public Attributes

- array< Stg200xTriggerStatusEnumNet > ^ TiggerStatus
- array< uint32_t > ^ ListOfChangedTriggers

11.144.1 Member Function Documentation

11.144.1.1 FromIntPtr() `static StgStatusNet ^ FromIntPtr ( IntPtr stgstatus ) [static]`

11.144.1.2 FromPtr() `static StgStatusNet ^ FromPtr ( stgstatus_t * stgstatus ) [static]`

11.144.2 Member Data Documentation

11.144.2.1 ListOfChangedTriggers `array<uint32_t> ^ ListOfChangedTriggers`

11.144.2.2 TiggerStatus `array<Stg200xTriggerStatusEnumNet> ^ TiggerStatus`

11.145 CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData Class Reference

Public Member Functions

- StimulusDeviceDataAndUnrolledData ()
- ~StimulusDeviceDataAndUnrolledData ()

  Destructor: called by Dispose()
- !StimulusDeviceDataAndUnrolledData ()

  Finalizer: called by GC before collecting

Properties

- array< uint8_t >^ DeviceData [get]
- int DeviceDataLength [get]
- array< int32_t >^ UnrolledAmplitude [get]
- array< uint32_t >^ UnrolledSync [get]
- array< uint64_t >^ UnrolledDuration [get]

11.145.1 Constructor & Destructor Documentation

11.145.1.1 StimulusDeviceDataAndUnrolledData() StimulusDeviceDataAndUnrolledData ( )

11.145.1.2 ~StimulusDeviceDataAndUnrolledData() ~StimulusDeviceDataAndUnrolledData ( )

Destructor: called by Dispose()

11.145.1.3 "!StimulusDeviceDataAndUnrolledData() !StimulusDeviceDataAndUnrolledData ( )

Finalizer: called by GC before collecting

11.145.2 Property Documentation

11.145.2.1 DeviceData array< uint8_t>^ DeviceData [get]

11.145.2.2 DeviceDataLength int DeviceDataLength [get]

11.145.2.3 UnrolledAmplitude array< int32_t>^ UnrolledAmplitude [get]

11.145.2.4 UnrolledDuration array< uint64_t>^ UnrolledDuration [get]

11.145.2.5 UnrolledSync `array< uint32_t>^ UnrolledSync [get]`

11.146 CMcsUsbFactoryNet::TargetSelectionInfoNet Class Reference

Public Attributes

- uint32_t Address
- uint32_t Value

11.146.1 Member Data Documentation

11.146.1.1 Address `uint32_t Address`

11.146.1.2 Value `uint32_t Value`

11.147 usbSetupPacket_t Class Reference

Public Attributes

- uint8_t bmRequestType
- uint8_t bRequest
- uint16_t wValue
- uint16_t wIndex
- uint16_t wLength

11.147.1 Member Data Documentation

11.147.1.1 bmRequestType `uint8_t bmRequestType`

11.147.1.2 bRequest `uint8_t bRequest`

11.147.1.3 wIndex `uint16_t wIndex`

11.147.1.4 wLength `uint16_t wLength`

11.147.1.5 wValue `uint16_t wValue`

11.148 W2100_StimulusParametersNet Struct Reference

Public Attributes

- int DACResolution
- int TimeResolutionInNanoSeconds
- int VoltageRangeInMicroVolt
- int VoltageResolutionInMicroVolt
- int CurrentRangeInNanoAmp
- int CurrentResolutionInNanoAmp

11.148.1 Member Data Documentation

11.148.1.1 CurrentRangeInNanoAmp `int CurrentRangeInNanoAmp`

11.148.1.2 CurrentResolutionInNanoAmp `int CurrentResolutionInNanoAmp`

11.148.1.3 DACResolution `int DACResolution`

11.148.1.4 TimeResolutionInNanoSeconds `int TimeResolutionInNanoSeconds`

11.148.1.5 VoltageRangeInMicroVolt `int VoltageRangeInMicroVolt`

11.148.1.6 VoltageResolutionInMicroVolt `int VoltageResolutionInMicroVolt`

Index

!CDacCalibrationFunctionNet
CDacCalibrationFunctionNet, 114
!CDigOutStimulatorFunctionNet
CDigOutStimulatorFunctionNet, 124
!CExternDTesterDeviceNet
CExternDTesterDeviceNet, 129
!CGrapheneFunctionNet
CGrapheneFunctionNet, 169
!CInterfaceboard2FunctionNet
CInterfaceboard2FunctionNet, 187
!CInterfaceboardFunctionNet
CInterfaceboardFunctionNet, 189
!CLIH3DeviceNet
CLIH3DeviceNet, 192
!CMEA2100x256FunctionNet
CMEA2100x256FunctionNet, 332
!CMcsUsbFunctionNet
CMcsUsbFunctionNet, 301
!CMcsUsbListNet
CMcsUsbListNet, 308
!CMcsUsbNet
CMcsUsbNet, 314
!CMeFunctionNet
CMeFunctionNet, 366
!CMeaCleanDeviceNet
CMeaCleanDeviceNet, 337
!CMeaCoatDeviceNet
CMeaCoatDeviceNet, 341
!CMultiBatteryChargerDeviceNet
CMultiBatteryChargerDeviceNet, 367
!CMultiwellCallbackFunctionNet
CMultiwellCallbackFunctionNet, 374
!CMultiwellDeviceNet
CMultiwellDeviceNet, 377
!CMultiwellOptoStimFunctionNet
CMultiwellOptoStimFunctionNet, 384
!CPPCFunctionNet
CPPCFunctionNet, 417
!CPedoterDeviceNet
CPedoterDeviceNet, 398
!CPositionIIDeviceNet
CPositionIIDeviceNet, 404
!CPositionImpDeviceNet
CPositionImpDeviceNet, 412
!CProgramPressureCurveNet
CProgramPressureCurveNet, 431
!CPulseGeneratorFunctionNet
CPulseGeneratorFunctionNet, 432
!CRFFunctionNet
CRFFunctionNet, 440
!CSCUFunctionNet
CSCUFunctionNet, 496
!CTEERFunctionNet
CTEERFunctionNet, 591
!CUsbDeviceConfigurationFunctionNet
CUsbDeviceConfigurationFunctionNet, 601
!CWarnerUssingDeviceNet
CWarnerUssingDeviceNet, 619
!CWarnerUssingFunctionNet
CWarnerUssingFunctionNet, 621
!CWarnerValveControllerDeviceNet
CWarnerValveControllerDeviceNet, 640
!CWarnerValveControllerDeviceTesterFunctionNet
CWarnerValveControllerDeviceTesterFunctionNet, 662
!SidebandData
CStimulusFunctionNet::SidebandData, 700
!StimulusDeviceDataAndUnrolledData
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
_AdditionalText
HeadstageIDTypeObject, 686
_IdType
HeadstageIDTypeObject, 686
~CCMOSMeaDeviceNet
CCMOSMeaDeviceNet, 109
~CChannelTestDeviceNet
CChannelTestDeviceNet, 97
~CCreateFilterNet
CCreateFilterNet, 112
~CDacCalibrationFunctionNet
CDacCalibrationFunctionNet, 114
~CDigOutStimulatorFunctionNet
CDigOutStimulatorFunctionNet, 124
~CExternDTesterDeviceNet
CExternDTesterDeviceNet, 129
~CFilterCoefficientsNet
CFilterCoefficientsNet, 131
~CFilterPropertyNet
CFilterPropertyNet, 136
~CFluidControlDeviceNet
CFluidControlDeviceNet, 139
~CGenericDevelopDeviceNet
CGenericDevelopDeviceNet, 153
~CGilsonDeviceNet
CGilsonDeviceNet, 165
~CGrapheneASICDeviceNet
CGrapheneASICDeviceNet, 166
~CGrapheneFunctionNet
CGrapheneFunctionNet, 169
~CInterfaceboard2FunctionNet
CInterfaceboard2FunctionNet, 187
~CInterfaceboardFunctionNet
CInterfaceboardFunctionNet, 189
~CLIH3DeviceNet
CLIH3DeviceNet, 192
~CMEA2100x256FunctionNet
CMEA2100x256FunctionNet, 332
~CMcsBusNet
CMcsBusNet, 238

~CMcsBus_AxisParametersNet
CMcsBus_AxisParametersNet, 200
~CMcsBus_ExtensionNet
CMcsBus_ExtensionNet, 201
~CMcsBus_FYIExtensionNet
CMcsBus_FYIExtensionNet, 202
~CMcsBus_MotorControlNet
CMcsBus_MotorControlNet, 207
~CMcsBus_SensorNet
CMcsBus_SensorNet, 223
~CMcsBus_TempSensorNet
CMcsBus_TempSensorNet, 232
~CMcsBus_VoltageModeNet
CMcsBus_VoltageModeNet, 234
~CMcsUsbDacqNet
CMcsUsbDacqNet, 248
~CMcsUsbFactoryNet
CMcsUsbFactoryNet, 293
~CMcsUsbFunctionNet
CMcsUsbFunctionNet, 301
~CMcsUsbListEntryNet
CMcsUsbListEntryNet, 302
~CMcsUsbListNet
CMcsUsbListNet, 308
~CMcsUsbNet
CMcsUsbNet, 314
~CMeFunctionNet
CMeFunctionNet, 365
~CMeaCleanDeviceNet
CMeaCleanDeviceNet, 337
~CMeaCoatDeviceNet
CMeaCoatDeviceNet, 341
~CMeaDeviceNet
CMeaDeviceNet, 347
~CMeaImpedanceDeviceNet
CMeaImpedanceDeviceNet, 360
~CMeaSwitchDeviceNet
CMeaSwitchDeviceNet, 362
~CMeaUSBDeviceNet
CMeaUSBDeviceNet, 364
~CMultiBatteryChargerDeviceNet
CMultiBatteryChargerDeviceNet, 367
~CMultiwellCallbackFunctionNet
CMultiwellCallbackFunctionNet, 374
~CMultiwellDeviceNet
CMultiwellDeviceNet, 377
~CMultiwellOptoStimFunctionNet
CMultiwellOptoStimFunctionNet, 384
~CNF_GenDeviceNet
CNF_GenDeviceNet, 388
~COkuvisionStimulatorDeviceNet
COkuvisionStimulatorDeviceNet, 393
~CPPCFunctionNet
CPPCFunctionNet, 417
~CPathIdentDeviceNet
CPathIdentDeviceNet, 397
~CPedoterDeviceNet
CPedoterDeviceNet, 398
~CPeristalticPumpDeviceNet
CPeristalticPumpDeviceNet, 400
~CPgaDeviceNet
CPgaDeviceNet, 401
~CPositionIIDeviceNet
CPositionIIDeviceNet, 404
~CPositionImpDeviceNet
CPositionImpDeviceNet, 412
~CProgramPressureCurveNet
CProgramPressureCurveNet, 430
~CPulseGeneratorFunctionNet
CPulseGeneratorFunctionNet, 432
~CRFFunctionNet
CRFFunctionNet, 440
~CRetinaLedDeviceNet
CRetinaLedDeviceNet, 438
~CRoboDeviceNet
CRoboDeviceNet, 465
~CRoboFluidDeviceNet
CRoboFluidDeviceNet, 479
~CSCUFunctionNet
CSCUFunctionNet, 496
~CSafeISDeviceNet
CSafeISDeviceNet, 490
~CStg200xBasicNet
CStg200xBasicNet, 516
~CStg200xDownloadNet
CStg200xDownloadNet, 557
~CSw2to64DeviceNet
CSw2to64DeviceNet, 574
~CTEERFunctionNet
CTEERFunctionNet, 591
~CTEERMachineDeviceNet
CTEERMachineDeviceNet, 599
~CTcxDeviceNet
CTcxDeviceNet, 578
~CUsbDeviceConfigurationFunctionNet
CUsbDeviceConfigurationFunctionNet, 601
~CWarnerUssingDeviceNet
CWarnerUssingDeviceNet, 618
~CWarnerUssingFunctionNet
CWarnerUssingFunctionNet, 621
~CWarnerValveControllerDeviceNet
CWarnerValveControllerDeviceNet, 640
~CWarnerValveControllerDeviceTesterFunctionNet
CWarnerValveControllerDeviceTesterFunctionNet, 661
~DriverVersionNet
DriverVersionNet, 674
~SidebandData
CStimulusFunctionNet::SidebandData, 700
~StimulusDeviceDataAndUnrolledData
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702

A
CFilterCoefficientsNet, 132
Mcs::Usb, 68
AccelOnly

Mcs::Usb, 88
AdapterTypeEnumNet
Mcs::Usb, 51
AdditionalText
HeadstageIDTypeObject, 687
AddLoopEntry
CRetinaLedDeviceNet, 438
Address
CMcsUsbFactoryNet::TargetSelectionInfoNet, 703
AddSelectedChannelsQueue
CMcsUsbDacqNet, 248, 249, 251
AddSoftwareKey
CMcsUsbNet, 314
AddTableEntry
CRetinaLedDeviceNet, 438
ALA_VC3
Mcs::Usb, 74, 88
ALA_VC3_DEVICE
Mcs::Usb, 61
ALTERA
Mcs::Usb, 54
Altera
FirmwareDestinationNames, 680
ALTERA_BASE
Mcs::Usb, 55
ALTERA_BOOTSTRAP
Mcs::Usb, 55
ALTERA_GOLD
Mcs::Usb, 54
ALTERA_TARGET1
Mcs::Usb, 55
ALTERA_TARGET2
Mcs::Usb, 55
ALTERA_TARGET3
Mcs::Usb, 55
AlwaysOn
Mcs::Usb, 77
Ampere
Mcs::Usb, 52, 88
amplification
CMeaAudioFunctionNet::s_setaudionet, 699
CW2100_FunctionNet::AudioChannelsNet, 93
AmplifierSettle
CIntanMea_FunctionNet, 185
AMS_Dongle
Mcs::Usb, 75
Analog
Mcs::Usb, 74, 91
AnalogGain
CMeaDeviceNet, 352
AnalogGroup
Mcs::Usb, 59
AnalogOut_DAC_Range_EnumNet
Mcs::Usb, 51
AnalogSource_HS1
Mcs::Usb, 52
AnalogSource_HS2
Mcs::Usb, 52
AnalogSource_IF
Mcs::Usb, 52
AnalogSourceEnumNet
Mcs::Usb, 52
AnalogUnitEnumNet
Mcs::Usb, 52
Any
Mcs::Usb, 74, 88
ApplyGains
CPgaDeviceNet, 401
AreTransistorVoltagesSet
CCMOSMea_FunctionNet, 100
Armed
Mcs::Usb, 82
ASMedia
Mcs::Usb, 87
AssociateToThis
CMcsUsbNet, 314
AudioTestChannelGroup
Mcs::Usb, 59, 70, 80, 90
AutomaticAnalogOut
CSCUFunctionNet, 496
Aux
Mcs::Usb, 61
AuxIn
Mcs::Usb, 62, 71, 80, 83, 90
AuxPort
Mcs::Usb, 57
Axes_I
CRoboDeviceNet, 473
Axes_X
CRoboDeviceNet, 473
Axes_Y
CRoboDeviceNet, 473
Axes_Z
CRoboDeviceNet, 474
Axis_I
CRoboDeviceNet, 474
Axis_X
CRoboDeviceNet, 474
Axis_Y
CRoboDeviceNet, 474
Axis_Z
CRoboDeviceNet, 474

B
CFilterCoefficientsNet, 132
Mcs::Usb, 68
BatteryState, 93
Charge, 93
ChargeRegionString, 93
ChargeString, 93
Voltage, 94
VoltageString, 94
BcdDevice
DeviceIdNet, 670
BeginImpedanceCheck
CIntanMea_FunctionNet, 185
Bessel

Mcs::Usb, 65
BesselFilterHighPassNet, 94
BesselFilterHighPassNet, 94
BesselFilterLowPassNet, 94
BesselFilterLowPassNet, 95
BMI
Mcs::Usb, 84
bmRequestType
usbSetupPacket_t, 703
BOOST_BIT
CW2100_StimulatorFunctionNet, 617
Bootstrap
FirmwareDestinationNames, 680
Mcs::Usb, 54
BootstrapOtherCypress
Mcs::Usb, 54
Both
Mcs::Usb, 88
Break
Mcs::Usb, 78
bRequest
usbSetupPacket_t, 703
BurnAdcOffset
COctoPotDeviceNet, 389
BurnDacOffset
CDacCalibrationFunctionNet, 114
COctoPotDeviceNet, 390
BUS0MCSBUS0
Mcs::Usb, 53
BUS0MCSBUS1
Mcs::Usb, 53
BUS0MCSBUS10
Mcs::Usb, 53
BUS0MCSBUS11
Mcs::Usb, 53
BUS0MCSBUS12
Mcs::Usb, 53
BUS0MCSBUS13
Mcs::Usb, 53
BUS0MCSBUS14
Mcs::Usb, 53
BUS0MCSBUS15
Mcs::Usb, 53
BUS0MCSBUS2
Mcs::Usb, 53
BUS0MCSBUS3
Mcs::Usb, 53
BUS0MCSBUS4
Mcs::Usb, 53
BUS0MCSBUS5
Mcs::Usb, 53
BUS0MCSBUS6
Mcs::Usb, 53
BUS0MCSBUS7
Mcs::Usb, 53
BUS0MCSBUS8
Mcs::Usb, 53
BUS0MCSBUS9
Mcs::Usb, 53
BUS1_MCSBUS1
FirmwareDestinationNames, 680
BUS1_MCSBUS2
FirmwareDestinationNames, 680
BUS1MCSBUS0
Mcs::Usb, 53
BUS1MCSBUS1
Mcs::Usb, 53
BUS1MCSBUS10
Mcs::Usb, 53
BUS1MCSBUS11
Mcs::Usb, 53
BUS1MCSBUS12
Mcs::Usb, 53
BUS1MCSBUS13
Mcs::Usb, 53
BUS1MCSBUS14
Mcs::Usb, 53
BUS1MCSBUS15
Mcs::Usb, 53
BUS1MCSBUS2
Mcs::Usb, 53
BUS1MCSBUS3
Mcs::Usb, 53
BUS1MCSBUS4
Mcs::Usb, 53
BUS1MCSBUS5
Mcs::Usb, 53
BUS1MCSBUS6
Mcs::Usb, 53
BUS1MCSBUS7
Mcs::Usb, 53
BUS1MCSBUS8
Mcs::Usb, 53
BUS1MCSBUS9
Mcs::Usb, 53
BUS2MCSBUS0
Mcs::Usb, 54
BUS2MCSBUS1
Mcs::Usb, 53
BUS2MCSBUS10
Mcs::Usb, 54
BUS2MCSBUS11
Mcs::Usb, 54
BUS2MCSBUS12
Mcs::Usb, 54
BUS2MCSBUS13
Mcs::Usb, 54
BUS2MCSBUS14
Mcs::Usb, 54
BUS2MCSBUS15
Mcs::Usb, 54
BUS2MCSBUS2
Mcs::Usb, 53
BUS2MCSBUS3
Mcs::Usb, 53
BUS2MCSBUS4

Mcs::Usb, 53
BUS2MCSBUS5
Mcs::Usb, 54
BUS2MCSBUS6
Mcs::Usb, 54
BUS2MCSBUS7
Mcs::Usb, 54
BUS2MCSBUS8
Mcs::Usb, 54
BUS2MCSBUS9
Mcs::Usb, 54
BUSNUMBER0
Mcs::Usb, 53
BUSNUMBER1
Mcs::Usb, 53
BUSNUMBER2
Mcs::Usb, 53
BusType
DeviceIdNet, 670
Butterworth
Mcs::Usb, 65
ButterworthFilterHighPassNet, 95
ButterworthFilterHighPassNet, 95
ButterworthFilterLowPassNet, 96
ButterworthFilterLowPassNet, 96

CalibrateThermocouple
CFluidControlDeviceNet, 139
CTcxDeviceNet, 578
Campden_Ci4600EphysVideoDataIntegrator
Mcs::Usb, 74
CancelInternalCalibration
CTEERFunctionNet, 591
CancelPoolLoop
CRoboDeviceNet, 465
CancelPoolLoopAndStopMovement
CRoboDeviceNet, 465
CancelTableLoop
CRoboDacqNet, 450
CancelTableLoopAndStopTable
CRoboDacqNet, 450
CapacityTest
CMultiBatteryChargerDeviceNet, 368
CatchAmp
Mcs::Usb, 73
CatchAmpGetAdcMean
CMcsBus_SensorNet, 223
CatchAmpGetAdcValue
CMcsBus_SensorNet, 223
CatchAmpGetAdcValueH
CMcsBus_SensorNet, 223
CatchAmpGetAdcValueL
CMcsBus_SensorNet, 223
CatchAmpGetDacAmplitude
CMcsBus_SensorNet, 224
CatchAmpGetDacEnable
CMcsBus_SensorNet, 224
CatchAmpGetDacOffset
CMcsBus_SensorNet, 224
CatchAmpGetPwmEnable
CMcsBus_SensorNet, 224
CatchAmpSetDacAmplitude
CMcsBus_SensorNet, 224
CatchAmpSetDacEnable
CMcsBus_SensorNet, 224
CatchAmpSetDacOffset
CMcsBus_SensorNet, 224
CatchAmpSetPwmEnable
CMcsBus_SensorNet, 224
CChannelTestDeviceNet, 96
~CChannelTestDeviceNet, 97
CChannelTestDeviceNet, 97
SetAmplitude, 97
SetAttenuation, 97
SetFrequency, 97
SetWaveform, 97
CCMOSMea_FunctionNet, 97
AreTransistorVoltagesSet, 100
CCMOSMea_FunctionNet, 99, 100
ClearSTGOutput, 100
DetectChipType, 100
EnableChannelsInGroup, 100
GetADCInputOffset, 100
GetBath, 100
GetBathMode, 100
GetEnabledChannelsInGroup, 101
GetGate, 101
GetGNDI, 101
GetGroupADCBits, 101
GetGroupChannelBitmaskBySelect, 101
GetGroupChannelBitmaskHS1NCBathCurrent, 101, 102
GetGroupChannelBitmaskHS1NCCol2Current, 102
GetGroupChannelBitmaskHS1NChipTemp, 102
GetGroupChannelBitmaskHS1Sidebands, 102
GetGroupChannelBitmaskHS1TriggerStatus, 102, 103
GetGroupChannelBitmaskIFDigChannels, 103
GetGroupChannelBitmaskInterfaceADC, 103
GetGroupChannelBitmaskPacketFrameContext, 103
GetGroupChannelBitmaskSTG1DACSignal, 103, 104
GetGroupDCOffset, 104
GetGroupID, 104
GetGroupNumberOfChannels, 104
GetGroupResolutionPerDigit, 104
GetGroupSampleSize, 105
GetGroupType, 105
GetGroupUnit, 105
GetMaxNumOfColumns, 105
GetNeurochipMemoryData, 105
GetNeurochipMemorySize, 106
GetNumberOfSupportedGroups, 106
GetSourceBulk, 106
GetSourceDrain, 106

GetSourceGate, 106
GetStimulusSites, 106
GetVDD3I, 106
GetVDDI, 106
IsChipPowered, 106
IsGateFloating, 106
PowerChip, 107
SetADCInputOffset, 107
SetBath, 107
SetBathMode, 107
SetGate, 107
SetGateFloating, 107
SetGateToVOP, 107
SetNeurochipMemoryData, 107
SetSourceBulk, 107
SetSourceDrain, 108
SetSourceGate, 108
SetStimulusSites, 108
UpdateTransistorVoltages, 108
VOPSTimerSetResetTimes, 108
CCMOSMeaDeviceNet, 108
~CCMOSMeaDeviceNet, 109
CCMOSMeaDeviceNet, 109
CMosMea, 111
GetAvailableBaseSamplerates, 109
GetBaseSamplerate, 110
GetChannelDataI16, 110
GetChannelDataI32, 110
GetChannelDataUI16, 110
GetChannelDataUI32, 110
GetCMOSDataDictionary, 110
GetMaxReadableColumns, 110
SetBaseSamplerate, 111
SetRegionOfInterests, 111
Stimulus, 111
UpdateChannelBlock, 111
CCMOSMeaDeviceNet::CRegionOfInterestRect, 436
CRegionOfInterestRect, 436
DeepCopy, 436
m_Bottom, 437
m_Left, 437
m_Right, 437
m_Top, 437
CCreateFilterNet, 111
~CCreateFilterNet, 112
CCreateFilterNet, 112
CutoffFrequency, 113
FindFilter, 112
GetBiQuad, 113
GetBiQuads, 113
NumCoefSets, 113
Order, 113
SampleRate, 113
Scale, 113
CDacCalibrationFunctionNet, 113
!CDacCalibrationFunctionNet, 114
~CDacCalibrationFunctionNet, 114
BurnDacOffset, 114
CDacCalibrationFunctionNet, 114
GetDacOffset, 115
SetDacOffset, 115
CDacqGroupChannelGenericSelectionNet, 115
CDacqGroupChannelGenericSelectionNet, 116
CDacqGroupChannelSelectionNet, 116
CDacqGroupChannelSelectionNet, 116
CDacqGroupChannelSelectionTemplateNet
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 117
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 116
CDacqGroupChannelSelectionTemplateNet, 117
EnableChannelsInGroup, 117
GetDeviceGroupChannelInfos, 117, 118
GetEnabledChannelsInGroup, 118
GetGroupID, 118
GetGroupNumberOfChannels, 118
GetGroupSampleSize, 118
GetGroupType, 119
GetNumberOfSupportedGroups, 119
CDeviceGroupChannelInfoGenericNet, 119
CDeviceGroupChannelInfoGenericNet, 119
CDeviceGroupChannelInfoMEA2100_256Net, 120
CDeviceGroupChannelInfoMEA2100_256Net, 120
CDeviceGroupChannelInfoNet, 120
CDeviceGroupChannelInfoNet, 121
CDeviceGroupChannelInfoSCUNet, 121
CDeviceGroupChannelInfoSCUNet, 121
CDeviceGroupChannelInfoTemplateNet
CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet >, 122
CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet >, 121
CDeviceGroupChannelInfoTemplateNet, 122
GroupID, 122
GroupType, 122
NumberOfChannels, 122
CDeviceGroupChannelInfoW2100Net, 122
CDeviceGroupChannelInfoW2100Net, 123
CDigOutStimulatorFunctionNet, 123
!CDigOutStimulatorFunctionNet, 124
~CDigOutStimulatorFunctionNet, 124
CDigOutStimulatorFunctionNet, 124
ClearChannel, 124
GetGlobalRepeat, 124
GetNumberOfChannels, 125
GetStartTriggerSlope, 125
GetStopTriggerSlope, 125
PrepareChannelData, 126
SendChannelData, 126
SetGlobalRepeat, 126
SetStartTriggerSlope, 127
SetStopTriggerSlope, 127

CEncapsulatorDeviceNet, 127
CEncapsulatorDeviceNet, 128
GetRoboFluidDevice, 128
CExternDTesterDeviceNet, 128
!CExternDTesterDeviceNet, 129
~CExternDTesterDeviceNet, 129
CExternDTesterDeviceNet, 129
Read, 129
Read2, 129
Write, 129
Write2, 130
CFilterCoefficientsNet, 130
~CFilterCoefficientsNet, 131
A, 132
B, 132
CFilterCoefficientsNet, 130, 131
GetUintA, 131
GetUintB, 131
IsEqual, 131
CFilterCoefficientsNet::s_FilterAttributesNet, 698
CommaPositionA, 699
CommaPositionB, 699
PostCommaA, 699
PostCommaB, 699
PreCommaA, 699
PreCommaB, 699
s_FilterAttributesNet, 698
ToCpp, 698
CFilterConfigurationNet, 132
CFilterConfigurationNet, 132
EraseFilterParameterPermanent, 133
GetFilterAttributes, 133
GetHighpassFilterEnable, 133
ResetHighpassFilter, 133
SetFilterParameter, 133
SetFilterParameterPermanent, 133
SetHighpassFilterEnable, 134
CFilterConfigurationRegisterNet, 134
CFilterConfigurationRegisterNet, 134
EraseFilterParameterPermanent, 134, 135
SetFilterParameter, 135
SetFilterParameterPermanent, 135
CFilterPropertyNet, 136
~CFilterPropertyNet, 136
CFilterPropertyNet, 136
CornerFrequency, 136
CornerFrequencymHz, 137
FilterActive, 137
FilterBand, 137
FilterFamily, 137
FilterType, 137
Order, 137
ToString, 136
CFirmwareDestinationNet
Mcs::Usb, 52
CFluidControlDeviceNet, 137
~CFluidControlDeviceNet, 139
CalibrateThermocouple, 139
CFluidControlDeviceNet, 139
GetAdc, 139
GetDigin, 139
GetDigout, 140
GetPWM, 140
GetReferenceTemperature, 140
GetSingleValve, 140
GetThermocoupleCalibration, 141
GetThermocoupleNanovoltPerKelvin, 141
GetThermocoupleTemperature, 141
GetValve, 142
McsBus_VoltageMode, 144
SetDigout, 142
SetPWM, 142
SetSingleValve, 142
SetThermocoupleNanovoltPerKelvin, 144
SetValve, 144
CFYIDeviceNet, 144
CFYIDeviceNet, 145
FYIProgram, 145
FYITemp, 145
Sensor, 145
CGenericDevelopDeviceNet, 146
~CGenericDevelopDeviceNet, 153
CGenericDevelopDeviceNet, 153
ClosePipe, 153
FindEndpoints, 153
GetBuffer, 153
GetByteBuffer, 154
GetIntBuffer, 154
GetShortBuffer, 155
GetUByteBuffer, 156
GetUIntBuffer, 156
GetUShortBuffer, 157
OpenPipe, 158
ReadPipe, 158
ResetPipe, 158
SetBuffer, 159
SetByteBuffer, 159
SetIntBuffer, 159
SetShortBuffer, 160
SetUByteBuffer, 161
SetUIntBuffer, 161
SetUShortBuffer, 162
SetValue, 162
VendorInRequest, 163
VendorOutRequest, 163
WritePipe, 163
CGilsonDeviceNet, 164
~CGilsonDeviceNet, 165
CGilsonDeviceNet, 164
ConnectSlave, 165
GetLastAnswer, 165
m_pGilsonDevice, 165
SendBuffered, 165
SendImmediate, 165
SendImmediateGetResponse, 165
CGrapheneASICDeviceNet, 166

~CGrapheneASICDeviceNet, 166
CGrapheneASICDeviceNet, 166
GetAvailableBaseSamplerates, 166
SetBaseSamplerate, 167
SetRegionOfInterests, 167
CGrapheneFunctionNet, 167
!CGrapheneFunctionNet, 169
~CGrapheneFunctionNet, 169
CGrapheneFunctionNet, 169
GetADCOffset, 169, 170
GetCur2VolResistance, 170
GetDACOffset, 171
GetVdsVgs, 171
GetVdVs, 172
GetVdVsDAC, 172, 173
GetVoltageRange, 173
GetVoltageReached, 173
GetVoltageResolution, 174
SetADCOffset, 174, 175
SetDACOffset, 175
SetVdsVgs, 175, 176
SetVdVs, 176
SetVdVsDAC, 177
SetVoltageRange, 177
SetVoltageResolution, 178
ChangeSerialNumber
CMcsUsbFactoryNet, 293
channel
CMeaAudioFunctionNet::s_setaudionet, 699
CW2100_FunctionNet::AudioChannelsNet, 93
ChannelBlock_AvailFrames
CMcsUsbDacqNet, 251
ChannelBlock_ReadAsFrameArrayI16
CMcsUsbDacqNet, 251, 252
ChannelBlock_ReadAsFrameArrayI32
CMcsUsbDacqNet, 253
ChannelBlock_ReadAsFrameArrayUI16
CMcsUsbDacqNet, 254, 255
ChannelBlock_ReadAsFrameArrayUI32
CMcsUsbDacqNet, 255, 256
ChannelBlock_ReadFramesDictI16
CMcsUsbDacqNet, 257
ChannelBlock_ReadFramesDictI32
CMcsUsbDacqNet, 257
ChannelBlock_ReadFramesDictUI16
CMcsUsbDacqNet, 258
ChannelBlock_ReadFramesDictUI32
CMcsUsbDacqNet, 259
ChannelBlock_ReadFramesI16
CMcsUsbDacqNet, 259, 260
ChannelBlock_ReadFramesI32
CMcsUsbDacqNet, 260, 261
ChannelBlock_ReadFramesUI16
CMcsUsbDacqNet, 262
ChannelBlock_ReadFramesUI32
CMcsUsbDacqNet, 263, 264
channeldata_current
Mcs::Usb, 83
channeldata_current_always_boost
Mcs::Usb, 83
channeldata_current_always_boost_own_sync
Mcs::Usb, 83
channeldata_current_own_boost_gnd_sync
Mcs::Usb, 83
channeldata_current_own_sync
Mcs::Usb, 83
channeldata_positive_current
Mcs::Usb, 83
channeldata_positive_current_own_boost_gnd_sync
Mcs::Usb, 83
channeldata_positive_current_own_sync
Mcs::Usb, 83
channeldata_positive_voltage
Mcs::Usb, 83
channeldata_voltage
Mcs::Usb, 83
ChannelDataEvent
CMcsUsbDacqNet, 289
ChannelPIC
Mcs::Usb, 54
ChannelReset
CMultiBatteryChargerDeviceNet, 368
ChannelTest
Mcs::Usb, 76
Charge
BatteryState, 93
ChargeRegionString
BatteryState, 93
ChargeString
BatteryState, 93
ChecksumAndPacketCounter
Mcs::Usb, 58
CHiClampDeviceNet, 178
CHiClampDeviceNet, 179
RoboDacq, 179
CHLADacqNet, 179
CHLADacqNet, 180
CHLADeviceNet, 180
CHLADeviceNet, 180
HLADacq, 181
SerialPort, 181
CHWInfo
CMcsUsbDacqNet::CHWInfo, 181
Ci4600Intan
Mcs::Usb, 51
CIntanMea_FunctionNet, 184
AmplifierSettle, 185
BeginImpedanceCheck, 185
CIntanMea_FunctionNet, 184
GetDSPHighPassByIndex, 185
GetImpedanceResult, 185
GetIntanRegister, 185
GetLowerFrequencyByIndex, 185
GetUpperFrequencyByIndex, 185
SetBandwidthByIndex, 185
SetDiagnosticMode, 185

SetDSPHighPassByIndex, 186
SetIntanRegister, 186
CInterfaceboard2FunctionNet, 186
!CInterfaceboard2FunctionNet, 187
~CInterfaceboard2FunctionNet, 187
CInterfaceboard2FunctionNet, 187
GetIoVoltage, 187
SetIoVoltage, 187
CInterfaceboardFunctionNet, 188
!CInterfaceboardFunctionNet, 189
~CInterfaceboardFunctionNet, 189
CInterfaceboardFunctionNet, 188
GetCardinalDacqSamplerate, 189
GetCardinalStgOutputrate, 189
SetCardinalDacqSamplerate, 189
SetCardinalStgOutputrate, 189
ClampAmpRestart
CRoboDacqNet, 450
ClampModeCurrent
Mcs::Usb, 84
ClampModeInternalCalibration
Mcs::Usb, 84
ClampModeOpen
Mcs::Usb, 84
ClampModeVoltage
Mcs::Usb, 84
ClearBuffers
CMcsUsbDacqNet, 264
ClearChannel
CDigOutStimulatorFunctionNet, 124
ClearChannel_PrepareAndSendData
CStg200xDownloadNet, 557
CStimulusFunctionNet, 564
ClearChannelData
CStg200xDownloadBasicNet, 550
CStimulusFunctionNet, 564
CW2100_StimulatorFunctionNet, 612
ClearMultiplexedData
CStimulusFunctionNet, 564
ClearSTGOutput
CCMOSMea_FunctionNet, 100
ClearStimulusParametersCache
CW2100_FunctionNet, 605
ClearSyncData
CStg200xDownloadBasicNet, 550
CStimulusFunctionNet, 564
ClearTable
CRetinaLedDeviceNet, 438
ClearTableName
CWarnerValveControllerDeviceNet, 640
ClearUserDefinedNameCache
CW2100_FunctionNet, 605
ClearValveTable
CWarnerValveControllerDeviceNet, 640
CLIH3DeviceNet, 190
!CLIH3DeviceNet, 192
~CLIH3DeviceNet, 192
CLIH3DeviceNet, 192
DummyCommand, 192
EnableUserTrigger, 192
ErasePermanentAdcOffset, 193
ErasePermanentDacOffset, 193
GetAdcOffset, 193
GetAudioOutDacParameter, 193
GetDacIdleValue, 194
GetDacOffset, 194
GetDacqRunStatus, 194
GetDacUseIdleValue, 194
GetDigInState, 195
GetEEpromPage, 195
GetSampleInterval, 195
IsUserTriggerEnabled, 195
ReadClipping, 196
ReadUARTData, 196
SendCommand, 196
SetAdcOffset, 196
SetAdcOffsetPermanent, 197
SetAudioOutDacParameter, 197
SetDacIdleValue, 197
SetDacOffset, 197
SetDacOffsetPermanent, 198
SetDacUseIdleValue, 198
SetDigOutState, 198
SetEEpromPage, 198
SetSampleInterval, 199
StimulusFunction, 199
WriteUARTData, 199
Close
Mcs::Usb, 73
CloseAllValves
CRoboFluidDeviceNet, 479
ClosePipe
CGenericDevelopDeviceNet, 153
ClosePlateClamp
CMultiwellDeviceNet, 377
CMcsBus_AxisParametersNet, 199
~CMcsBus_AxisParametersNet, 200
CMcsBus_AxisParametersNet, 200
GetAxisParametersSignedEeprom, 200
GetAxisParametersUnsignedEeprom, 200
SetAxisParametersEeprom, 200, 201
CMcsBus_ExtensionNet, 201
~CMcsBus_ExtensionNet, 201
CMcsBus_ExtensionNet, 201
GetLEDSwitch, 202
SetLEDSwitch, 202
CMcsBus_FYIExtensionNet, 202
~CMcsBus_FYIExtensionNet, 202
CMcsBus_FYIExtensionNet, 202
GetDIO, 203
GetSingleHeater, 203
GetValves, 203
SetDIO, 203
SetSingleHeater, 203
SetValves, 203
CMcsBus_MotorControlNet, 204

~CMcsBus_MotorControlNet, 207
CMcsBus_MotorControlNet, 207
GetMCAcceleration, 207
GetMCAccelerationEeprom, 207
GetMCAccelerationShortCommand, 207
GetMCAxisRevisionEeprom, 207
GetMCBreakCurrent, 207
GetMCBreakCurrentEeprom, 208
GetMCConfig, 208
GetMCConfigEeprom, 208
GetMCCurrent, 208
GetMCCurrentEeprom, 208
GetMCCurrentMode, 208
GetMCCurrentModeEeprom, 208
GetMCCurrentModeShortCommand, 209
GetMCCurrentPosition, 209
GetMCCurrentShortCommand, 209
GetMCCurrentSpeed, 209
GetMCMaxAcceleration, 209
GetMCMaxAccelerationEeprom, 209
GetMCMaxCurrent, 209
GetMCMaxCurrentEeprom, 210
GetMCMaxSpeed, 210
GetMCMaxSpeedEeprom, 210
GetMCMaxTravel, 210
GetMCMaxTravelEeprom, 210
GetMCMaxTravelShortCommand, 210
GetMCMovement, 210
GetMCNewPosition, 211
GetMCOutputOnOff, 211
GetMCPhase, 211
GetMCPhaseOffset, 211
GetMCReference, 211
GetMCReferenceCurrent, 211
GetMCReferenceCurrentEeprom, 211
GetMCRegulatorGain, 212
GetMCRegulatorGainEeprom, 212
GetMCScalingFactor, 212
GetMCScalingFactorEeprom, 212
GetMCSpeed, 212
GetMCSpeedEeprom, 212
GetMCSpeedShortCommand, 212
GetMCSpeedUnitEeprom, 213
GetMCStandbyCurrent, 213
GetMCStandbyCurrentEeprom, 213
GetMCStandbyTime, 213
GetMCStandbyTimeEeprom, 213
GetSubChannel, 213
SetMCAcceleration, 213
SetMCAccelerationEeprom, 214
SetMCAccelerationShortCommand, 214
SetMCAxisRevisionEeprom, 214
SetMCBreakCurrent, 214
SetMCBreakCurrentEeprom, 214
SetMCConfig, 214
SetMCConfigEeprom, 215
SetMCCurrent, 215
SetMCCurrentEeprom, 215
SetMCCurrentMode, 215
SetMCCurrentModeEeprom, 215
SetMCCurrentModeShortCommand, 215
SetMCCurrentPosition, 216
SetMCCurrentShortCommand, 216
SetMCMaxAcceleration, 216
SetMCMaxAccelerationEeprom, 216
SetMCMaxCurrent, 216
SetMCMaxCurrentEeprom, 216
SetMCMaxSpeed, 217
SetMCMaxSpeedEeprom, 217
SetMCMaxTravel, 217
SetMCMaxTravelEeprom, 217
SetMCMaxTravelShortCommand, 217
SetMCNewPosition, 217
SetMCOutputOnOff, 218
SetMCReference, 218
SetMCReferenceCurrent, 218
SetMCReferenceCurrentEeprom, 218
SetMCRegulatorGain, 218
SetMCRegulatorGainEeprom, 218
SetMCRotation, 219
SetMCScalingFactor, 219
SetMCScalingFactorEeprom, 219
SetMCSpeed, 219
SetMCSpeedEeprom, 219
SetMCSpeedShortCommand, 219
SetMCSpeedUnitEeprom, 220
SetMCStandbyCurrent, 220
SetMCStandbyCurrentEeprom, 220
SetMCStandbyTime, 220
SetMCStandbyTimeEeprom, 220
SetSubChannel, 220
StartMCMovement, 221
StopMCMovement, 221
CMcsBus_SensorNet, 221
~CMcsBus_SensorNet, 223
CatchAmpGetAdcMean, 223
CatchAmpGetAdcValue, 223
CatchAmpGetAdcValueH, 223
CatchAmpGetAdcValueL, 223
CatchAmpGetDacAmplitude, 224
CatchAmpGetDacEnable, 224
CatchAmpGetDacOffset, 224
CatchAmpGetPwmEnable, 224
CatchAmpSetDacAmplitude, 224
CatchAmpSetDacEnable, 224
CatchAmpSetDacOffset, 224
CatchAmpSetPwmEnable, 224
CMcsBus_SensorNet, 223
Get2AnalogInput, 225
Get2DigitalInput, 225
Get4ADC, 225
Get4ADCAverage, 225
Get4ADCCatchampAverageShift, 225
Get4ADCMode, 225
Get4DAC, 225
GetADCs, 225

GetADCsLoop, 226
GetBubbleStatus, 226
GetDACs, 226
GetDetectionThreshold, 226
GetDetectorValue, 226
GetLatency, 226
GetLatencyCounter, 226
GetMinimalThreshold, 226
GetMovePump, 227
GetPiezoState, 227
GetPressure, 227
GetPressureOffset, 227
GetRegulationTimeouts, 227
GetRegulatorFactor, 228
GetRegulatorOnOff, 228
GetRegulatorStatus, 228
GetRotatePump, 228
GetSamplePeriode, 228
GetSollPressure, 228
GetSyncState, 228
Set4ADCCatchampAverageShift, 229
Set4ADCMode, 229
Set4DAC, 229
SetDACs, 229
SetDetectionThreshold, 229
SetLatency, 229
SetMinimalThreshold, 229
SetMovePump, 230
SetPiezoState, 230
SetPressureOffset, 230
SetRegulationTimeouts, 230
SetRegulatorFactor, 230
SetRegulatorOnOff, 230
SetRotatePump, 230
SetSamplePeriode, 231
SetSollPressure, 231
StartSync, 231
TactSwitchGetState, 231
TactSwitchSetDisplay, 231
CMcsBus_TempSensorNet, 231
~CMcsBus_TempSensorNet, 232
CMcsBus_TempSensorNet, 232
GetNanoVoltsPerKelvin, 232
GetTemperatur, 232
GetThermoOffset, 232
GetThermoTemp, 233
GetThermoVoltage, 233
SetNanoVoltsPerKelvin, 233
SetThermoOffset, 233
CMcsBus_VoltageModeNet, 233
~CMcsBus_VoltageModeNet, 234
CMcsBus_VoltageModeNet, 234
GetVMMaxNegativeCurrent, 235
GetVMMaxNegativeCurrentEeprom, 235
GetVMMaxNegativeVoltage, 235
GetVMMaxNegativeVoltageEeprom, 235
GetVMMaxPositiveCurrent, 235
GetVMMaxPositiveCurrentEeprom, 235
GetVMMaxPositiveVoltage, 235
GetVMMaxPositiveVoltageEeprom, 236
GetVMOutputOnOff, 236
GetVMVoltage, 236
SetVMMaxNegativeCurrent, 236
SetVMMaxNegativeCurrentEeprom, 236
SetVMMaxNegativeVoltage, 236
SetVMMaxNegativeVoltageEeprom, 236
SetVMMaxPositiveCurrent, 237
SetVMMaxPositiveCurrentEeprom, 237
SetVMMaxPositiveVoltage, 237
SetVMMaxPositiveVoltageEeprom, 237
SetVMOutputOnOff, 237
SetVMVoltage, 237
CMcsBusNet, 238
~CMcsBusNet, 238
CMcsBusNet, 238
CMcsBusNet::GetMode, 239
CMcsBusNet::GetModeEeprom, 239
CMcsBusNet::SetMode, 239
CMcsBusNet::SetModeEeprom, 239
GetBusAddress, 239
GetBusAddressEeprom, 239
GetCommand, 239, 240
GetHWRevisionEeprom, 240
SetBusAddress, 240
SetBusAddressEeprom, 240
SetCommand, 241
SetHWRevisionEeprom, 241
CMcsBusNet::GetMode
CMcsBusNet, 239
CMcsBusNet::GetModeEeprom
CMcsBusNet, 239
CMcsBusNet::SetMode
CMcsBusNet, 239
CMcsBusNet::SetModeEeprom
CMcsBusNet, 239
CMcsUsbDacqNet, 242
~CMcsUsbDacqNet, 248
AddSelectedChannelsQueue, 248, 249, 251
ChannelBlock_AvailFrames, 251
ChannelBlock_ReadAsFrameArrayI16, 251, 252
ChannelBlock_ReadAsFrameArrayI32, 253
ChannelBlock_ReadAsFrameArrayUI16, 254, 255
ChannelBlock_ReadAsFrameArrayUI32, 255, 256
ChannelBlock_ReadFramesDictI16, 257
ChannelBlock_ReadFramesDictI32, 257
ChannelBlock_ReadFramesDictUI16, 258
ChannelBlock_ReadFramesDictUI32, 259
ChannelBlock_ReadFramesI16, 259, 260
ChannelBlock_ReadFramesI32, 260, 261
ChannelBlock_ReadFramesUI16, 262
ChannelBlock_ReadFramesUI32, 263, 264
ChannelDataEvent, 289
ClearBuffers, 264
CMcsUsbDacqNet, 248
CMcsUsbDacqNet::GetFilterProperties, 264
Error_Callback_Aquisition_Stopped, 288

Error_Callback_Data_lost, 288
Error_Callback_Frames_Lost, 288
Error_Callback_Packet_Error, 288
Error_Callback_Queue_Full, 289
Error_Callback_RingQueue_Full, 289
ErrorEvent, 289
GetAdapterType, 264
GetAdcDataFormat, 264
GetAdcZero, 265
GetAnalogValueUnit, 265
GetChannelDataFillSize, 265
GetChannelLayout, 265
GetChannelsInBlock, 265
GetDataFormat, 265
GetDataMode, 265
GetDigitalSource, 266, 267
GetErrorMessage, 268
GetFilterProperty, 268
GetGroupChannelDataI16, 268
GetGroupChannelDataI32, 268
GetGroupChannelDataUI16, 269
GetGroupChannelDataUI32, 269
GetHardwareMaxRange, 270
GetHardwareMinRange, 270
GetMaxSamplingFrequency, 270
GetMeaLayout, 270
GetMinSamplingFrequencyStepsize, 271
GetNumberOfDataBits, 271
GetPoti, 271
GetResolutionPerDigit, 271
GetSamplerate, 271
GetVoltageRangeIndex, 271
GetVoltageRangeInMicroVolt, 272
GetVoltageRangeInMilliVolt, 272
HWInfo, 272
Samplerate, 289
SendStartDacq, 272
SendStartStgAndDacq, 272
SendStopDacq, 273
SendStopStgAndDacq, 273
SendStopStgAndDacqWithOptions, 273
SetDataMode, 274
SetDigitalSource, 274–276
SetPoti, 276
SetSamplerate, 276
SetSelectedChannels, 277–279
SetSelectedChannelsQueue, 279–281
SetSelectedData, 281–283
SetupGroupDacqQueue, 283
SetVoltageRangeByIndex, 283
SetVoltageRangeInMicroVolt, 284
StartDacq, 284, 285
StartLoop, 286, 287
StopDacq, 288
StopLoop, 288
CMcsUsbDacqNet::CHWInfo, 181
CHWInfo, 181
GetAvailableSampleRates, 182
GetAvailableVoltageRangesInMicroVolt, 182
GetAvailableVoltageRangesInMicroVoltAndStringsInMilliVolt, 182
GetNumberOfHWADCChannels, 183
GetNumberOfHWDigitalChannels, 183
IsDigitalChannelDedicated, 183
CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet, 602
CVoltageRangeInfoNet, 603
VoltageRangeDisplayStringMilliVolt, 603
VoltageRangeInMicroVolt, 603
CMcsUsbDacqNet::GetFilterProperties
CMcsUsbDacqNet, 264
CMcsUsbDeviceStatePushFunctionNet, 289
CMcsUsbDeviceStatePushFunctionNet, 290
McsUsbDeviceStateEvent, 290
TriggerStatus, 290
CMcsUsbDeviceStatePushNet, 290
CMcsUsbDeviceStatePushNet, 291
McsUsbDeviceStateEvent, 291
TriggerStatus, 291
CMcsUsbFactoryNet, 291
∼CMcsUsbFactoryNet, 293
ChangeSerialNumber, 293
CMcsUsbFactoryNet, 293
Coldstart, 293
CompareFirmware, 294
DownloadFirmware, 294
FindFirmwareVersionMagicInBuffer, 294
FX3MCSDataAddress, 299
FX3MCSDataDeviceIdOffset, 299
FX3MCSDataIFB1ImageOffset, 299
FX3MCSDataIFB2ImageOffset, 299
FX3MCSDataVersionOffset, 299
GetChecksumFromFX3Image, 294
GetDestination, 294
GetDestinationDisplayLabel, 294
GetDestinationName, 294, 295
GetDestinationSerialNumber, 295
GetDestinationTargetAddress, 295
GetDestinationTargetSelectionInfo, 295
GetFirmwareVersionFromFile, 295
GetFirmwareVersionFromHexFile, 295
GetNumDestinations, 296
GetUSBDeviceIDFromFX3Image, 296
GetUsercodeFromBitFile, 296
GetUsercodeFromFlash, 296
GetXilinxFlashOffset, 296
GetXilinxFlashReadCommand, 296
LoadUserFirmware, 296, 297
ReadBlockFromFlash, 297
ReadBlockFromIFBGlobalEEprom, 297
ReadBlockFromNVMEM, 297
SetDestinationSerialNumber, 297
UpdateFirmware, 297–299
CMcsUsbFactoryNet::TargetSelectionInfoNet, 703
Address, 703
Value, 703

CMcsUsbFunctionNet, 300
!CMcsUsbFunctionNet, 301
~CMcsUsbFunctionNet, 301
CMcsUsbFunctionNet, 300, 301
m_pMcsUsb, 301
m_pMcsUsbFunction, 301
ThrowCUsbExceptionNetOnError, 301
CMcsUsbFunctionPointerContainer, 301
CMcsUsbListEntryNet, 301
~CMcsUsbListEntryNet, 302
DeviceId, 306
DeviceName, 306
Equals, 303
GetEntry, 304
GetEntryCount, 305
HwVersion, 306
Manufacturer, 306
Product, 306
SerialNumber, 306
SetStringFormat, 305
ToString, 306
CMcsUsbListNet, 307
!CMcsUsbListNet, 308
~CMcsUsbListNet, 308
CMcsUsbListNet, 307
Count, 309
DeviceArrival, 309
DeviceRemoval, 309
GetNumberOfDevices, 308
GetUsbListEntries, 308
GetUsbListEntry, 308
IsDeviceTypeOf, 309
SetStringFormat, 309
CMcsUsbNet, 310
!CMcsUsbNet, 314
~CMcsUsbNet, 314
AddSoftwareKey, 314
AssociateToThis, 314
CMcsUsbNet, 314
Connect, 314, 315
CyclePort, 316
Disconnect, 316
EmptyKey, 316
EnableExceptions, 316
EraseEepromRegisterPreconfig, 316
GetConfiguration, 317
GetDeviceCannotStallOutRequests, 317
GetDeviceCapableSpeed, 317
GetDeviceEnum, 317
GetDeviceId, 317
GetDeviceRootHubVendorEnum, 317
GetDeviceRootHubVendorID, 317
GetDeviceRootHubVendorName, 317
GetDeviceSpeed, 318
GetErrorText, 318
GetFirmwareVersion, 318
GetHardwareRevision, 318
GetHeadstageActive, 319
GetHeadstageID, 319
GetHeadstagePresent, 319
GetLastUSBError, 319
GetMea21UsbPort, 320
GetNumConfigurations, 320
GetSerialNumber, 320
GetSoftwareKey, 320
GetSoftwareKeyString, 320
GetStatus, 320
GetStatusOfLastCommand, 320
GetUsbListEntry, 321
GetVersion, 321
HasSoftwareKey, 321
IsConnected, 321
IsDeviceHighSpeed, 321
IsDeviceHighSpeedCapable, 321
IsExceptionsEnabled, 322
MultibootGetCypressImageId, 322
MultibootGetImageId, 322
MultibootGetSelectedImage, 322
MultibootSelectImage, 322
ReadEepromRegisterPreconfig, 322, 323
ReadRegister, 323
ReadRegister32, 323
ReadRegisterTimeSlot, 323
RemoveSoftwareKey, 323
RescanHeadstage, 323
SerialNumber, 330
SetConfiguration, 324
SetSoftwareKey, 324
Status_AlreadyConfigured, 326
Status_BadStartFrame, 326
Status_Btstuff, 326
Status_BufferOverrun, 326
Status_BufferUnderrun, 326
Status_Canceled, 326
Status_Canceling, 327
Status_ConnectedPipes, 327
Status_ControlNotOwned, 327
Status_Crc, 327
Status_DataOverrun, 327
Status_DataToggleMismatch, 327
Status_DataUnderrun, 327
Status_DeviceLocked, 327
Status_DeviceNotFound, 327
Status_DeviceRemoved, 327
Status_DevNotResponding, 327
Status_EndpointHalted, 328
Status_ErrorBusy, 328
Status_ErrorShortTransfer, 328
Status_Fifo, 328
Status_FrameControlOwned, 328
Status_InternalHcError, 328
Status_InvalidDeviceHandle, 328
Status_InvalidHandle, 328
Status_InvalidParameter, 328
Status_InvalidPipeHandle, 328
Status_InvalidUrbFunction, 329

Status_IoPending, 329
Status_IoTimeout, 329
Status_IsochRequestFailed, 329
Status_LastUsbErrorMismatch, 329
Status_NoBandwidth, 329
Status_NoMemory, 329
Status_NoSuchDevice, 329
Status_NotAccessed, 329
Status_NotSupported, 329
Status_PidCheckFailure, 329
Status_PipeNotLinked, 330
Status_RequestFailed, 330
Status_RequestMutexFailed, 330
Status_RequestMutexTimeout, 330
Status_Stall, 330
Status_Unconfigured, 330
Status_UnexpectedPid, 330
ThrowCUsbExceptionNetOnError, 324
TxnGetSerialNumber, 324
TxnSetSerialNumber, 324
TxnTestMemoryReadAndCheck, 324
TxnTestMemoryWrite, 324
ValidKey, 324
WPAError_ScanningIsPending, 330
WriteEepromRegisterPreconfig, 325
WriteRegister, 325
WriteRegister32, 325
WriteRegisterArray, 325
WriteRegisterTimeSlot, 326
WriteRegisterValue, 326
CMcsUsbPointerContainer, 331
CMEA2100_256DacqGroupChannelSelectionNet, 331
CMEA2100_256DacqGroupChannelSelectionNet, 331
CMEA2100x256FunctionNet, 331
!CMEA2100x256FunctionNet, 332
~CMEA2100x256FunctionNet, 332
CMEA2100x256FunctionNet, 332
GetLayoutConfiguration, 332
SetLayoutConfiguration, 332
CMeaAudioFunctionNet, 333
CMeaAudioFunctionNet, 333
GetAudioChannels, 334
GetNumberOfAudioChannels, 334
SetAudioChannels, 335
CMeaAudioFunctionNet::s_setaudionet, 699
amplification, 699
channel, 699
CMeaCleanDeviceNet, 336
!CMeaCleanDeviceNet, 337
~CMeaCleanDeviceNet, 337
CMeaCleanDeviceNet, 337
GetCycle, 337
GetCycles, 337
GetMaxVoltage, 337
GetMinVoltage, 338
GetOutputVoltage, 338
GetSlope, 338
IsRunning, 338
SetCycles, 338
SetMaxVoltage, 339
SetMinVoltage, 339
SetSlope, 339
Start, 339
Stop, 339
CMeaCoatDeviceNet, 340
!CMeaCoatDeviceNet, 341
~CMeaCoatDeviceNet, 341
CMeaCoatDeviceNet, 341
GetCurrentCycle, 341
GetCycles, 341
GetDuration, 342
GetMaxCurrent, 342
GetOffsetCurrent, 342
GetOutputCurrent, 342
GetPauseDuration, 342
GetSlope, 343
GetTimeInPause, 343
GetTimeInPlateau, 343
IsRunning, 343
SetCycles, 343
SetDuration, 344
SetMaxCurrent, 344
SetOffsetCurrent, 344
SetPauseDuration, 344
SetSlope, 345
Start, 345
Stop, 345
CMeaDeviceNet, 345
~CMeaDeviceNet, 347
AnalogGain, 352
CMeaDeviceNet, 347
EnableChecksum, 347
EnableDigitalIn, 348
EnableTimestamp, 349
Gain, 352
GetAnalogGain, 349
GetEnumerationSpeed, 349
GetGain, 349
MeaAudioFunctionNet, 353
MeaDigitalDataFunctionNet, 353
MeaFeedbackFunctionNet, 353
MeFunctionNet, 353
SetDigitalOut, 349
SetNumberOfAnalogChannels, 350
SetNumberOfChannels, 351
SetTriggerMaskValue, 351
SetTriggerPeriod, 352
W2100_FunctionNet, 353
WClassicFunctionNet, 353
CMeaDigitalDataFunctionNet, 353
CMeaDigitalDataFunctionNet, 354
GetDigitalData, 354
SetDigitalData, 354, 355
CMeaFeedbackFunctionNet, 355
CMeaFeedbackFunctionNet, 356

FeedbackGetSampleTimerCount, 356
FeedbackSetAnalogSource, 356
FeedbackSetChannelFilter, 356
FeedbackSetDigitalMapping, 357
FeedbackSetFeedback, 357
FeedbackSetFilterOff, 357
FeedbackSetFilterParameter, 357
FeedbackSetFilterParameter32, 357
FeedbackSetGlobalChannelFilter, 357
FeedbackSetIIRFilterParameter, 357
FeedbackSetLogic, 357
FeedbackSetMkFilter, 358
FeedbackSetNumberOfLogics, 358
FeedbackSetNumberOfRateCounter, 358
FeedbackSetNumberOfRateDetectors, 358
FeedbackSetNumberOfSpikeDetectors, 358
FeedbackSetNumberOfTriggers, 358
FeedbackSetRateCounter, 358
FeedbackSetRateDetector, 358
FeedbackSetSpikeDetectorThreshold, 359
FeedbackSetTrigger, 359
CMeaImpedanceDeviceNet, 359
~CMeaImpedanceDeviceNet, 360
CMeaImpedanceDeviceNet, 360
GetAdapterCode, 360
GetArraySize, 360
GetImpedanceTestFrequency, 360
GetReady, 360
GetResult, 360
SetImpedanceTestFrequency, 360
StartMeasurement, 360
CMeasureTableDeviceNet, 361
CMeasureTableDeviceNet, 361
Sensor, 361
CMeaSwitchDeviceNet, 362
~CMeaSwitchDeviceNet, 362
CMeaSwitchDeviceNet, 362
GetNumber, 363
GetPattern, 363
GetPatternBool, 363
SetPattern, 363
SetPatternBool, 363
CMeaUSBDeviceNet, 363
~CMeaUSBDeviceNet, 364
CMeaUSBDeviceNet, 364
SetVoltageRangeForIndex, 365
CMeFunctionNet, 365
!CMeFunctionNet, 366
~CMeFunctionNet, 365
CMeFunctionNet, 365
SetTransformer, 366
CMosMea
CCMOSMeaDeviceNet, 111
CmosMea
Mcs::Usb, 67
CMOSMeaBathModeEnumNet
Mcs::Usb, 56
CmosMeaHeadstage
Mcs::Usb, 66
CMOSMeaHeadstage1NCBathCurrentEnumNet
Mcs::Usb, 56
CMOSMeaHeadstage1NCCol2CurrentEnumNet
Mcs::Usb, 56
CMOSMeaHeadstage1NChipTempEnumNet
Mcs::Usb, 56
CMOSMeaHS1SidebandEnumNet
Mcs::Usb, 57
CMOSMeaHS1TriggerStatusEnumNet
Mcs::Usb, 57
CmosmeaIFB2
Mcs::Usb, 66
CMOSMeaIFDigChannelEnumNet
Mcs::Usb, 57
CMOSMeaInterfaceADCEnumNet
Mcs::Usb, 57
CmosMeaInterfaceboard
Mcs::Usb, 66
CMOSMeaPacketFrameContextGroupEnumNet
Mcs::Usb, 58
CMOSMeaSTG1DACSignalEnumNet
Mcs::Usb, 58
CMOSMeaValueUnitEnumNet
Mcs::Usb, 58
CMultiBatteryChargerDeviceNet, 366
!CMultiBatteryChargerDeviceNet, 367
~CMultiBatteryChargerDeviceNet, 367
CapacityTest, 368
ChannelReset, 368
CMultiBatteryChargerDeviceNet, 367
GetBatteryVoltage, 368
GetChannels, 368
GetChannelState, 369
GetChargeCapacity, 369
GetChargeCurrent, 369
GetChargingMode, 370
GetChargingPCoefficient, 370
GetDischargeCapacity, 370
GetDischargeCurrent, 370
GetDischargeCurrentSetPoint, 371
GetFinalDischargeVoltage, 371
GetRatedCapacity, 371
SetChargingMode, 372
SetChargingPCoefficient, 372
SetDischargeCurrentSetPoint, 372
SetFinalDischargeVoltage, 372
SetRatedCapacity, 373
SetRatedCapacityVolatile, 373
CMultiwellCallbackFunctionNet, 373
!CMultiwellCallbackFunctionNet, 374
~CMultiwellCallbackFunctionNet, 374
CMultiwellCallbackFunctionNet, 374
GetPlateClampStateByHeadstage, 374
GetPlateClampStateByHeadstageEvent, 375
OnGetPlateClampStateByHeadstage, 375
CMultiwellDeviceNet, 375
!CMultiwellDeviceNet, 377

~CMultiwellDeviceNet, 377
ClosePlateClamp, 377
CMultiwellDeviceNet, 377
GetPlateClampLockState, 377
GetPlateClampState, 377
GetPlateMux, 378
GetPlateType, 378
GetPowerMuxPlate, 379
GetTouchPadEnable, 379
GetVolatileClampOffset, 379
IsPlateTypeValid, 380
LockPlateClamp, 380
OpenPlateClamp, 380
SetPlateMux, 380, 381
SetPlateType, 381
SetPowerMuxPlate, 381
SetTouchPadEnable, 382
SetVolatileClampOffset, 382
StopPlateClamp, 382
UnlockPlateClamp, 382
CMultiwellOptoStimFunctionNet, 383
!CMultiwellOptoStimFunctionNet, 384
~CMultiwellOptoStimFunctionNet, 384
CMultiwellOptoStimFunctionNet, 383
GetAbsMaxCurrentInMicroAmp, 384
GetColorRgb, 384
GetColorStr, 384
GetMaxDurationHighCurrentInMicroSec, 385
GetMaxDutyCycleHighCurrent, 385
GetPermanentCurrentInMicroAmp, 385
GetWaveLengthInNanometer, 385
SetAbsMaxCurrentInMicroAmp, 386
SetColorRgb, 386
SetColorStr, 386
SetMaxDurationHighCurrentInMicroSec, 386
SetMaxDutyCycleHighCurrent, 387
SetPermanentCurrentInMicroAmp, 387
SetWaveLengthInNanometer, 387
CNF_GenDeviceNet, 387
~CNF_GenDeviceNet, 388
CNF_GenDeviceNet, 388
Set_Values, 388
COctoPotDeviceNet, 388
BurnAdcOffset, 389
BurnDacOffset, 390
COctoPotDeviceNet, 389
EnableChecksum, 390
EnableDigitalIn, 390
EnableTimestamp, 390
GetAdcOffset, 390
GetDacOffset, 390
PatternListStart, 390
RampStart, 390
ResetAdcOffset, 390
ResetDacOffset, 390
SetAdcOffset, 391
SetAmplificationSwitch, 391
SetBathclamp, 391
SetChannelSwitch, 391
SetDacAutoControl, 391
SetDacOffset, 391
SetDacValue, 391
SetNumberOfChannels, 391
SetOutputRate, 391
SetPatternListEntry, 392
SetPidParameter, 392
SetRampParameter, 392
SetSineParameter, 392
SineStart, 392
COkuvisionStimulatorDeviceNet, 392
~COkuvisionStimulatorDeviceNet, 393
COkuvisionStimulatorDeviceNet, 393
GetCheckVoltage, 393
GetCurrentFactor, 393
GetDACOffset, 394
GetMaxPower, 394
GetMaxVoltage, 394
GetPulseform, 394
GetRTC, 394
GetStimulatorStatus, 394
GetVoltage, 394
SetCheckVoltage, 395
SetCurrentFactor, 395
SetDACOffset, 395
SetMaxPower, 395
SetMaxVoltage, 395
SetPulseform, 395
SetRTC, 395
Coldstart
CMcsUsbFactoryNet, 293
CommaPositionA
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
CommaPositionB
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
CompareFirmware
CMcsUsbFactoryNet, 294
CompareTo
HeadStageIDType, 684
CompensateElectrodeOffset
CWarnerUssingFunctionNet, 621
Connect
CMcsUsbNet, 314, 315
CRFFunctionNet, 440
ConnectDevice
CRadioControledDevicesNet, 435
ConnectedImp
CPositionImpDeviceNet, 412
ConnectImp
CPositionImpDeviceNet, 412
ConnectSlave
CGilsonDeviceNet, 165
ControlState
HeadStageIDTypeState, 687
CornerFrequency

CFilterPropertyNet, 136
CornerFrequencymHz
CFilterPropertyNet, 137
Count
CMcsUsbListNet, 309
CPatchServerDeviceNet, 396
CPatchServerDeviceNet, 396
Sensor, 396
CPathIdentDeviceNet, 397
~CPathIdentDeviceNet, 397
CPathIdentDeviceNet, 397
Measure, 397
Set_Values, 397
CPedoterDeviceNet, 398
!CPedoterDeviceNet, 398
~CPedoterDeviceNet, 398
CPedoterDeviceNet, 398
GetCommand, 398
SetCommand, 399
CPeristalticPumpDeviceNet, 399
~CPeristalticPumpDeviceNet, 400
CPeristalticPumpDeviceNet, 400
McsBus_MotorControl, 400
CPgaDeviceNet, 400
~CPgaDeviceNet, 401
ApplyGains, 401
CPgaDeviceNet, 401
DefineAmplification, 401
DefineFrequencyRange, 401
DefineNumAmplifications, 401
DefineNumFrequencyRanges, 401
GetAmplification, 401
GetFrequencyRange, 402
GetGain, 402
GetNumAmplifications, 402
GetNumFrequencyRanges, 402
SetGain, 402
CPositionIIDeviceNet, 402
!CPositionIIDeviceNet, 404
~CPositionIIDeviceNet, 404
CPositionIIDeviceNet, 404
GetCoilCommunication, 404
GetDebugData, 404
GetEventData, 405
GetImplantCurrentSetpoint, 405
GetImplantResult, 406
GetImplantState, 406
GetOnOff, 406
GetPowerStrength, 407
GetRTC, 407
GetStateDebugData, 407
GetStateEventData, 408
RFFunction, 411
SetImplantCurrentSetpoint, 408
SetPowerStrength, 408
SetRTC, 408
SetStateDebugData, 410
SetStateEventData, 410
SwitchOnOff, 410
CPositionImpDeviceNet, 411
!CPositionImpDeviceNet, 412
~CPositionImpDeviceNet, 412
ConnectedImp, 412
ConnectImp, 412
CPositionImpDeviceNet, 412
GetDeviceList, 412
GetImpId, 413
GetRFFrequency, 413
SetDeviceList, 413
SetImpId, 413
SetRFFrequency, 414
CPPCDeviceNet, 414
CPPCDeviceNet, 414
McsBus, 415
McsBus_MotorControl, 415
McsBus_Sensor, 415
PPCFunction, 415
CPPCFunctionNet, 415
!CPPCFunctionNet, 417
~CPPCFunctionNet, 417
CPPCFunctionNet, 416
FirePressurePulse, 417
GetAnalogVoltage, 417
GetAnalogVoltageRange, 417
GetDigitalIn, 419
GetPressureRange, 419
GetPumpModeType, 419
GetPumpSpeedUnit, 420
GetSupplyVoltage, 420
GetValveActive, 420
IsBusy, 420
LoadPressure, 422
MeasureReservoir, 422
SetAnalogVoltageRange, 422
SetPressureOffset, 422
SetPressureRange, 422
SetPumpModeType, 423
SetPumpSpeedUnit, 423
SetValveActive, 423
CPPS_DeviceNet, 424
CPPS_DeviceNet, 424
McsBus, 424
McsBus_MotorControl, 424
McsBus_Sensor, 424
PPS_Function, 424
CPPS_FunctionNet, 425
CPPS_FunctionNet, 425, 426
GetAnalogVoltage, 426
GetAnalogVoltages, 426
GetBubbleState, 426
GetDigitalIn, 426
GetPumpCouple, 426
GetPumpEnableSpeedRatio, 426
GetPumpFastOnOff, 426
GetPumpFastSpeed, 426
GetPumpFunctionSpeeds, 427

GetPumpManualOnOff, 427
GetPumpMaxSpeed, 427
GetPumpModeType, 427
GetPumpSpeedRatio, 427
GetPumpSpeedUnit, 427
GetSupplyVoltage, 427
GetUseBubble, 427
SetAnalogVoltages, 427
SetPumpCouple, 428
SetPumpEnableSpeedRatio, 428
SetPumpFastOnOff, 428
SetPumpFastSpeed, 428
SetPumpFunctionSpeeds, 428
SetPumpManualOnOff, 428
SetPumpMaxSpeed, 428
SetPumpModeType, 428
SetPumpSpeedRatio, 429
SetPumpSpeedUnit, 429
SetUseBubble, 429
CPPSDeviceNet, 429
CPPSDeviceNet, 430
CProgramPressureCurveNet, 430
!CProgramPressureCurveNet, 431
~CProgramPressureCurveNet, 430
CProgramPressureCurveNet, 430
GetRepeats, 431
Program, 431
SetRepeats, 431
CPulseGeneratorFunctionNet, 431
!CPulseGeneratorFunctionNet, 432
~CPulseGeneratorFunctionNet, 432
CPulseGeneratorFunctionNet, 432
GetModeSelect, 433
GetPeriod, 433
GetPulseLength, 433
SetModeSelect, 434
SetPeriod, 434
SetPulseLength, 434
CRadioControledDevicesNet, 434
ConnectDevice, 435
CRadioControledDevicesNet, 435
DisConnectDevice, 435
GetDeviceNames, 435
GetFrequency, 436
HasRadioControl, 436
SetFrequency, 436
StillConnected, 436
CreateSideband
CStimulusFunctionNet, 565
CreateWirelessHeadstageSerialNumberString
CWirelessBaseFunctionNet, 669
CRegionOfInterestRect
CCMOSMeaDeviceNet::CRegionOfInterestRect, 436
CRetinaLedDeviceNet, 437
~CRetinaLedDeviceNet, 438
AddLoopEntry, 438
AddTableEntry, 438
ClearTable, 438
CRetinaLedDeviceNet, 438
GetTablepointer, 438
SetLED, 438
SetLumi, 438
SetPersistency, 438
SetRepeat, 439
SetTablepointer, 439
SetTrigger, 439
CRFFunctionNet, 439
!CRFFunctionNet, 440
~CRFFunctionNet, 440
Connect, 440
CRFFunctionNet, 440
GetAvailableDeviceList, 441
GetAvailableDeviceListEx, 441
GetAvailableStateList, 441
GetAvailableStateListEx, 441
GetBaseFrequency, 442
GetConnectedDevice, 442
GetState, 442
GetTestMode, 442
GetWorkingFrequency, 443
SetBaseFrequency, 443
SetTestMode, 443
SetWorkingFrequency, 443
CRobo_FYIProgram_FunctionNet, 444
CRobo_FYIProgram_FunctionNet, 444
GetLength, 444
GetState, 445
GetValve1, 445
GetValve2, 445
SetLength, 445
SetValve1, 445
SetValve2, 445
Start, 445
CRobo_FYITemp_FunctionNet, 445
CRobo_FYITemp_FunctionNet, 446
GetICoeff, 446
GetMaxPower, 446
GetPCoeff, 446
GetRegulatorOnOff, 446
GetSollTemp, 446
SetICoeff, 447
SetMaxPower, 447
SetPCoeff, 447
SetRegulatorOnOff, 447
SetSollTemp, 447
CRoboDacqNet, 447
CancelTableLoop, 450
CancelTableLoopAndStopTable, 450
ClampAmpRestart, 450
CRoboDacqNet, 450
DoRamp, 450
Emu_GetCellCapacity, 451
Emu_GetCellPotential, 451
Emu_GetCellResists, 451
Emu_GetElectrodeResists, 451

Emu_GetNoise, 451
Emu_SetCellCapacity, 451
Emu_SetCellPotential, 451
Emu_SetCellResists, 451
Emu_SetElectrodeResists, 451
Emu_SetNoise, 451
GetAllDigout, 452
GetCapacityC, 452
GetCapacityV, 452
GetCapacityX, 452
GetClampAmpSerialNumber, 452
GetCommand, 452
GetConfigurationBit, 452
GetConfigurationBitAxc, 452
GetConfigurationBitBlu_Led, 452
GetConfigurationBitBlu_LedToggleFast, 452
GetConfigurationBitBlu_LedToggleSlow, 452
GetConfigurationBitCC_Gen, 453
GetConfigurationBitCV_Gen, 453
GetConfigurationBitRC_Gen, 453
GetConfigurationBitRed_Led, 453
GetConfigurationBitRed_LedSaturation, 453
GetConfigurationBitRed_LedToggleFast, 453
GetConfigurationBitRed_LedToggleSlow, 453
GetConfigurationBitRelais, 453
GetConfigurationBitRV_Gen, 453
GetConfigurationBits, 453
GetConfigurationBitStream, 453
GetConfigurationBitSupply, 454
GetCrossTalkOffset, 454
GetCrossTalkOptimum, 454
GetDigout, 454
GetDisplayText, 454
GetDownsampleFactor, 454
GetFilter, 454
GetFilterCoeffs, 454
GetIC, 454
GetIClamp, 454
GetICOffset, 454
GetIGain, 455
GetNIC_MS, 455
GetNUC_MS, 455
GetNUV_MS, 455
GetPGain, 455
GetRecordingNumber, 455
GetResistanceC, 455
GetResistanceV, 455
GetScreen, 455
GetSimulation, 455
GetUC, 455
GetUClamp, 456
GetUCOffset, 456
GetUpdateDisplay, 456
GetUV, 456
GetUVOffset, 456
GetXGain, 456
RunTable, 456
SetAllDigout, 456
SetCommand, 456
SetConfigurationBit, 456
SetConfigurationBitAxc, 457
SetConfigurationBitBlu_Led, 457
SetConfigurationBitBlu_LedToggleFast, 457
SetConfigurationBitBlu_LedToggleSlow, 457
SetConfigurationBitCC_Gen, 457
SetConfigurationBitCV_Gen, 457
SetConfigurationBitRC_Gen, 457
SetConfigurationBitRed_Led, 457
SetConfigurationBitRed_LedSaturation, 457
SetConfigurationBitRed_LedToggleFast, 458
SetConfigurationBitRed_LedToggleSlow, 458
SetConfigurationBitRelais, 458
SetConfigurationBitRV_Gen, 458
SetConfigurationBitStream, 458
SetConfigurationBitSupply, 458
SetCrossTalkOffset, 458
SetCrossTalkOptimum, 458
SetDigout, 458
SetDisplayText, 459
SetDownsampleFactor, 459
SetFilter, 459
SetFilterCoeffs, 459
SetIClamp, 459
SetICOffset, 459
SetIGain, 459
SetNoFilterCoeffs, 459
SetPGain, 459
SetRecordingNumber, 460
SetScreen, 460
SetSimulation, 460
SetTriggerMaskValue, 460
SetUClamp, 460
SetUCOffset, 460
SetUVOffset, 460
SetXGain, 460
StopTable, 460, 461
Table_Wait, 461
TableDefBegin, 461
TableDefEnd, 461
TriggerMask_Default, 461
TriggerValue_MoveAbs, 461
TriggerValue_StartQueue, 461
UpdateDisplay, 461
VirtualDevice_ContinousDacq, 461
VirtualDevice_TableRun, 461
CRoboDeviceNet, 462
~CRoboDeviceNet, 465
Axes_I, 473
Axes_X, 473
Axes_Y, 473
Axes_Z, 474
Axis_I, 474
Axis_X, 474
Axis_Y, 474
Axis_Z, 474
CancelPoolLoop, 465

CancelPoolLoopAndStopMovement, 465
CRoboDeviceNet, 465
EnableQueue, 466
FindReference, 466
GetAirpressure, 466
GetAirpressureLimit, 466
GetAirValve, 466
GetCurrentAirvalve, 466
GetCurrentAirvalveLimit, 466
GetCurrentPosition, 467
GetErrorAirpressure, 467
GetErrorCurrentAirvalve, 467
GetErrorVoltage12V, 467
GetErrorVoltage5V, 467
GetErrorVoltageAirvalve, 467
GetErrorVoltageRs485A, 467
GetErrorVoltageRs485B, 467
GetErrorVoltageValves, 468
GetInMovement, 468
GetMinPressure, 468
GetMovementError, 468
GetVoltage12V, 468
GetVoltage12VLimit, 468
GetVoltage5V, 468
GetVoltage5VLimit, 468
GetVoltageAirvalve, 468
GetVoltageAirvalveLimit, 468
GetVoltageRs485A, 469
GetVoltageRs485ALimit, 469
GetVoltageRs485B, 469
GetVoltageRs485BLimit, 469
GetVoltageValves, 469
GetVoltageValvesLimit, 469
IsQueueEnabled, 469
IsQueueStarted, 469
McsBus, 477
McsBus_MotorControl, 477
McsBus_XY, 474
McsBus_ZI, 474
MoveAbs, 469, 470
NullCommand, 471
RoboError_AnotherMaster, 474
RoboError_Base, 475
RoboError_CannotEscapeEndSwitch, 475
RoboError_CommandAlreadyInProgress, 475
RoboError_CommandNotPossible, 475
RoboError_CommunicationTimeout, 475
RoboError_DacqNotReady, 475
RoboError_DLLMovementTimeout, 475
RoboError_FindReferenceMethod, 475
RoboError_GilsonCommandPending, 475
RoboError_GilsonTimeout, 475
RoboError_GilsonWrondID, 476
RoboError_McsBus_UnknownCommand, 476
RoboError_NoEndSwitch, 476
RoboError_NoMoreData, 476
RoboError_NoReference, 476
RoboError_NoSpeedOrAcceleration, 476
RoboError_OverPressure, 476
RoboError_ParameterNotAllowed, 476
RoboError_PeristalticTimeout, 476
RoboError_Phase0OutOfRange, 476
RoboError_PollLoopCanceled, 477
RoboError_PollLoopCanceledAndStopMovement, 477
RoboError_Pressure, 477
RoboError_RangeExceeded, 477
RoboError_StateChangeNotPossible, 477
RoboError_Timeout, 477
RoboError_UnknownCommand, 477
RoboMainLowLevelCommand, 478
RoboStatusEvent, 478
SetAirpressureLimit, 471
SetAirValve, 471
SetCurrentAirvalveLimit, 471
SetCurrentAndAir, 471
SetInMovement, 471
SetMinPressure, 472
SetVoltage12VLimit, 472
SetVoltage5VLimit, 472
SetVoltageAirvalveLimit, 472
SetVoltageRs485ALimit, 472
SetVoltageRs485BLimit, 472
SetVoltageValvesLimit, 472
StartQueue, 472
StopMovement, 473
WaitTimer, 473
CRoboDeviceNet::RoboMainLowLevelCommands, 691
FindReferencePhase0, 692
GetAxisConfig, 692
GetHWConfig, 692
GetHWRevision, 692
GetMaxNoPressure, 692
GetMaxNoPressureWaitTime, 692
GetMaxPressureWaitTime, 692
GetMinNoPressureWaitTime, 692
GetMinPressure, 692
GetMinPressureWaitTime, 693
GetParameter, 693
GetPhases, 693
GetSearchReferenceFastAccel, 693
GetSearchReferenceFastSpeed, 693
GetSearchReferenceFineAccel, 693
GetSearchReferenceFineSpeed, 693
GetSearchReferenceMethod, 694
GetSearchReferenceMoveOut, 694
GetSearchReferenceOffsetPos, 694
GetUserParameter, 694
HasRef, 695
SetAxisConfig, 695
SetHWConfig, 695
SetHWRevision, 695
SetMaxNoPressure, 695
SetMaxNoPressureWaitTime, 695
SetMaxPressureWaitTime, 695
SetMinNoPressureWaitTime, 695

SetMinPressure, 695
SetMinPressureWaitTime, 695
SetParameter, 696
SetSearchReferenceFastAccel, 696
SetSearchReferenceFastSpeed, 696
SetSearchReferenceFineAccel, 696
SetSearchReferenceFineSpeed, 696
SetSearchReferenceMethod, 696
SetSearchReferenceMoveOut, 697
SetSearchReferenceOffsetPos, 697
SetUserParameter, 697
CRoboFluidDeviceNet, 478
~CRoboFluidDeviceNet, 479
CloseAllValves, 479
CRoboFluidDeviceNet, 479
GetPumpSpeed, 479
GetSingleValve, 479
GetValve, 479
IsPumpMotorOn, 480
m_pMcsBus_MotorControlNet, 481
m_pRoboFluidDevice, 481
McsBus_MotorControl, 481
PumpOff, 480
PumpOn, 480
SetPumpSpeed, 480
SetSingleValve, 480
SetValve, 480
CRoboInjectDeviceNet, 481
CRoboInjectDeviceNet, 482
CRoboocyte2DeviceNet, 482
CRoboocyte2DeviceNet, 483
GetAxisLED, 483
GetGilsonDevice, 483
GetMcsBus_Extension, 483
GetRoboDacq, 483
GetRoboFluidDevice, 483
SetAxisLED, 483
CRoboStatorDeviceNet, 483
CRoboStatorDeviceNet, 485
FindReferenceI, 485
FindReferenceXY, 485
FindReferenceZ, 485
GetCurrentPositionI, 485
GetCurrentPositionXY, 485
GetCurrentPositionZ, 486
HasRefI, 486
HasRefXY, 486
HasRefZ, 486
MoveAbsI, 486
MoveAbsXY, 486
MoveAbsZ, 486, 487
RoboMainStatorLowLevelCommand, 489
SetAccelerationI, 487
SetAccelerationNativeI, 487
SetAccelerationNativeXY, 487
SetAccelerationNativeZ, 487
SetAccelerationXY, 487
SetAccelerationZ, 487
SetCurrentAndAirXY, 487
SetSpeedI, 488
SetSpeedNativeI, 488
SetSpeedNativeXY, 488
SetSpeedNativeZ, 488
SetSpeedXY, 488
SetSpeedZ, 488
SetVelocityI, 488
SetVelocityXY, 488
SetVelocityZ, 488
StopMovementI, 489
StopMovementXY, 489
StopMovementZ, 489
CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands, 698
FindReferencePhase0XY, 698
CSafeISDeviceNet, 489
~CSafeISDeviceNet, 490
CSafeISDeviceNet, 490
DacqDevice, 492
FluidControlDevice, 492
RoboDevice, 492
SetAdcChannels, 491
SetAdcSamplePos, 491
SetDacMode, 491
SetDacPeriode, 491
SetDacPulseform, 491
SetSwitches, 492
csCapacityTestDischarge
Mcs::Usb, 69
csCapacityTestPrecharge
Mcs::Usb, 69
csCharge
Mcs::Usb, 69
CSCUDacqGroupChannelSelectionNet, 492
CSCUDacqGroupChannelSelectionNet, 493
CSCUFunctionNet, 493
!CSCUFunctionNet, 496
~CSCUFunctionNet, 496
AutomaticAnalogOut, 496
CSCUFunctionNet, 496
EnableAnalogOut, 496
GetAnalogOutADCRange, 497
GetAnalogOutChannels, 497
GetAnalogOutDACRange, 497
GetAvailableHeadstages, 497
GetAvailableHeadstagesEvent, 510
GetFilterProperties, 497
GetFilterProperty, 498
GetHeadstageAdcBits, 498
GetHeadstageAdcRangeInMicroVolt, 498
GetHeadstageDacBits, 499
GetHeadstageDacCurrentRangeInMicroAmpere, 499
GetHeadstageDacCurrentResolutionInNanoAmpere, 499
GetHeadstageDacVoltageRangeInMilliVolt, 500

GetHeadstageDacVoltageResolutionInMicroVolt, 500
GetHeadstageFrameCyclesToCompare, 500
GetHeadstageGainInPermille, 501
GetHeadstageID, 501
GetHeadstageLinkSpeed, 501
GetHeadstageNumberOfAnalogChannels, 502
GetHeadstageNumberOfStimulationChannels, 502
GetHeadstagePowerStateAtStart, 502
GetHeadstageSamplerate, 503
GetHeadstageSerialNumber, 503
GetMaxNumberOfHeadstages, 503
GetMaxStimulusChannelsPerHeadstage, 503
GetReferenceElectrodeMode, 504
GetReferenceElectrodeSwitchState, 504
HasAnalogOut, 504
HasGalvanicIsolation, 504
HasHSPowerSwitch, 505
IsAnalogOutEnabled, 505
IsAutomaticAnalogOut, 505
IsHeadstageAvailable, 505
IsHeadstageAvailableEvent, 510
IsHSPowered, 506
IsInDacqLegacyMode, 506
OnGetAvailableHeadstages, 506
OnIsHeadstageAvailable, 506
PowerHS, 506
SetAnalogOutADCRange, 507
SetAnalogOutChannels, 507
SetAnalogOutDACRange, 507
SetDacqLegacyMode, 507
SetHeadstageFrameCyclesToComparePermanent, 508
SetHeadstageLinkSpeedPermanent, 508
SetHeadstageNumberOfAnalogChannelsPermanent, 508
SetHeadstagePowerStateAtStart, 508
SetHeadstageSampleratePermanent, 509
SetReferenceElectrodeMode, 509
SetReferenceElectrodeSwitchState, 509
csDischarge
Mcs::Usb, 69
CSerialPortNet, 510
CSerialPortNet, 510
GetBytesAvailable, 511
Receive, 511
ReceiveString, 511
Send, 511
csError
Mcs::Usb, 69
csIdleChargeFinished
Mcs::Usb, 69
csIdleNoBattery
Mcs::Usb, 69
csRefreshBattery
Mcs::Usb, 69
CStg200xBasicNet, 511
~CStg200xBasicNet, 516
GetAnalogRanges, 516
GetAnalogResolution, 517
GetAutocalibrationDisabled, 517
GetAvailableMemory, 517
GetBlankingEnable, 517, 518
GetCurrentRangeInNanoAmp, 518
GetCurrentRangeInNanoAmpByIndex, 518
GetCurrentRangeListInNanoAmp, 519
GetCurrentRangeSelectedIndex, 519
GetCurrentResolutionInNanoAmp, 519
GetCurrentResolutionInNanoAmpByIndex, 520
GetDacAmplificationFactor, 520
GetDACResolution, 520
GetDiginValue, 520
GetDigoutMode, 521
GetDigoutValue, 521
GetElectrodeDacMux, 521
GetElectrodeEnable, 522
GetElectrodeMode, 523
GetEnableAmplifierProtectionSwitch, 524
GetExternalElectrodeEnable, 525
GetFAAmplification, 525
GetHeadstage, 525
GetListmodeIndexRange, 525
GetListmodeTriggerSource, 526
GetNumberOfAnalogChannels, 526
GetNumberOfCurrentRangeIndexes, 526
GetNumberOfHWDACPaths, 526
GetNumberOfStimulationElectrodes, 527
GetNumberOfStimulationSourcesPerElectrode, 527
GetNumberOfSyncoutChannels, 527
GetNumberOfTriggerInputs, 527
GetNumberOfVoltageRangeIndexes, 527
GetOutputRate, 528
GetStgProgramInfo, 528
GetStgVersionInfo, 529
GetSyncoutMap, 529
GetTimeResolutionInNanoSeconds, 529
GetTotalMemory, 529
GetTriggerSource, 529
GetVoltageRangeInMicroVolt, 530
GetVoltageRangeInMicroVoltByIndex, 530
GetVoltageRangeListInMicroVolt, 530
GetVoltageRangeSelectedIndex, 530
GetVoltageResolutionInMicroVolt, 531
GetVoltageResolutionInMicroVoltByIndex, 531
ListModeSendStart, 531
ListModeSendStop, 532
SendStart, 532
SendStop, 532
SetAutocalibrationDisabled, 533
SetBlankingEnable, 533, 534
SetCurrentMode, 534
SetCurrentRangeSelectedIndex, 535
SetDacAmplificationFactor, 535
SetDigoutMode, 535
SetDigoutValue, 535

SetElectrodeDacMux, 536, 537
SetElectrodeEnable, 538, 539
SetElectrodeMode, 540, 541
SetEnableAmplifierProtectionSwitch, 542, 543
SetExternalElectrodeEnable, 543, 544
SetFAAmplification, 544
SetHeadstage, 544
SetListmodeIndexRange, 544
SetListmodeTriggerSource, 545
SetMeasurementMode, 546
SetOutputRate, 546
SetStgProgramInfo, 546
SetSyncoutMap, 546
SetTriggerSource, 547
SetVoltageMode, 547
SetVoltageRangeSelectedIndex, 547
CStg200xDownloadBasicNet, 548
ClearChannelData, 550
ClearSyncData, 550
DisableAutoReset, 550
EnableAutoReset, 550
ForceStatusEvent, 550
GetMemoryUsageDAC, 550
GetMemoryUsageSyncout, 551
GetSweepCount, 551
GetTrigger, 551
ResetStatus, 552
SendChannelData, 552
SendSyncData, 553
SetupRetriggerMode, 553
SetupTrigger, 554
SetupTriggerSingle, 554
Stimulus, 555
CStg200xDownloadNet, 555
∼CStg200xDownloadNet, 557
ClearChannel_PrepareAndSendData, 557
CStg200xDownloadNet, 556, 557
DisableMultiFileMode, 558
EnableMultiFileMode, 558
GetModuleCurrent, 558
GetModuleTemp, 558
MwPollStatusEvent, 562
PrepareAndAppendData, 558
PrepareAndSendData, 559
QueryTriggerstatus, 560
SendSegmentDefine, 560
SendSegmentSelect, 560
SendSegmentStart, 561
SetOutputMap, 561
Stg200xPollStatusEvent, 562
CStimulusFunctionNet, 562
ClearChannel_PrepareAndSendData, 564
ClearChannelData, 564
ClearMultiplexedData, 564
ClearSyncData, 564
CreateSideband, 565
CStimulusFunctionNet, 564
ForceStatusEvent, 566
GetAvailableMemory, 566
GetCurrentRangeInNanoAmp, 566
GetCurrentResolutionInNanoAmp, 566
GetDACResolution, 567
GetMultiplexedDataChannelsInBlock, 567
GetNumberOfAnalogChannels, 567
GetTotalMemory, 567
GetVoltageRangeInMicroVolt, 567
GetVoltageResolutionInMicroVolt, 568
PollStatusEvent, 573
PrepareAndAppendData, 568
PrepareAndSendData, 569
PrepareData, 570
SendMultiplexedData, 570
SendPreparedData, 570
SendStart, 570
SendStop, 571
SetupTrigger, 571
SetupTriggerSingle, 572
StartPoll, 572
StopPoll, 572
CStimulusFunctionNet::SidebandData, 700
!SidebandData, 700
∼SidebandData, 700
Duration, 700
Sideband, 700
SidebandData, 700
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 701
!StimulusDeviceDataAndUnrolledData, 702
∼StimulusDeviceDataAndUnrolledData, 702
DeviceData, 702
DeviceDataLength, 702
StimulusDeviceDataAndUnrolledData, 702
UnrolledAmplitude, 702
UnrolledDuration, 702
UnrolledSync, 702
CSw2to64DeviceNet, 573
∼CSw2to64DeviceNet, 574
CSw2to64DeviceNet, 574
GetChannel, 574
GetChannels, 574
GetNumber, 574
SetChannel, 574
SetChannels, 575
CTcxDeviceNet, 575
∼CTcxDeviceNet, 578
CalibrateThermocouple, 578
CTcxDeviceNet, 577
FactoryReset, 578
GetBoardTemp, 578
GetCalibration, 578
GetCalibrationDecp, 578
GetCalibrationMax, 578
GetCalibrationMin, 578
GetCurrent, 578
GetD, 579
GetDDecp, 579

GetDevice, 579
GetDeviceType, 579
GetDevname, 579
GetDMax, 579
GetDMin, 579
GetDuty, 579
GetEnableHeaterLimit, 580
GetEnableThermocouple, 580
GetHasThermocouple, 580
GetHeaterLimit, 580
GetHeaterTemp, 580
GetI, 580
GetIDecp, 580
GetIMax, 581
GetIMin, 581
GetIOut, 581
GetMaxHeaterPowerMultiwell, 581
GetMaxP, 581
GetMaxpDecp, 581
GetMaxpMax, 581
GetMaxpMin, 582
GetNumControlChannels, 582
GetNumDevices, 582
GetNumMeasureChannels, 582
GetOnOff, 582
GetP, 582
GetPDecp, 582
GetPMax, 582
GetPMin, 582
GetPOut, 582
GetPwrOut, 583
GetPwrSet, 583
GetRes1, 583
GetRes2, 583
GetResS, 583
GetResX, 583
GetROut, 583
GetSensorType, 584
GetSetpoint, 584
GetSetpointDecp, 584
GetSetpointMax, 584
GetSetpointMin, 584
GetThermocoupleCalibration, 584
GetThermocoupleNanovoltPerKelvin, 584
GetThermocoupleReferenceTemp, 585
GetThermocoupleTemp, 585
GetThermocoupleTempAbs, 585
GetUnit, 585
GetUOut, 585
GetValue, 585
GetValueHires, 586
GetVolti, 586
SetCalibration, 586
SetD, 586
SetDevice, 586
SetDeviceType, 586
SetDevname, 586
SetEnableHeaterLimit, 586
SetEnableThermocouple, 587
SetHeaterLimit, 587
SetI, 587
SetMaxHeaterPowerMultiwell, 587
SetMaxP, 587
SetOnOff, 587
SetP, 588
SetSensorType, 588
SetSetpoint, 588
SetThermocoupleNanovoltPerKelvin, 588
CTEERFunctionNet, 588
!CTEERFunctionNet, 591
~CTEERFunctionNet, 591
CancelInternalCalibration, 591
CTEERFunctionNet, 590
GetAdapterCode, 591
GetAdcOffsetU1, 591
GetAdcOffsetU2, 591
GetAmplitude_nA, 591
GetBytesPerSample, 592
GetClampMode, 592
GetControllerParams, 592
GetCurrentEnable, 592
GetDacZero, 593
GetFrameErrorCounter, 593
GetLiquidResistance, 593
GetMaxChunkSize_Byte, 593
GetNumberOfAvailableSamples, 593
GetPeriod_us, 594
GetRotaryPositionCode, 594
GetSampleBufferChunk, 594
GetSampleRate, 594
GetSampleVoltageBuffer_uV, 595
GetScaleFactorU1, 595
GetScaleFactorU2, 595
GetUptimeSeconds, 595
GetWaveform, 595
IsInternalCalibrationFinished, 596
IsSamplingFinished, 596
SetAmplitude_nA, 596
SetBufferIndex, 596
SetClampMode, 597
SetControllerParams, 597
SetCurrentEnable, 597
SetExternalLED, 597
SetLiquidResistance, 598
SetPeriod_us, 598
SetWaveform, 598
StartInternalCalibration, 598
StartSampling, 598
StopSampling, 599
CTEERMachineDeviceNet, 599
~CTEERMachineDeviceNet, 599
CTEERMachineDeviceNet, 599
TEERFunctionNet, 600
CurrentClamp
Mcs::Usb, 87
CurrentMeasure

Mcs::Usb, 56
CurrentRangeInNanoAmp
W2100_StimulusParametersNet, 704
CurrentResolutionInNanoAmp
W2100_StimulusParametersNet, 704
CUsbDeviceConfigurationFunctionNet, 600
!CUsbDeviceConfigurationFunctionNet, 601
~CUsbDeviceConfigurationFunctionNet, 601
CUsbDeviceConfigurationFunctionNet, 600
SetDeviceId, 601
SetDeviceName, 601
CUsbExceptionNet, 601
CUsbExceptionNet, 602
Status, 602
CutoffFrequency
CCreateFilterNet, 113
CVoltageRangeInfoNet
CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet, 603
CW2100_FunctionNet, 603
ClearStimulusParametersCache, 605
ClearUserDefinedNameCache, 605
CW2100_FunctionNet, 605
DeselectAllHeadstages, 606
DeselectHeadstage, 606
GetAccelGyroCurrentRate, 606
GetAccelGyroDesiredRate, 606
GetAccelGyroEnabled, 606
GetAccelRange, 606
GetAnalogOutChannel, 606
GetAnalogOutFilter, 606
GetAudioChannels, 606
GetAvailableHeadstages, 606
GetBatteryState, 607
GetDacRange, 607
GetFilterProperties, 607
GetFilterProperty, 607
GetFPGAFirmwareType, 607
GetGyroRange, 607
GetHeadstageOnOff, 607
GetHeadstageSamplingActive, 607
GetMultiHeadstageMode, 607
GetPicFirmwareType, 607
GetSelectedChannels, 608
GetSelectedHeadstageState, 608
GetStimulusParametersCache, 608
GetStimulusParametersFromSelectedHS, 608
GetStiumlusParameters, 608
GetUserDefinedName, 608
GetUserDefinedNameCache, 608
GetUserDefinedNameFromSelectedHS, 609
PulseGenerator, 610
SelectHeadstage, 609
SetAccelGyroDesiredRate, 609
SetAccelGyroEnabled, 609
SetAccelRange, 609
SetAnalogOutChannel, 609
SetAnalogOutFilter, 609
SetAudioChannels, 609
SetDacRange, 610
SetGyroRange, 610
SetHeadstageOnOff, 610
SetHeadstageSamplingActive, 610
SetHeadstageToSleep, 610
SetMultiHeadstageMode, 610
SetSelectedChannels, 610
Stimulator, 611
CW2100_FunctionNet::AudioChannelsNet, 93
amplification, 93
channel, 93
dacqgroup, 93
CW2100_StimulatorFunctionNet, 611
BOOST_BIT, 617
ClearChannelData, 612
CW2100_StimulatorFunctionNet, 612
GetBoostAlwaysOnMode, 613
GetBoostPreTime, 613
GetCurrentRangeInNanoAmp, 613
GetCurrentResolutionInNanoAmp, 613
GetDACResolution, 613
GetDigitalStimulatorTrigger, 613
GetDigitalStimulatorTriggerSlope, 614
GetNumberOfAnalogChannels, 614
GetNumberOfSyncoutChannels, 614
GetNumberOfTriggerInputs, 614
GetStimulationPatternMemory, 614
GetTimeResolutionInNanoSeconds, 614
GetTimeSlot, 614
GetVoltageRangeInMicroVolt, 614
GetVoltageResolutionInMicroVolt, 615
GND_SWITCH_BIT, 617
PollStatusEvent, 617
PrepareData, 615
PrepareDataSync, 615
SelectTimeSlot, 615
SendPreparedData, 615
SendStart, 616
SendStop, 616
SetDigitalStimulatorTrigger, 616
SetDigitalStimulatorTriggerSlope, 616
StartPoll, 616
StopPoll, 616
SYNC_BIT0, 617
SYNC_BIT1, 617
CW2100DacqGroupChannelSelectionNet, 617
CW2100DacqGroupChannelSelectionNet, 617
CWarnerUssingDeviceNet, 618
!CWarnerUssingDeviceNet, 619
~CWarnerUssingDeviceNet, 618
CWarnerUssingDeviceNet, 618
WarnerUssingFunction, 619
CWarnerUssingFunctionNet, 619
!CWarnerUssingFunctionNet, 621
~CWarnerUssingFunctionNet, 621
CompensateElectrodeOffset, 621
CWarnerUssingFunctionNet, 621

GetAvailableChambers, 622
GetChannelsCountOfChamber, 622
GetClampMode, 622
GetComplianceVoltageThreshold, 622
GetDacPampsPerDigitHighCurrentRange, 623
GetDacPampsPerDigitLowCurrentRange, 623
GetDacZero, 623
GetHighCurrentRange, 624
GetIdleModeOffset, 624
GetLiquidResistance, 624
GetLowCurrentRange, 625
GetNumberOfAvailableChambers, 625
GetNumberOfHardwareSlotsForChambers, 625
GetU1Offset, 625
GetU1Reference, 627
GetU2Offset, 627
GetU2Reference, 627
GetUnitDescription, 628
GetUnitExponent, 628
GetUnitName, 628
GetUnitsPerDigit, 629
GetUptimeSeconds, 629
GetVoltageClampControllerParam_D, 629
GetVoltageClampControllerParam_I, 630
GetVoltageClampControllerParam_P, 630
IsChamberAvailable, 630
IsHighCurrentMode, 631
IsInternalCalibrationFinished, 631
IsPulseEnabled, 631
SetClampMode, 632
SetEnablePulse, 632
SetHighCurrentMode, 632
SetIdleModeOffset, 633
SetLiquidResistance, 633
SetLowCurrentMode, 633
SetPulse, 633
SetVoltageClampControllerParam_D, 634
SetVoltageClampControllerParam_I, 634
SetVoltageClampControllerParam_P, 634
WaitForAllChambers, 635
WaitForChamber, 635
CWarnerValveControllerDeviceNet, 635
!CWarnerValveControllerDeviceNet, 640
~CWarnerValveControllerDeviceNet, 640
ClearTableName, 640
ClearValveTable, 640
CWarnerValveControllerDeviceNet, 640
GetActiveRunningTableNumber, 640
GetActiveRunningTableNumberEvent, 657
GetAnalogThresholdHigh, 640
GetAnalogThresholdHighEvent, 657
GetAnalogThresholdLow, 641
GetAnalogThresholdLowEvent, 657
GetAnalogVoltage, 641
GetAnalogVoltageEvent, 657
GetCurrentEditTableNumber, 641
GetCurrentNumberOfValves, 641
GetCurrentNumberOfValvesEvent, 658
GetDigitalOutPortValve, 642
GetDigitalOutPortValveEvent, 658
GetDigitalPortDirection, 642
GetDigitalPortDirectionEvent, 658
GetDisplayMode, 642
GetDisplayModeEvent, 658
GetTableName, 642
GetTableNamebyIndex, 643
GetTableNamebyIndexEvent, 658
GetTotalNumberOfDigitalPorts, 643
GetTotalNumberOfTables, 643
GetTotalNumberOfValves, 643
GetTotalTableSize, 644
GetValveActive, 644
GetValveActiveEvent, 658
GetValveBoardRevision, 644
GetValveBoardRevisionEvent, 658
GetValveBoardRevisionString, 644
GetValveCurrent, 644
GetValveDigitalInPort, 645
GetValveDigitalInPortEvent, 659
GetValveLedOn, 645
GetValveLedOnEvent, 659
GetValveManualGroup, 645
GetValveManualGroupEvent, 659
GetValveManualState, 646
GetValveManualStateEvent, 659
GetValveMode, 646
GetValveModeEvent, 659
GetValvesActiveMap, 646
GetValvesManualStateMap, 646
GetValveTableEntry, 647
IsDigitalOutPortInverted, 647
IsDigitalOutPortInvertedEvent, 659
IsValveDigitalInInverted, 647
IsValveDigitalInInvertedEvent, 659
IsValveOpen, 648
IsValveOpenEvent, 660
IsValveOpenInAnalogMode, 648
IsValveOpenInAnalogModeEvent, 660
IsValveOpenInDigitalMode, 648
IsValveOpenInDigitalModeEvent, 660
LoadValveTable, 648
OnGetActiveRunningTableNumber, 649
OnGetAnalogThresholdHigh, 649
OnGetAnalogThresholdLow, 649
OnGetAnalogVoltage, 649
OnGetCurrentNumberOfValves, 649
OnGetDigitalOutPortValve, 649
OnGetDigitalPortDirection, 649
OnGetDisplayMode, 649
OnGetTableNamebyIndex, 649
OnGetValveActive, 650
OnGetValveBoardRevision, 650
OnGetValveDigitalInPort, 650
OnGetValveLedOn, 650
OnGetValveManualGroup, 650
OnGetValveManualState, 650

OnGetValveMode, 650
OnIsDigitalOutPortInverted, 650
OnIsValveDigitalInInverted, 651
OnIsValveOpen, 651
OnIsValveOpenInAnalogMode, 651
OnIsValveOpenInDigitalMode, 651
OnTableEntryChanged, 651
SetActiveRunningTableNumber, 651
SetAnalogThresholdHigh, 651
SetAnalogThresholdLow, 652
SetCurrentEditTableNumber, 652
SetDefault, 652
SetDigitalOutPortInvert, 652
SetDigitalOutPortValve, 653
SetDigitalPortDirection, 653
SetDisplayMode, 653
SetTableName, 653
SetTableStep, 654
SetTableStepAll, 654
SetValveActive, 654
SetValveCurrent, 654
SetValveDigitalInInvert, 655
SetValveDigitalInPort, 655
SetValveLedOn, 655
SetValveManualGroup, 655
SetValveManualState, 656
SetValveMode, 656
SetValvesActiveMap, 656
SetValvesManualStateMap, 656
SetValveTableEntry, 656
StoreValveTable, 657
TableEntryChangedEvent, 660
CWarnerValveControllerDeviceTesterFunctionNet, 660
!CWarnerValveControllerDeviceTesterFunctionNet, 662
~CWarnerValveControllerDeviceTesterFunctionNet, 661
CWarnerValveControllerDeviceTesterFunctionNet, 661
GetIO, 662
GetSync, 662
SetADC, 662
SetIO, 662
SetIODirection, 663
SetTrigger, 663
SetTriggerSyncDirection, 663
CWClassicFunctionNet, 663
CWClassicFunctionNet, 664, 665
GetFilterParametersHeadstage, 665
GetHasChecksum, 665
GetHasRedLedHeadstage, 665
GetHeadstageOnOff, 665
GetResetFilter, 665
GetRFConnectionStatus, 665
GetRFFrequencyHeadstage, 665
GetRFFrequencyReceiver, 665
GetRFPower, 666
GetScanHeadstagesResult, 666
GetSelectedHeadstage, 666
GetSerialNumberHeadstage, 666
GetWPADebugMode, 666
GetWPAType, 666
ResetChannelmap, 666
ScanForHeadstages, 666
SetChannelmap, 666
SetFilterParametersHeadstage, 666
SetHasChecksum, 667
SetHeadstageOnOff, 667
SetHWSelectedChannels, 667
SetResetFilter, 667
SetRFFrequencyHeadstage, 667
SetRFFrequencyReceiver, 667
SetRFFrequencyReceiverEeprom, 667
SetRFLostBehaviour, 667
SetRFPower, 668
SetSelectedHeadstage, 668
SetSerialNumberHeadstage, 668
SetWPADebugMode, 668
SetWPAType, 668
CWirelessBaseFunctionNet, 668
CreateWirelessHeadstageSerialNumberString, 669
CWirelessBaseFunctionNet, 669
CyclePort
CMcsUsbNet, 316
Cypress
Mcs::Usb, 88
Cypress_FX1
Mcs::Usb, 74
Cypress_FX2
Mcs::Usb, 74
Cypress_FX3
Mcs::Usb, 74

DAC1Channel
Mcs::Usb, 58
DAC2Channel
Mcs::Usb, 58
DAC3Channel
Mcs::Usb, 58
DAC4Channel
Mcs::Usb, 58
DACQ1DigitalGroup
Mcs::Usb, 59
DacqDevice
CSafeISDeviceNet, 492
dacqgroup
CW2100_FunctionNet::AudioChannelsNet, 93
DacqGroupChannelEnumNet
Mcs::Usb, 59
DacqMeaGroupTypeEnumNet
Mcs::Usb, 59
DacqTrigger
Mcs::Usb, 63
DACResolution
W2100_StimulusParametersNet, 704
DataModeEnumNet

Mcs::Usb, 59
DataState
HeadStageIDTypeState, 687
DeepCopy
CCMOSMeaDeviceNet::CRegionOfInterestRect, 436
DefineAmplification
CPgaDeviceNet, 401
DefineFrequencyRange
CPgaDeviceNet, 401
DefineNumAmplifications
CPgaDeviceNet, 401
DefineNumFrequencyRanges
CPgaDeviceNet, 401
DeselectAllHeadstages
CW2100_FunctionNet, 606
DeselectHeadstage
CW2100_FunctionNet, 606
DEST_FX3_TARGET_MASK
Mcs::Usb, 55
DEST_TARGET1
Mcs::Usb, 55
DEST_TARGET10
Mcs::Usb, 55
DEST_TARGET11
Mcs::Usb, 55
DEST_TARGET12
Mcs::Usb, 55
DEST_TARGET13
Mcs::Usb, 55
DEST_TARGET14
Mcs::Usb, 55
DEST_TARGET15
Mcs::Usb, 55
DEST_TARGET2
Mcs::Usb, 55
DEST_TARGET3
Mcs::Usb, 55
DEST_TARGET4
Mcs::Usb, 55
DEST_TARGET5
Mcs::Usb, 55
DEST_TARGET6
Mcs::Usb, 55
DEST_TARGET7
Mcs::Usb, 55
DEST_TARGET8
Mcs::Usb, 55
DEST_TARGET9
Mcs::Usb, 55
DEST_TARGET_MASK
Mcs::Usb, 55
DetectChipType
CCMOSMea_FunctionNet, 100
DEVICE_NOT_FOUND
Mcs::Usb, 64
DeviceArrival
CMcsUsbListNet, 309
DeviceData
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
DeviceDataLength
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
DeviceEnumNet
Mcs::Usb, 60
DeviceHasNoHeadstage
Mcs::Usb, 67, 79
DeviceId
CMcsUsbListEntryNet, 306
DeviceIdNet, 669
BcdDevice, 670
BusType, 670
DeviceIdNet, 670
IdProduct, 670
IdVendor, 670
operator=, 670
DeviceName
CMcsUsbListEntryNet, 306
DeviceNotConnected
Mcs::Usb, 66, 67, 79
DeviceRemoval
CMcsUsbListNet, 309
DeviceRunStatus
Mcs::Usb, 63, 71, 80, 83, 90
DigDataFromReceiver
Mcs::Usb, 90
Digital
Mcs::Usb, 74, 91
DigitalData
Mcs::Usb, 63, 71, 80, 83, 90
DigitalDatastreamEnableEnumNet
Mcs::Usb, 61
DigitalGroup
Mcs::Usb, 59
DigitalIn
Mcs::Usb, 61, 62, 70, 80, 83, 90
DigitalInOfOutPort
Mcs::Usb, 62, 70, 80, 83, 90
DigitalInPort
Mcs::Usb, 57
DigitalInReserverd
Mcs::Usb, 61
DigitalMux
Mcs::Usb, 57
DigitalOut
Mcs::Usb, 61
DigitalOutReg
Mcs::Usb, 57
DigitalOutReserved
Mcs::Usb, 61
DigitalOutStimulator
Mcs::Usb, 62, 71, 80, 83, 90
DigitalPulse
Mcs::Usb, 62, 70, 80, 83, 90
DigitalReg

Mcs::Usb, 57
DigitalSource
DigitalSource< digitalsourceenum >, 671
DigitalSource< digitalsourceenum >, 671
DigitalSource, 671
MaxBitNumber, 671
MaxBitNumberStatic, 671
size, 671
Source, 672
DigitalSourceEnumNet
Mcs::Usb, 62
DigitalSourceGeneral, 672
DigitalSourceGeneral, 672
MaxBitNumber, 672, 673
size, 673
Source, 673
DigitalStimulatorTriggerEventEnumNet
Mcs::Usb, 63
DigitalStimulatorTriggerSlopeEnumNet
Mcs::Usb, 63
DigitalTargetEnumNet
Mcs::Usb, 63
Digout
Mcs::Usb, 63
DigOutStim
Mcs::Usb, 61
DigOutStimulatorStartTrigger
Mcs::Usb, 63
DigOutStimulatorStopTrigger
Mcs::Usb, 63
Digstream
Mcs::Usb, 63
DigStreamFromReceiver
Mcs::Usb, 90
DigStreamToReceiver
Mcs::Usb, 63
Dilutor
Mcs::Usb, 77
DisableAutoReset
CStg200xDownloadBasicNet, 550
DisableMultiFileMode
CStg200xDownloadNet, 558
Disconnect
CMcsUsbNet, 316
DisConnectDevice
CRadioControledDevicesNet, 435
DongleS
Mcs::Usb, 75
DoRamp
CRoboDacqNet, 450
Dotriapot
Mcs::Usb, 75
DoubleToInt
Mcs::Usb, 65
DownloadFirmware
CMcsUsbFactoryNet, 294
DownloadOnly
Mcs::Usb, 82
DriverVersionNet, 673
~DriverVersionNet, 674
DriverVersionNet, 674
DriverVersionNet::FormatVersion, 674
GetDestinationCode, 675
GetDestinationName, 676
GetMajor, 676
GetMinor, 677
GetNumEntries, 677
GetSerialNumber, 677
GetStatus, 678
GetVersionInt, 678
GetVersionString, 679
DriverVersionNet::FormatVersion
DriverVersionNet, 674
DSP
FirmwareDestinationNames, 680
Mcs::Usb, 52
DSPAnalogGroup
Mcs::Usb, 70, 80
DSPDataGroup
Mcs::Usb, 59, 89
DSPDigitalGroup
Mcs::Usb, 70, 80
DummyCommand
CLIH3DeviceNet, 192
Duration
CStimulusFunctionNet::SidebandData, 700

eCube
Mcs::Usb, 76, 79
eCubeHeadstage
Mcs::Usb, 66
ElectricalStimulation
HeadStageIDType, 683
ElectrodeDacMuxEnumNet
Mcs::Usb, 63
ElectrodeModeEnumNet
Mcs::Usb, 64
ElectrodeOffset
Mcs::Usb, 87
emAutomatic
Mcs::Usb, 64
emManual
Mcs::Usb, 64
EmptyKey
CMcsUsbNet, 316
Emu_GetCellCapacity
CRoboDacqNet, 451
Emu_GetCellPotential
CRoboDacqNet, 451
Emu_GetCellResists
CRoboDacqNet, 451
Emu_GetElectrodeResists
CRoboDacqNet, 451
Emu_GetNoise
CRoboDacqNet, 451
Emu_SetCellCapacity
CRoboDacqNet, 451

Emu_SetCellPotential
CRoboDacqNet, 451
Emu_SetCellResists
CRoboDacqNet, 451
Emu_SetElectrodeResists
CRoboDacqNet, 451
Emu_SetNoise
CRoboDacqNet, 451
EnableAnalogOut
CSCUFunctionNet, 496
EnableAutoReset
CStg200xDownloadBasicNet, 550
EnableChannelsInGroup
CCMOSMea_FunctionNet, 100
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 117
EnableChecksum
CMeaDeviceNet, 347
COctoPotDeviceNet, 390
EnableDigitalIn
CMeaDeviceNet, 348
COctoPotDeviceNet, 390
EnableExceptions
CMcsUsbNet, 316
EnableMultiFileMode
CStg200xDownloadNet, 558
EnableQueue
CRoboDeviceNet, 466
EnableTimestamp
CMeaDeviceNet, 349
COctoPotDeviceNet, 390
EnableUserTrigger
CLIH3DeviceNet, 192
Encapsulator
Mcs::Usb, 76
enCMosMeaChipType
Mcs::Usb, 64
EnSTG200x_STATUS
Mcs::Usb, 64
Entry
HeadStageIDType, 684
EOFAndCRC
Mcs::Usb, 58
Equals
CMcsUsbListEntryNet, 303
HeadStageIDType, 684
HeadstageIDTypeObject, 686
EraseEepromRegisterPreconfig
CMcsUsbNet, 316
EraseFilterParameterPermanent
CFilterConfigurationNet, 133
CFilterConfigurationRegisterNet, 134, 135
ErasePermanentAdcOffset
CLIH3DeviceNet, 193
ErasePermanentDacOffset
CLIH3DeviceNet, 193
Error_Callback_Aquisition_Stopped
CMcsUsbDacqNet, 288
Error_Callback_Data_lost
CMcsUsbDacqNet, 288
Error_Callback_Frames_Lost
CMcsUsbDacqNet, 288
Error_Callback_Packet_Error
CMcsUsbDacqNet, 288
Error_Callback_Queue_Full
CMcsUsbDacqNet, 289
Error_Callback_RingQueue_Full
CMcsUsbDacqNet, 289
ErrorEvent
CMcsUsbDacqNet, 289
ExternBCTester
Mcs::Usb, 75
ExternDTester
Mcs::Usb, 75
ExternSTester
Mcs::Usb, 75

FactoryReset
CTcxDeviceNet, 578
Falling
Mcs::Usb, 63
FCB
Mcs::Usb, 75
FCX
Mcs::Usb, 75
Feedback
Mcs::Usb, 62, 71, 80, 83, 90
FeedbackGetSampleTimerCount
CMeaFeedbackFunctionNet, 356
FeedbackHigh
Mcs::Usb, 61
FeedbackLow
Mcs::Usb, 61
FeedbackReg
Mcs::Usb, 57
FeedbackSetAnalogSource
CMeaFeedbackFunctionNet, 356
FeedbackSetChannelFilter
CMeaFeedbackFunctionNet, 356
FeedbackSetDigitalMapping
CMeaFeedbackFunctionNet, 357
FeedbackSetFeedback
CMeaFeedbackFunctionNet, 357
FeedbackSetFilterOff
CMeaFeedbackFunctionNet, 357
FeedbackSetFilterParameter
CMeaFeedbackFunctionNet, 357
FeedbackSetFilterParameter32
CMeaFeedbackFunctionNet, 357
FeedbackSetGlobalChannelFilter
CMeaFeedbackFunctionNet, 357
FeedbackSetIIRFilterParameter
CMeaFeedbackFunctionNet, 357
FeedbackSetLogic
CMeaFeedbackFunctionNet, 357

FeedbackSetMkFilter
CMeaFeedbackFunctionNet, 358
FeedbackSetNumberOfLogics
CMeaFeedbackFunctionNet, 358
FeedbackSetNumberOfRateCounter
CMeaFeedbackFunctionNet, 358
FeedbackSetNumberOfRateDetectors
CMeaFeedbackFunctionNet, 358
FeedbackSetNumberOfSpikeDetectors
CMeaFeedbackFunctionNet, 358
FeedbackSetNumberOfTriggers
CMeaFeedbackFunctionNet, 358
FeedbackSetRateCounter
CMeaFeedbackFunctionNet, 358
FeedbackSetRateDetector
CMeaFeedbackFunctionNet, 358
FeedbackSetSpikeDetectorThreshold
CMeaFeedbackFunctionNet, 359
FeedbackSetTrigger
CMeaFeedbackFunctionNet, 359
FilterActive
CFilterPropertyNet, 137
FilterAttributeEnumNet
Mcs::Usb, 64
FilterBand
CFilterPropertyNet, 137
FilterBandEnumNet
Mcs::Usb, 65
FilterCalculationDirectionEnumNet
Mcs::Usb, 65
FilterFamily
CFilterPropertyNet, 137
FilterFamilyEnumNet
Mcs::Usb, 65
FilterType
CFilterPropertyNet, 137
FilterTypeEnumNet
Mcs::Usb, 65
FindEndpoints
CGenericDevelopDeviceNet, 153
FindFilter
CCreateFilterNet, 112
FindFirmwareVersionMagicInBuffer
CMcsUsbFactoryNet, 294
FindReference
CRoboDeviceNet, 466
FindReferenceI
CRoboStatorDeviceNet, 485
FindReferencePhase0
CRoboDeviceNet::RoboMainLowLevelCommands, 692
FindReferencePhase0XY
CRoboStatorDeviceNet::RoboMainStatorLowLevelCommands, 698
FindReferenceXY
CRoboStatorDeviceNet, 485
FindReferenceZ
CRoboStatorDeviceNet, 485
Finished
Mcs::Usb, 82
FirePressurePulse
CPPCFunctionNet, 417
FirmwareDestinationNames, 679
Altera, 680
Bootstrap, 680
BUS1_MCSBUS1, 680
BUS1_MCSBUS2, 680
DSP, 680
FPGA2, 680
FPGA3, 680
FPGA4, 680
FPGA5, 680
FPGA6, 680
MCSBUS1, 681
MCSBUS10, 681
MCSBUS11, 681
MCSBUS12, 681
MCSBUS13, 681
MCSBUS2, 681
MCSBUS3, 681
MCSBUS4, 681
MCSBUS5, 681
MCSBUS6, 681
MCSBUS7, 681
MCSBUS8, 682
MCSBUS9, 682
MCU1, 682
PIC, 682
PIC2, 682
PIC3, 682
PIC4, 682
USB, 682
FluidControlDevice
CSafeISDeviceNet, 492
ForceStatusEvent
CStg200xDownloadBasicNet, 550
CStimulusFunctionNet, 566
FPGA10
Mcs::Usb, 54
FPGA10_BASE
Mcs::Usb, 55
FPGA10_GOLD
Mcs::Usb, 55
FPGA11
Mcs::Usb, 54
FPGA11_BASE
Mcs::Usb, 55
FPGA11_GOLD
Mcs::Usb, 55
FPGA12
Mcs::Usb, 54
FPGA12_BASE
Mcs::Usb, 55
FPGA12_GOLD
Mcs::Usb, 55
FPGA13

Mcs::Usb, 54
FPGA13_BASE
Mcs::Usb, 55
FPGA13_GOLD
Mcs::Usb, 55
FPGA14
Mcs::Usb, 54
FPGA14_BASE
Mcs::Usb, 55
FPGA14_GOLD
Mcs::Usb, 55
FPGA15
Mcs::Usb, 54
FPGA15_BASE
Mcs::Usb, 55
FPGA15_GOLD
Mcs::Usb, 55
FPGA16
Mcs::Usb, 54
FPGA16_BASE
Mcs::Usb, 55
FPGA16_GOLD
Mcs::Usb, 55
FPGA2
FirmwareDestinationNames, 680
Mcs::Usb, 54
FPGA2_BASE
Mcs::Usb, 55
FPGA2_GOLD
Mcs::Usb, 54
FPGA3
FirmwareDestinationNames, 680
Mcs::Usb, 54
FPGA3_BASE
Mcs::Usb, 55
FPGA3_GOLD
Mcs::Usb, 54
FPGA4
FirmwareDestinationNames, 680
Mcs::Usb, 54
FPGA4_BASE
Mcs::Usb, 55
FPGA4_GOLD
Mcs::Usb, 54
FPGA5
FirmwareDestinationNames, 680
Mcs::Usb, 54
FPGA5_BASE
Mcs::Usb, 55
FPGA5_GOLD
Mcs::Usb, 54
FPGA6
FirmwareDestinationNames, 680
Mcs::Usb, 54
FPGA6_BASE
Mcs::Usb, 55
FPGA6_GOLD
Mcs::Usb, 54
FPGA7
Mcs::Usb, 54
FPGA7_BASE
Mcs::Usb, 55
FPGA7_GOLD
Mcs::Usb, 55
FPGA8
Mcs::Usb, 54
FPGA8_BASE
Mcs::Usb, 55
FPGA8_GOLD
Mcs::Usb, 55
FPGA9
Mcs::Usb, 54
FPGA9_BASE
Mcs::Usb, 55
FPGA9_GOLD
Mcs::Usb, 55
FPGA_BASE
Mcs::Usb, 55
FPGA_BOOTSTRAP
Mcs::Usb, 55
FPGA_GOLD
Mcs::Usb, 54
FPGA_NORMAL
Mcs::Usb, 52
FpgaIdEnumNet
Mcs::Usb, 66
FrameContextGroup
Mcs::Usb, 59
FromIntPtr
StgStatusNet, 701
FromPtr
StgStatusNet, 701
FullCharge
Mcs::Usb, 69
FullSpeed
Mcs::Usb, 70
FunkDongleS
Mcs::Usb, 75
FX3MCSDataAddress
CMcsUsbFactoryNet, 299
FX3MCSDataDeviceIdOffset
CMcsUsbFactoryNet, 299
FX3MCSDataIFB1ImageOffset
CMcsUsbFactoryNet, 299
FX3MCSDataIFB2ImageOffset
CMcsUsbFactoryNet, 299
FX3MCSDataVersionOffset
CMcsUsbFactoryNet, 299
FYIProgram
CFYIDeviceNet, 145
FYITemp
CFYIDeviceNet, 145

Gain
CMeaDeviceNet, 352
Gated_High_Active
Mcs::Usb, 77

Gated_Low_Active
Mcs::Usb, 77
GE2100
Mcs::Usb, 76
Generic
Mcs::Usb, 75
Get2AnalogInput
CMcsBus_SensorNet, 225
Get2DigitalInput
CMcsBus_SensorNet, 225
Get4ADC
CMcsBus_SensorNet, 225
Get4ADCAverage
CMcsBus_SensorNet, 225
Get4ADCCatchampAverageShift
CMcsBus_SensorNet, 225
Get4ADCMode
CMcsBus_SensorNet, 225
Get4DAC
CMcsBus_SensorNet, 225
GetAbsMaxCurrentInMicroAmp
CMultiwellOptoStimFunctionNet, 384
GetAccelGyroCurrentRate
CW2100_FunctionNet, 606
GetAccelGyroDesiredRate
CW2100_FunctionNet, 606
GetAccelGyroEnabled
CW2100_FunctionNet, 606
GetAccelRange
CW2100_FunctionNet, 606
GetActiveRunningTableNumber
CWarnerValveControllerDeviceNet, 640
GetActiveRunningTableNumberEvent
CWarnerValveControllerDeviceNet, 657
GetAdapterCode
CMeaImpedanceDeviceNet, 360
CTEERFunctionNet, 591
GetAdapterType
CMcsUsbDacqNet, 264
GetAdc
CFluidControlDeviceNet, 139
GetAdcDataFormat
CMcsUsbDacqNet, 264
GetADCInputOffset
CCMOSMea_FunctionNet, 100
GetADCOffset
CGrapheneFunctionNet, 169, 170
GetAdcOffset
CLIH3DeviceNet, 193
COctoPotDeviceNet, 390
GetAdcOffsetU1
CTEERFunctionNet, 591
GetAdcOffsetU2
CTEERFunctionNet, 591
GetADCs
CMcsBus_SensorNet, 225
GetADCsLoop
CMcsBus_SensorNet, 226
GetAdcZero
CMcsUsbDacqNet, 265
GetAirpressure
CRoboDeviceNet, 466
GetAirpressureLimit
CRoboDeviceNet, 466
GetAirValve
CRoboDeviceNet, 466
GetAllDigout
CRoboDacqNet, 452
GetAmplification
CPgaDeviceNet, 401
GetAmplitude_nA
CTEERFunctionNet, 591
GetAnalogGain
CMeaDeviceNet, 349
GetAnalogOutADCRange
CSCUFunctionNet, 497
GetAnalogOutChannel
CW2100_FunctionNet, 606
GetAnalogOutChannels
CSCUFunctionNet, 497
GetAnalogOutDACRange
CSCUFunctionNet, 497
GetAnalogOutFilter
CW2100_FunctionNet, 606
GetAnalogRanges
CStg200xBasicNet, 516
GetAnalogResolution
CStg200xBasicNet, 517
GetAnalogThresholdHigh
CWarnerValveControllerDeviceNet, 640
GetAnalogThresholdHighEvent
CWarnerValveControllerDeviceNet, 657
GetAnalogThresholdLow
CWarnerValveControllerDeviceNet, 641
GetAnalogThresholdLowEvent
CWarnerValveControllerDeviceNet, 657
GetAnalogValueUnit
CMcsUsbDacqNet, 265
GetAnalogVoltage
CPPCFunctionNet, 417
CPPS_FunctionNet, 426
CWarnerValveControllerDeviceNet, 641
GetAnalogVoltageEvent
CWarnerValveControllerDeviceNet, 657
GetAnalogVoltageRange
CPPCFunctionNet, 417
GetAnalogVoltages
CPPS_FunctionNet, 426
GetArraySize
CMeaImpedanceDeviceNet, 360
GetAudioChannels
CMeaAudioFunctionNet, 334
CW2100_FunctionNet, 606
GetAudioOutDacParameter
CLIH3DeviceNet, 193
GetAutocalibrationDisabled

CStg200xBasicNet, 517
GetAvailableBaseSamplerates
CCMOSMeaDeviceNet, 109
CGrapheneASICDeviceNet, 166
GetAvailableChambers
CWarnerUssingFunctionNet, 622
GetAvailableDeviceList
CRFFunctionNet, 441
GetAvailableDeviceListEx
CRFFunctionNet, 441
GetAvailableHeadstages
CSCUFunctionNet, 497
CW2100_FunctionNet, 606
GetAvailableHeadstagesEvent
CSCUFunctionNet, 510
GetAvailableMemory
CStg200xBasicNet, 517
CStimulusFunctionNet, 566
GetAvailableSampleRates
CMcsUsbDacqNet::CHWInfo, 182
GetAvailableStateList
CRFFunctionNet, 441
GetAvailableStateListEx
CRFFunctionNet, 441
GetAvailableVoltageRangesInMicroVolt
CMcsUsbDacqNet::CHWInfo, 182
GetAvailableVoltageRangesInMicroVoltAndStringsInMilliVolt
CMcsUsbDacqNet::CHWInfo, 182
GetAxisConfig
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetAxisLED
CRoboocyte2DeviceNet, 483
GetAxisParametersSignedEeprom
CMcsBus_AxisParametersNet, 200
GetAxisParametersUnsignedEeprom
CMcsBus_AxisParametersNet, 200
GetBaseFrequency
CRFFunctionNet, 442
GetBaseSamplerate
CCMOSMeaDeviceNet, 110
GetBath
CCMOSMea_FunctionNet, 100
GetBathMode
CCMOSMea_FunctionNet, 100
GetBatteryState
CW2100_FunctionNet, 607
GetBatteryVoltage
CMultiBatteryChargerDeviceNet, 368
GetBiQuad
CCreateFilterNet, 113
GetBiQuads
CCreateFilterNet, 113
GetBlankingEnable
CStg200xBasicNet, 517, 518
GetBoardTemp
CTcxDeviceNet, 578
GetBoostAlwaysOnMode
CW2100_StimulatorFunctionNet, 613
GetBoostPreTime
CW2100_StimulatorFunctionNet, 613
GetBubbleState
CPPS_FunctionNet, 426
GetBubbleStatus
CMcsBus_SensorNet, 226
GetBuffer
CGenericDevelopDeviceNet, 153
GetBusAddress
CMcsBusNet, 239
GetBusAddressEeprom
CMcsBusNet, 239
GetByteBuffer
CGenericDevelopDeviceNet, 154
GetBytesAvailable
CSerialPortNet, 511
GetBytesPerSample
CTEERFunctionNet, 592
GetCalibration
CTcxDeviceNet, 578
GetCalibrationDecp
CTcxDeviceNet, 578
GetCalibrationMax
CTcxDeviceNet, 578
GetCalibrationMin
CTcxDeviceNet, 578
GetCapacityC
CRoboDacqNet, 452
GetCapacityV
CRoboDacqNet, 452
GetCapacityX
CRoboDacqNet, 452
GetCardinalDacqSamplerate
CInterfaceboardFunctionNet, 189
GetCardinalStgOutputrate
CInterfaceboardFunctionNet, 189
GetChannel
CSw2to64DeviceNet, 574
GetChannelDataFillSize
CMcsUsbDacqNet, 265
GetChannelDataI16
CCMOSMeaDeviceNet, 110
GetChannelDataI32
CCMOSMeaDeviceNet, 110
GetChannelDataUI16
CCMOSMeaDeviceNet, 110
GetChannelDataUI32
CCMOSMeaDeviceNet, 110
GetChannelLayout
CMcsUsbDacqNet, 265
GetChannels
CMultiBatteryChargerDeviceNet, 368
CSw2to64DeviceNet, 574
GetChannelsCountOfChamber
CWarnerUssingFunctionNet, 622
GetChannelsInBlock
CMcsUsbDacqNet, 265

GetChannelState
CMultiBatteryChargerDeviceNet, 369
GetChargeCapacity
CMultiBatteryChargerDeviceNet, 369
GetChargeCurrent
CMultiBatteryChargerDeviceNet, 369
GetChargingMode
CMultiBatteryChargerDeviceNet, 370
GetChargingPCoefficient
CMultiBatteryChargerDeviceNet, 370
GetChecksumFromFX3Image
CMcsUsbFactoryNet, 294
GetCheckVoltage
COkuvisionStimulatorDeviceNet, 393
GetClampAmpSerialNumber
CRoboDacqNet, 452
GetClampMode
CTEERFunctionNet, 592
CWarnerUssingFunctionNet, 622
GetCMOSDataDictionary
CCMOSMeaDeviceNet, 110
GetCoilCommunication
CPositionIIDeviceNet, 404
GetColorRgb
CMultiwellOptoStimFunctionNet, 384
GetColorStr
CMultiwellOptoStimFunctionNet, 384
GetCommand
CMcsBusNet, 239, 240
CPedoterDeviceNet, 398
CRoboDacqNet, 452
GetComplianceVoltageThreshold
CWarnerUssingFunctionNet, 622
GetConfiguration
CMcsUsbNet, 317
GetConfigurationBit
CRoboDacqNet, 452
GetConfigurationBitAxc
CRoboDacqNet, 452
GetConfigurationBitBlu_Led
CRoboDacqNet, 452
GetConfigurationBitBlu_LedToggleFast
CRoboDacqNet, 452
GetConfigurationBitBlu_LedToggleSlow
CRoboDacqNet, 452
GetConfigurationBitCC_Gen
CRoboDacqNet, 453
GetConfigurationBitCV_Gen
CRoboDacqNet, 453
GetConfigurationBitRC_Gen
CRoboDacqNet, 453
GetConfigurationBitRed_Led
CRoboDacqNet, 453
GetConfigurationBitRed_LedSaturation
CRoboDacqNet, 453
GetConfigurationBitRed_LedToggleFast
CRoboDacqNet, 453
GetConfigurationBitRed_LedToggleSlow
CRoboDacqNet, 453
GetConfigurationBitRelais
CRoboDacqNet, 453
GetConfigurationBitRV_Gen
CRoboDacqNet, 453
GetConfigurationBits
CRoboDacqNet, 453
GetConfigurationBitStream
CRoboDacqNet, 453
GetConfigurationBitSupply
CRoboDacqNet, 454
GetConnectedDevice
CRFFunctionNet, 442
GetControllerParams
CTEERFunctionNet, 592
GetCrossTalkOffset
CRoboDacqNet, 454
GetCrossTalkOptimum
CRoboDacqNet, 454
GetCur2VolResistance
CGrapheneFunctionNet, 170
GetCurrent
CTcxDeviceNet, 578
GetCurrentAirvalve
CRoboDeviceNet, 466
GetCurrentAirvalveLimit
CRoboDeviceNet, 466
GetCurrentCycle
CMeaCoatDeviceNet, 341
GetCurrentEditTableNumber
CWarnerValveControllerDeviceNet, 641
GetCurrentEnable
CTEERFunctionNet, 592
GetCurrentFactor
COkuvisionStimulatorDeviceNet, 393
GetCurrentNumberOfValves
CWarnerValveControllerDeviceNet, 641
GetCurrentNumberOfValvesEvent
CWarnerValveControllerDeviceNet, 658
GetCurrentPosition
CRoboDeviceNet, 467
GetCurrentPositionI
CRoboStatorDeviceNet, 485
GetCurrentPositionXY
CRoboStatorDeviceNet, 485
GetCurrentPositionZ
CRoboStatorDeviceNet, 486
GetCurrentRangeInNanoAmp
CStg200xBasicNet, 518
CStimulusFunctionNet, 566
CW2100_StimulatorFunctionNet, 613
GetCurrentRangeInNanoAmpByIndex
CStg200xBasicNet, 518
GetCurrentRangeListInNanoAmp
CStg200xBasicNet, 519
GetCurrentRangeSelectedIndex
CStg200xBasicNet, 519
GetCurrentResolutionInNanoAmp

CStg200xBasicNet, 519
CStimulusFunctionNet, 566
CW2100_StimulatorFunctionNet, 613
GetCurrentResolutionInNanoAmpByIndex
CStg200xBasicNet, 520
GetCycle
CMeaCleanDeviceNet, 337
GetCycles
CMeaCleanDeviceNet, 337
CMeaCoatDeviceNet, 341
GetD
CTcxDeviceNet, 579
GetDacAmplificationFactor
CStg200xBasicNet, 520
GetDacIdleValue
CLIH3DeviceNet, 194
GetDACOffset
CGrapheneFunctionNet, 171
COkuvisionStimulatorDeviceNet, 394
GetDacOffset
CDacCalibrationFunctionNet, 115
CLIH3DeviceNet, 194
COctoPotDeviceNet, 390
GetDacPampsPerDigitHighCurrentRange
CWarnerUssingFunctionNet, 623
GetDacPampsPerDigitLowCurrentRange
CWarnerUssingFunctionNet, 623
GetDacqRunStatus
CLIH3DeviceNet, 194
GetDacRange
CW2100_FunctionNet, 607
GetDACResolution
CStg200xBasicNet, 520
CStimulusFunctionNet, 567
CW2100_StimulatorFunctionNet, 613
GetDACs
CMcsBus_SensorNet, 226
GetDacUseIdleValue
CLIH3DeviceNet, 194
GetDacZero
CTEERFunctionNet, 593
CWarnerUssingFunctionNet, 623
GetDataFormat
CMcsUsbDacqNet, 265
GetDataMode
CMcsUsbDacqNet, 265
GetDDecp
CTcxDeviceNet, 579
GetDebugData
CPositionIIDeviceNet, 404
GetDestination
CMcsUsbFactoryNet, 294
GetDestinationCode
DriverVersionNet, 675
GetDestinationDisplayLabel
CMcsUsbFactoryNet, 294
GetDestinationName
CMcsUsbFactoryNet, 294, 295
DriverVersionNet, 676
GetDestinationSerialNumber
CMcsUsbFactoryNet, 295
GetDestinationTargetAddress
CMcsUsbFactoryNet, 295
GetDestinationTargetSelectionInfo
CMcsUsbFactoryNet, 295
GetDetectionThreshold
CMcsBus_SensorNet, 226
GetDetectorValue
CMcsBus_SensorNet, 226
GetDevice
CTcxDeviceNet, 579
GetDeviceCannotStallOutRequests
CMcsUsbNet, 317
GetDeviceCapableSpeed
CMcsUsbNet, 317
GetDeviceEnum
CMcsUsbNet, 317
GetDeviceGroupChannelInfos
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 117, 118
GetDeviceId
CMcsUsbNet, 317
GetDeviceList
CPositionImpDeviceNet, 412
GetDeviceNames
CRadioControledDevicesNet, 435
GetDeviceRootHubVendorEnum
CMcsUsbNet, 317
GetDeviceRootHubVendorID
CMcsUsbNet, 317
GetDeviceRootHubVendorName
CMcsUsbNet, 317
GetDeviceSpeed
CMcsUsbNet, 318
GetDeviceType
CTcxDeviceNet, 579
GetDevname
CTcxDeviceNet, 579
GetDigin
CFluidControlDeviceNet, 139
GetDigInState
CLIH3DeviceNet, 195
GetDiginValue
CStg200xBasicNet, 520
GetDigitalData
CMeaDigitalDataFunctionNet, 354
GetDigitalIn
CPPCFunctionNet, 419
CPPS_FunctionNet, 426
GetDigitalOutPortValve
CWarnerValveControllerDeviceNet, 642
GetDigitalOutPortValveEvent
CWarnerValveControllerDeviceNet, 658
GetDigitalPortDirection

CWarnerValveControllerDeviceNet, 642
GetDigitalPortDirectionEvent
CWarnerValveControllerDeviceNet, 658
GetDigitalSource
CMcsUsbDacqNet, 266, 267
GetDigitalStimulatorTrigger
CW2100_StimulatorFunctionNet, 613
GetDigitalStimulatorTriggerSlope
CW2100_StimulatorFunctionNet, 614
GetDigout
CFluidControlDeviceNet, 140
CRoboDacqNet, 454
GetDigoutMode
CStg200xBasicNet, 521
GetDigoutValue
CStg200xBasicNet, 521
GetDIO
CMcsBus_FYIExtensionNet, 203
GetDischargeCapacity
CMultiBatteryChargerDeviceNet, 370
GetDischargeCurrent
CMultiBatteryChargerDeviceNet, 370
GetDischargeCurrentSetPoint
CMultiBatteryChargerDeviceNet, 371
GetDisplayMode
CWarnerValveControllerDeviceNet, 642
GetDisplayModeEvent
CWarnerValveControllerDeviceNet, 658
GetDisplayText
CRoboDacqNet, 454
GetDMax
CTcxDeviceNet, 579
GetDMin
CTcxDeviceNet, 579
GetDownsampleFactor
CRoboDacqNet, 454
GetDSPHighPassByIndex
CIntanMea_FunctionNet, 185
GetDuration
CMeaCoatDeviceNet, 342
GetDuty
CTcxDeviceNet, 579
GetEEpromPage
CLIH3DeviceNet, 195
GetElectrodeDacMux
CStg200xBasicNet, 521
GetElectrodeEnable
CStg200xBasicNet, 522
GetElectrodeMode
CStg200xBasicNet, 523
GetEnableAmplifierProtectionSwitch
CStg200xBasicNet, 524
GetEnabledChannelsInGroup
CCMOSMea_FunctionNet, 101
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 118
GetEnableHeaterLimit
CTcxDeviceNet, 580
GetEnableThermocouple
CTcxDeviceNet, 580
GetEntry
CMcsUsbListEntryNet, 304
GetEntryCount
CMcsUsbListEntryNet, 305
GetEnumerationSpeed
CMeaDeviceNet, 349
GetErrorAirpressure
CRoboDeviceNet, 467
GetErrorCurrentAirvalve
CRoboDeviceNet, 467
GetErrorMessage
CMcsUsbDacqNet, 268
GetErrorText
CMcsUsbNet, 318
GetErrorVoltage12V
CRoboDeviceNet, 467
GetErrorVoltage5V
CRoboDeviceNet, 467
GetErrorVoltageAirvalve
CRoboDeviceNet, 467
GetErrorVoltageRs485A
CRoboDeviceNet, 467
GetErrorVoltageRs485B
CRoboDeviceNet, 467
GetErrorVoltageValves
CRoboDeviceNet, 468
GetEventData
CPositionIIDeviceNet, 405
GetExternalElectrodeEnable
CStg200xBasicNet, 525
GetFAAmplification
CStg200xBasicNet, 525
GetFilter
CRoboDacqNet, 454
GetFilterAttributes
CFilterConfigurationNet, 133
GetFilterCoeffs
CRoboDacqNet, 454
GetFilterParametersHeadstage
CWClassicFunctionNet, 665
GetFilterProperties
CSCUFunctionNet, 497
CW2100_FunctionNet, 607
GetFilterProperty
CMcsUsbDacqNet, 268
CSCUFunctionNet, 498
CW2100_FunctionNet, 607
GetFinalDischargeVoltage
CMultiBatteryChargerDeviceNet, 371
GetFirmwareVersion
CMcsUsbNet, 318
GetFirmwareVersionFromFile
CMcsUsbFactoryNet, 295
GetFirmwareVersionFromHexFile

CMcsUsbFactoryNet, 295
GetFPGAFirmwareType
CW2100_FunctionNet, 607
GetFrameErrorCounter
CTEERFunctionNet, 593
GetFrequency
CRadioControledDevicesNet, 436
GetFrequencyRange
CPgaDeviceNet, 402
GetGain
CMeaDeviceNet, 349
CPgaDeviceNet, 402
GetGate
CCMOSMea_FunctionNet, 101
GetGilsonDevice
CRoboocyte2DeviceNet, 483
GetGlobalRepeat
CDigOutStimulatorFunctionNet, 124
GetGNDI
CCMOSMea_FunctionNet, 101
GetGroupADCBits
CCMOSMea_FunctionNet, 101
GetGroupChannelBitmaskBySelect
CCMOSMea_FunctionNet, 101
GetGroupChannelBitmaskHS1NCBathCurrent
CCMOSMea_FunctionNet, 101, 102
GetGroupChannelBitmaskHS1NCCol2Current
CCMOSMea_FunctionNet, 102
GetGroupChannelBitmaskHS1NChipTemp
CCMOSMea_FunctionNet, 102
GetGroupChannelBitmaskHS1Sidebands
CCMOSMea_FunctionNet, 102
GetGroupChannelBitmaskHS1TriggerStatus
CCMOSMea_FunctionNet, 102, 103
GetGroupChannelBitmaskIFDigChannels
CCMOSMea_FunctionNet, 103
GetGroupChannelBitmaskInterfaceADC
CCMOSMea_FunctionNet, 103
GetGroupChannelBitmaskPacketFrameContext
CCMOSMea_FunctionNet, 103
GetGroupChannelBitmaskSTG1DACSignal
CCMOSMea_FunctionNet, 103, 104
GetGroupChannelDataI16
CMcsUsbDacqNet, 268
GetGroupChannelDataI32
CMcsUsbDacqNet, 268
GetGroupChannelDataUI16
CMcsUsbDacqNet, 269
GetGroupChannelDataUI32
CMcsUsbDacqNet, 269
GetGroupDCOffset
CCMOSMea_FunctionNet, 104
GetGroupID
CCMOSMea_FunctionNet, 104
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 118
GetGroupNumberOfChannels
CCMOSMea_FunctionNet, 104
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 118
GetGroupResolutionPerDigit
CCMOSMea_FunctionNet, 104
GetGroupSampleSize
CCMOSMea_FunctionNet, 105
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 118
GetGroupType
CCMOSMea_FunctionNet, 105
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 119
GetGroupUnit
CCMOSMea_FunctionNet, 105
GetGyroRange
CW2100_FunctionNet, 607
GetHardwareMaxRange
CMcsUsbDacqNet, 270
GetHardwareMinRange
CMcsUsbDacqNet, 270
GetHardwareRevision
CMcsUsbNet, 318
GetHasChecksum
CWClassicFunctionNet, 665
GetHashCode
HeadstageIDTypeObject, 686
GetHasRedLedHeadstage
CWClassicFunctionNet, 665
GetHasThermocouple
CTcxDeviceNet, 580
GetHeadstage
CStg200xBasicNet, 525
GetHeadstageActive
CMcsUsbNet, 319
GetHeadstageAdcBits
CSCUFunctionNet, 498
GetHeadstageAdcRangeInMicroVolt
CSCUFunctionNet, 498
GetHeadstageDacBits
CSCUFunctionNet, 499
GetHeadstageDacCurrentRangeInMicroAmpere
CSCUFunctionNet, 499
GetHeadstageDacCurrentResolutionInNanoAmpere
CSCUFunctionNet, 499
GetHeadstageDacVoltageRangeInMilliVolt
CSCUFunctionNet, 500
GetHeadstageDacVoltageResolutionInMicroVolt
CSCUFunctionNet, 500
GetHeadstageFrameCyclesToCompare
CSCUFunctionNet, 500

GetHeadstageGainInPermille
CSCUFunctionNet, 501
GetHeadstageID
CMcsUsbNet, 319
CSCUFunctionNet, 501
GetHeadstageLinkSpeed
CSCUFunctionNet, 501
GetHeadstageNumberOfAnalogChannels
CSCUFunctionNet, 502
GetHeadstageNumberOfStimulationChannels
CSCUFunctionNet, 502
GetHeadstageOnOff
CW2100_FunctionNet, 607
CWClassicFunctionNet, 665
GetHeadstagePowerStateAtStart
CSCUFunctionNet, 502
GetHeadstagePresent
CMcsUsbNet, 319
GetHeadstageSamplerate
CSCUFunctionNet, 503
GetHeadstageSamplingActive
CW2100_FunctionNet, 607
GetHeadstageSerialNumber
CSCUFunctionNet, 503
GetHeaterLimit
CTcxDeviceNet, 580
GetHeaterTemp
CTcxDeviceNet, 580
GetHighCurrentRange
CWarnerUssingFunctionNet, 624
GetHighpassFilterEnable
CFilterConfigurationNet, 133
GetHWConfig
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetHWRevision
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetHWRevisionEeprom
CMcsBusNet, 240
GetI
CTcxDeviceNet, 580
GetIC
CRoboDacqNet, 454
GetIClamp
CRoboDacqNet, 454
GetICoeff
CRobo_FYITemp_FunctionNet, 446
GetICOffset
CRoboDacqNet, 454
GetIDecp
CTcxDeviceNet, 580
GetIdleModeOffset
CWarnerUssingFunctionNet, 624
GetIGain
CRoboDacqNet, 455
GetIMax
CTcxDeviceNet, 581
GetIMin
CTcxDeviceNet, 581
GetImpedanceResult
CIntanMea_FunctionNet, 185
GetImpedanceTestFrequency
CMeaImpedanceDeviceNet, 360
GetImpId
CPositionImpDeviceNet, 413
GetImplantCurrentSetpoint
CPositionIIDeviceNet, 405
GetImplantResult
CPositionIIDeviceNet, 406
GetImplantState
CPositionIIDeviceNet, 406
GetInMovement
CRoboDeviceNet, 468
GetIntanRegister
CIntanMea_FunctionNet, 185
GetIntBuffer
CGenericDevelopDeviceNet, 154
GetIO
CWarnerValveControllerDeviceTesterFunctionNet, 662
GetIOut
CTcxDeviceNet, 581
GetIoVoltage
CInterfaceboard2FunctionNet, 187
GetLastAnswer
CGilsonDeviceNet, 165
GetLastUSBError
CMcsUsbNet, 319
GetLatency
CMcsBus_SensorNet, 226
GetLatencyCounter
CMcsBus_SensorNet, 226
GetLayoutConfiguration
CMEA2100x256FunctionNet, 332
GetLEDSwitch
CMcsBus_ExtensionNet, 202
GetLength
CRobo_FYIProgram_FunctionNet, 444
GetLiquidResistance
CTEERFunctionNet, 593
CWarnerUssingFunctionNet, 624
GetListmodeIndexRange
CStg200xBasicNet, 525
GetListmodeTriggerSource
CStg200xBasicNet, 526
GetLowCurrentRange
CWarnerUssingFunctionNet, 625
GetLowerFrequencyByIndex
CIntanMea_FunctionNet, 185
GetMajor
DriverVersionNet, 676
GetMaxChunkSize_Byte
CTEERFunctionNet, 593
GetMaxCurrent
CMeaCoatDeviceNet, 342

GetMaxDurationHighCurrentInMicroSec
CMultiwellOptoStimFunctionNet, 385
GetMaxDutyCycleHighCurrent
CMultiwellOptoStimFunctionNet, 385
GetMaxHeaterPowerMultiwell
CTcxDeviceNet, 581
GetMaxNoPressure
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetMaxNoPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetMaxNumberOfHeadstages
CSCUFunctionNet, 503
GetMaxNumOfColumns
CCMOSMea_FunctionNet, 105
GetMaxP
CTcxDeviceNet, 581
GetMaxpDecp
CTcxDeviceNet, 581
GetMaxpMax
CTcxDeviceNet, 581
GetMaxpMin
CTcxDeviceNet, 582
GetMaxPower
COkuvisionStimulatorDeviceNet, 394
CRobo_FYITemp_FunctionNet, 446
GetMaxPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetMaxReadableColumns
CCMOSMeaDeviceNet, 110
GetMaxSamplingFrequency
CMcsUsbDacqNet, 270
GetMaxStimulusChannelsPerHeadstage
CSCUFunctionNet, 503
GetMaxVoltage
CMeaCleanDeviceNet, 337
COkuvisionStimulatorDeviceNet, 394
GetMCAcceleration
CMcsBus_MotorControlNet, 207
GetMCAccelerationEeprom
CMcsBus_MotorControlNet, 207
GetMCAccelerationShortCommand
CMcsBus_MotorControlNet, 207
GetMCAxisRevisionEeprom
CMcsBus_MotorControlNet, 207
GetMCBreakCurrent
CMcsBus_MotorControlNet, 207
GetMCBreakCurrentEeprom
CMcsBus_MotorControlNet, 208
GetMCConfig
CMcsBus_MotorControlNet, 208
GetMCConfigEeprom
CMcsBus_MotorControlNet, 208
GetMCCurrent
CMcsBus_MotorControlNet, 208
GetMCCurrentEeprom
CMcsBus_MotorControlNet, 208
GetMCCurrentMode
CMcsBus_MotorControlNet, 208
GetMCCurrentModeEeprom
CMcsBus_MotorControlNet, 208
GetMCCurrentModeShortCommand
CMcsBus_MotorControlNet, 209
GetMCCurrentPosition
CMcsBus_MotorControlNet, 209
GetMCCurrentShortCommand
CMcsBus_MotorControlNet, 209
GetMCCurrentSpeed
CMcsBus_MotorControlNet, 209
GetMCMaxAcceleration
CMcsBus_MotorControlNet, 209
GetMCMaxAccelerationEeprom
CMcsBus_MotorControlNet, 209
GetMCMaxCurrent
CMcsBus_MotorControlNet, 209
GetMCMaxCurrentEeprom
CMcsBus_MotorControlNet, 210
GetMCMaxSpeed
CMcsBus_MotorControlNet, 210
GetMCMaxSpeedEeprom
CMcsBus_MotorControlNet, 210
GetMCMaxTravel
CMcsBus_MotorControlNet, 210
GetMCMaxTravelEeprom
CMcsBus_MotorControlNet, 210
GetMCMaxTravelShortCommand
CMcsBus_MotorControlNet, 210
GetMCMovement
CMcsBus_MotorControlNet, 210
GetMCNewPosition
CMcsBus_MotorControlNet, 211
GetMCOutputOnOff
CMcsBus_MotorControlNet, 211
GetMCPhase
CMcsBus_MotorControlNet, 211
GetMCPhaseOffset
CMcsBus_MotorControlNet, 211
GetMCReference
CMcsBus_MotorControlNet, 211
GetMCReferenceCurrent
CMcsBus_MotorControlNet, 211
GetMCReferenceCurrentEeprom
CMcsBus_MotorControlNet, 211
GetMCRegulatorGain
CMcsBus_MotorControlNet, 212
GetMCRegulatorGainEeprom
CMcsBus_MotorControlNet, 212
GetMcsBus_Extension
CRoboocyte2DeviceNet, 483
GetMCScalingFactor
CMcsBus_MotorControlNet, 212
GetMCScalingFactorEeprom
CMcsBus_MotorControlNet, 212
GetMCSpeed

CMcsBus_MotorControlNet, 212
GetMCSpeedEeprom
CMcsBus_MotorControlNet, 212
GetMCSpeedShortCommand
CMcsBus_MotorControlNet, 212
GetMCSpeedUnitEeprom
CMcsBus_MotorControlNet, 213
GetMCStandbyCurrent
CMcsBus_MotorControlNet, 213
GetMCStandbyCurrentEeprom
CMcsBus_MotorControlNet, 213
GetMCStandbyTime
CMcsBus_MotorControlNet, 213
GetMCStandbyTimeEeprom
CMcsBus_MotorControlNet, 213
GetMea21UsbPort
CMcsUsbNet, 320
GetMeaLayout
CMcsUsbDacqNet, 270
GetMemoryUsageDAC
CStg200xDownloadBasicNet, 550
GetMemoryUsageSyncout
CStg200xDownloadBasicNet, 551
GetMinimalThreshold
CMcsBus_SensorNet, 226
GetMinNoPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetMinor
DriverVersionNet, 677
GetMinPressure
CRoboDeviceNet, 468
CRoboDeviceNet::RoboMainLowLevelCommands, 692
GetMinPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetMinSamplingFrequencyStepsize
CMcsUsbDacqNet, 271
GetMinVoltage
CMeaCleanDeviceNet, 338
GetModeSelect
CPulseGeneratorFunctionNet, 433
GetModuleCurrent
CStg200xDownloadNet, 558
GetModuleTemp
CStg200xDownloadNet, 558
GetMovementError
CRoboDeviceNet, 468
GetMovePump
CMcsBus_SensorNet, 227
GetMultiHeadstageMode
CW2100_FunctionNet, 607
GetMultiplexedDataChannelsInBlock
CStimulusFunctionNet, 567
GetNanoVoltsPerKelvin
CMcsBus_TempSensorNet, 232
GetNeurochipMemoryData
CCMOSMea_FunctionNet, 105
GetNeurochipMemorySize
CCMOSMea_FunctionNet, 106
GetNIC_MS
CRoboDacqNet, 455
GetNUC_MS
CRoboDacqNet, 455
GetNumAmplifications
CPgaDeviceNet, 402
GetNumber
CMeaSwitchDeviceNet, 363
CSw2to64DeviceNet, 574
GetNumberOfAnalogChannels
CStg200xBasicNet, 526
CStimulusFunctionNet, 567
CW2100_StimulatorFunctionNet, 614
GetNumberOfAudioChannels
CMeaAudioFunctionNet, 334
GetNumberOfAvailableChambers
CWarnerUssingFunctionNet, 625
GetNumberOfAvailableSamples
CTEERFunctionNet, 593
GetNumberOfChannels
CDigOutStimulatorFunctionNet, 125
GetNumberOfCurrentRangeIndexes
CStg200xBasicNet, 526
GetNumberOfDataBits
CMcsUsbDacqNet, 271
GetNumberOfDevices
CMcsUsbListNet, 308
GetNumberOfHardwareSlotsForChambers
CWarnerUssingFunctionNet, 625
GetNumberOfHWADCChannels
CMcsUsbDacqNet::CHWInfo, 183
GetNumberOfHWDACPaths
CStg200xBasicNet, 526
GetNumberOfHWDigitalChannels
CMcsUsbDacqNet::CHWInfo, 183
GetNumberOfStimulationElectrodes
CStg200xBasicNet, 527
GetNumberOfStimulationSourcesPerElectrode
CStg200xBasicNet, 527
GetNumberOfSupportedGroups
CCMOSMea_FunctionNet, 106
CDacqGroupChannelSelectionTemplateNet< DacqGroupChannelEnumTemplateNet, DacqGroupChannelEnumTemplate, CDeviceGroupChannelInfoTemplateNet >, 119
GetNumberOfSyncoutChannels
CStg200xBasicNet, 527
CW2100_StimulatorFunctionNet, 614
GetNumberOfTriggerInputs
CStg200xBasicNet, 527
CW2100_StimulatorFunctionNet, 614
GetNumberOfVoltageRangeIndexes
CStg200xBasicNet, 527
GetNumConfigurations
CMcsUsbNet, 320

GetNumControlChannels
CTcxDeviceNet, 582
GetNumDestinations
CMcsUsbFactoryNet, 296
GetNumDevices
CTcxDeviceNet, 582
GetNumEntries
DriverVersionNet, 677
GetNumFrequencyRanges
CPgaDeviceNet, 402
GetNumMeasureChannels
CTcxDeviceNet, 582
GetNUV_MS
CRoboDacqNet, 455
GetOffsetCurrent
CMeaCoatDeviceNet, 342
GetOnOff
CPositionIIDeviceNet, 406
CTcxDeviceNet, 582
GetOutputCurrent
CMeaCoatDeviceNet, 342
GetOutputRate
CStg200xBasicNet, 528
GetOutputVoltage
CMeaCleanDeviceNet, 338
GetP
CTcxDeviceNet, 582
GetParameter
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetPattern
CMeaSwitchDeviceNet, 363
GetPatternBool
CMeaSwitchDeviceNet, 363
GetPauseDuration
CMeaCoatDeviceNet, 342
GetPCoeff
CRobo_FYITemp_FunctionNet, 446
GetPDecp
CTcxDeviceNet, 582
GetPeriod
CPulseGeneratorFunctionNet, 433
GetPeriod_us
CTEERFunctionNet, 594
GetPermanentCurrentInMicroAmp
CMultiwellOptoStimFunctionNet, 385
GetPGain
CRoboDacqNet, 455
GetPhases
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetPicFirmwareType
CW2100_FunctionNet, 607
GetPiezoState
CMcsBus_SensorNet, 227
GetPlateClampLockState
CMultiwellDeviceNet, 377
GetPlateClampState
CMultiwellDeviceNet, 377
GetPlateClampStateByHeadstage
CMultiwellCallbackFunctionNet, 374
GetPlateClampStateByHeadstageEvent
CMultiwellCallbackFunctionNet, 375
GetPlateMux
CMultiwellDeviceNet, 378
GetPlateType
CMultiwellDeviceNet, 378
GetPMax
CTcxDeviceNet, 582
GetPMin
CTcxDeviceNet, 582
GetPoti
CMcsUsbDacqNet, 271
GetPOut
CTcxDeviceNet, 582
GetPowerMuxPlate
CMultiwellDeviceNet, 379
GetPowerStrength
CPositionIIDeviceNet, 407
GetPressure
CMcsBus_SensorNet, 227
GetPressureOffset
CMcsBus_SensorNet, 227
GetPressureRange
CPPCFunctionNet, 419
GetPulseform
COkuvisionStimulatorDeviceNet, 394
GetPulseLength
CPulseGeneratorFunctionNet, 433
GetPumpCouple
CPPS_FunctionNet, 426
GetPumpEnableSpeedRatio
CPPS_FunctionNet, 426
GetPumpFastOnOff
CPPS_FunctionNet, 426
GetPumpFastSpeed
CPPS_FunctionNet, 426
GetPumpFunctionSpeeds
CPPS_FunctionNet, 427
GetPumpManualOnOff
CPPS_FunctionNet, 427
GetPumpMaxSpeed
CPPS_FunctionNet, 427
GetPumpModeType
CPPCFunctionNet, 419
CPPS_FunctionNet, 427
GetPumpSpeed
CRoboFluidDeviceNet, 479
GetPumpSpeedRatio
CPPS_FunctionNet, 427
GetPumpSpeedUnit
CPPCFunctionNet, 420
CPPS_FunctionNet, 427
GetPWM
CFluidControlDeviceNet, 140
GetPwrOut

CTcxDeviceNet, 583
GetPwrSet
CTcxDeviceNet, 583
GetRatedCapacity
CMultiBatteryChargerDeviceNet, 371
GetReady
CMeaImpedanceDeviceNet, 360
GetRecordingNumber
CRoboDacqNet, 455
GetReferenceElectrodeMode
CSCUFunctionNet, 504
GetReferenceElectrodeSwitchState
CSCUFunctionNet, 504
GetReferenceTemperature
CFluidControlDeviceNet, 140
GetRegulationTimeouts
CMcsBus_SensorNet, 227
GetRegulatorFactor
CMcsBus_SensorNet, 228
GetRegulatorOnOff
CMcsBus_SensorNet, 228
CRobo_FYITemp_FunctionNet, 446
GetRegulatorStatus
CMcsBus_SensorNet, 228
GetRepeats
CProgramPressureCurveNet, 431
GetRes1
CTcxDeviceNet, 583
GetRes2
CTcxDeviceNet, 583
GetResetFilter
CWClassicFunctionNet, 665
GetResistanceC
CRoboDacqNet, 455
GetResistanceV
CRoboDacqNet, 455
GetResolutionPerDigit
CMcsUsbDacqNet, 271
GetResS
CTcxDeviceNet, 583
GetResult
CMeaImpedanceDeviceNet, 360
GetResX
CTcxDeviceNet, 583
GetRFConnectionStatus
CWClassicFunctionNet, 665
GetRFFrequency
CPositionImpDeviceNet, 413
GetRFFrequencyHeadstage
CWClassicFunctionNet, 665
GetRFFrequencyReceiver
CWClassicFunctionNet, 665
GetRFPower
CWClassicFunctionNet, 666
GetRoboDacq
CRoboocyte2DeviceNet, 483
GetRoboFluidDevice
CEncapsulatorDeviceNet, 128
CRoboocyte2DeviceNet, 483
GetRotaryPositionCode
CTEERFunctionNet, 594
GetRotatePump
CMcsBus_SensorNet, 228
GetROut
CTcxDeviceNet, 583
GetRTC
COkuvisionStimulatorDeviceNet, 394
CPositionIIDeviceNet, 407
GetSampleBufferChunk
CTEERFunctionNet, 594
GetSampleInterval
CLIH3DeviceNet, 195
GetSamplePeriode
CMcsBus_SensorNet, 228
GetSampleRate
CTEERFunctionNet, 594
GetSamplerate
CMcsUsbDacqNet, 271
GetSampleVoltageBuffer_uV
CTEERFunctionNet, 595
GetScaleFactorU1
CTEERFunctionNet, 595
GetScaleFactorU2
CTEERFunctionNet, 595
GetScanHeadstagesResult
CWClassicFunctionNet, 666
GetScreen
CRoboDacqNet, 455
GetSearchReferenceFastAccel
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetSearchReferenceFastSpeed
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetSearchReferenceFineAccel
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetSearchReferenceFineSpeed
CRoboDeviceNet::RoboMainLowLevelCommands, 693
GetSearchReferenceMethod
CRoboDeviceNet::RoboMainLowLevelCommands, 694
GetSearchReferenceMoveOut
CRoboDeviceNet::RoboMainLowLevelCommands, 694
GetSearchReferenceOffsetPos
CRoboDeviceNet::RoboMainLowLevelCommands, 694
GetSelectedChannels
CW2100_FunctionNet, 608
GetSelectedHeadstage
CWClassicFunctionNet, 666
GetSelectedHeadstageState
CW2100_FunctionNet, 608
GetSensorType

CTcxDeviceNet, 584
GetSerialNumber
CMcsUsbNet, 320
DriverVersionNet, 677
GetSerialNumberHeadstage
CWClassicFunctionNet, 666
GetSetpoint
CTcxDeviceNet, 584
GetSetpointDecp
CTcxDeviceNet, 584
GetSetpointMax
CTcxDeviceNet, 584
GetSetpointMin
CTcxDeviceNet, 584
GetShortBuffer
CGenericDevelopDeviceNet, 155
GetSimulation
CRoboDacqNet, 455
GetSingleHeater
CMcsBus_FYIExtensionNet, 203
GetSingleValve
CFluidControlDeviceNet, 140
CRoboFluidDeviceNet, 479
GetSlope
CMeaCleanDeviceNet, 338
CMeaCoatDeviceNet, 343
GetSoftwareKey
CMcsUsbNet, 320
GetSoftwareKeyString
CMcsUsbNet, 320
GetSollPressure
CMcsBus_SensorNet, 228
GetSollTemp
CRobo_FYITemp_FunctionNet, 446
GetSourceBulk
CCMOSMea_FunctionNet, 106
GetSourceDrain
CCMOSMea_FunctionNet, 106
GetSourceGate
CCMOSMea_FunctionNet, 106
GetStartTriggerSlope
CDigOutStimulatorFunctionNet, 125
GetState
CRFFunctionNet, 442
CRobo_FYIProgram_FunctionNet, 445
GetStateDebugData
CPositionIIDeviceNet, 407
GetStateEventData
CPositionIIDeviceNet, 408
GetStatus
CMcsUsbNet, 320
DriverVersionNet, 678
GetStatusOfLastCommand
CMcsUsbNet, 320
GetStgProgramInfo
CStg200xBasicNet, 528
GetStgVersionInfo
CStg200xBasicNet, 529
GetStimulationPatternMemory
CW2100_StimulatorFunctionNet, 614
GetStimulatorStatus
COkuvisionStimulatorDeviceNet, 394
GetStimulusParametersCache
CW2100_FunctionNet, 608
GetStimulusParametersFromSelectedHS
CW2100_FunctionNet, 608
GetStimulusSites
CCMOSMea_FunctionNet, 106
GetStiumlusParameters
CW2100_FunctionNet, 608
GetStopTriggerSlope
CDigOutStimulatorFunctionNet, 125
GetSubChannel
CMcsBus_MotorControlNet, 213
GetSupplyVoltage
CPPCFunctionNet, 420
CPPS_FunctionNet, 427
GetSweepCount
CStg200xDownloadBasicNet, 551
GetSync
CWarnerValveControllerDeviceTesterFunctionNet, 662
GetSyncoutMap
CStg200xBasicNet, 529
GetSyncState
CMcsBus_SensorNet, 228
GetTableName
CWarnerValveControllerDeviceNet, 642
GetTableNamebyIndex
CWarnerValveControllerDeviceNet, 643
GetTableNamebyIndexEvent
CWarnerValveControllerDeviceNet, 658
GetTablepointer
CRetinaLedDeviceNet, 438
GetTemperatur
CMcsBus_TempSensorNet, 232
GetTestMode
CRFFunctionNet, 442
GetThermocoupleCalibration
CFluidControlDeviceNet, 141
CTcxDeviceNet, 584
GetThermocoupleNanovoltPerKelvin
CFluidControlDeviceNet, 141
CTcxDeviceNet, 584
GetThermocoupleReferenceTemp
CTcxDeviceNet, 585
GetThermocoupleTemp
CTcxDeviceNet, 585
GetThermocoupleTempAbs
CTcxDeviceNet, 585
GetThermocoupleTemperature
CFluidControlDeviceNet, 141
GetThermoOffset
CMcsBus_TempSensorNet, 232
GetThermoTemp
CMcsBus_TempSensorNet, 233

GetThermoVoltage
CMcsBus_TempSensorNet, 233
GetTimeInPause
CMeaCoatDeviceNet, 343
GetTimeInPlateau
CMeaCoatDeviceNet, 343
GetTimeResolutionInNanoSeconds
CStg200xBasicNet, 529
CW2100_StimulatorFunctionNet, 614
GetTimeSlot
CW2100_StimulatorFunctionNet, 614
GetTotalMemory
CStg200xBasicNet, 529
CStimulusFunctionNet, 567
GetTotalNumberOfDigitalPorts
CWarnerValveControllerDeviceNet, 643
GetTotalNumberOfTables
CWarnerValveControllerDeviceNet, 643
GetTotalNumberOfValves
CWarnerValveControllerDeviceNet, 643
GetTotalTableSize
CWarnerValveControllerDeviceNet, 644
GetTouchPadEnable
CMultiwellDeviceNet, 379
GetTrigger
CStg200xDownloadBasicNet, 551
GetTriggerSource
CStg200xBasicNet, 529
GetU1Offset
CWarnerUssingFunctionNet, 625
GetU1Reference
CWarnerUssingFunctionNet, 627
GetU2Offset
CWarnerUssingFunctionNet, 627
GetU2Reference
CWarnerUssingFunctionNet, 627
GetUByteBuffer
CGenericDevelopDeviceNet, 156
GetUC
CRoboDacqNet, 455
GetUClamp
CRoboDacqNet, 456
GetUCOffset
CRoboDacqNet, 456
GetUintA
CFilterCoefficientsNet, 131
GetUintB
CFilterCoefficientsNet, 131
GetUIntBuffer
CGenericDevelopDeviceNet, 156
GetUnit
CTcxDeviceNet, 585
GetUnitDescription
CWarnerUssingFunctionNet, 628
GetUnitExponent
CWarnerUssingFunctionNet, 628
GetUnitName
CWarnerUssingFunctionNet, 628
GetUnitsPerDigit
CWarnerUssingFunctionNet, 629
GetUOut
CTcxDeviceNet, 585
GetUpdateDisplay
CRoboDacqNet, 456
GetUpperFrequencyByIndex
CIntanMea_FunctionNet, 185
GetUptimeSeconds
CTEERFunctionNet, 595
CWarnerUssingFunctionNet, 629
GetUSBDeviceIDFromFX3Image
CMcsUsbFactoryNet, 296
GetUsbListEntries
CMcsUsbListNet, 308
GetUsbListEntry
CMcsUsbListNet, 308
CMcsUsbNet, 321
GetUseBubble
CPPS_FunctionNet, 427
GetUsercodeFromBitFile
CMcsUsbFactoryNet, 296
GetUsercodeFromFlash
CMcsUsbFactoryNet, 296
GetUserDefinedName
CW2100_FunctionNet, 608
GetUserDefinedNameCache
CW2100_FunctionNet, 608
GetUserDefinedNameFromSelectedHS
CW2100_FunctionNet, 609
GetUserParameter
CRoboDeviceNet::RoboMainLowLevelCommands, 694
GetUShortBuffer
CGenericDevelopDeviceNet, 157
GetUV
CRoboDacqNet, 456
GetUVOffset
CRoboDacqNet, 456
GetValue
CTcxDeviceNet, 585
GetValueHires
CTcxDeviceNet, 586
GetValve
CFluidControlDeviceNet, 142
CRoboFluidDeviceNet, 479
GetValve1
CRobo_FYIProgram_FunctionNet, 445
GetValve2
CRobo_FYIProgram_FunctionNet, 445
GetValveActive
CPPCFunctionNet, 420
CWarnerValveControllerDeviceNet, 644
GetValveActiveEvent
CWarnerValveControllerDeviceNet, 658
GetValveBoardRevision
CWarnerValveControllerDeviceNet, 644
GetValveBoardRevisionEvent

CWarnerValveControllerDeviceNet, 658
GetValveBoardRevisionString
CWarnerValveControllerDeviceNet, 644
GetValveCurrent
CWarnerValveControllerDeviceNet, 644
GetValveDigitalInPort
CWarnerValveControllerDeviceNet, 645
GetValveDigitalInPortEvent
CWarnerValveControllerDeviceNet, 659
GetValveLedOn
CWarnerValveControllerDeviceNet, 645
GetValveLedOnEvent
CWarnerValveControllerDeviceNet, 659
GetValveManualGroup
CWarnerValveControllerDeviceNet, 645
GetValveManualGroupEvent
CWarnerValveControllerDeviceNet, 659
GetValveManualState
CWarnerValveControllerDeviceNet, 646
GetValveManualStateEvent
CWarnerValveControllerDeviceNet, 659
GetValveMode
CWarnerValveControllerDeviceNet, 646
GetValveModeEvent
CWarnerValveControllerDeviceNet, 659
GetValves
CMcsBus_FYIExtensionNet, 203
GetValvesActiveMap
CWarnerValveControllerDeviceNet, 646
GetValvesManualStateMap
CWarnerValveControllerDeviceNet, 646
GetValveTableEntry
CWarnerValveControllerDeviceNet, 647
GetVDD3I
CCMOSMea_FunctionNet, 106
GetVDDI
CCMOSMea_FunctionNet, 106
GetVdsVgs
CGrapheneFunctionNet, 171
GetVdVs
CGrapheneFunctionNet, 172
GetVdVsDAC
CGrapheneFunctionNet, 172, 173
GetVersion
CMcsUsbNet, 321
GetVersionInt
DriverVersionNet, 678
GetVersionString
DriverVersionNet, 679
GetVMMaxNegativeCurrent
CMcsBus_VoltageModeNet, 235
GetVMMaxNegativeCurrentEeprom
CMcsBus_VoltageModeNet, 235
GetVMMaxNegativeVoltage
CMcsBus_VoltageModeNet, 235
GetVMMaxNegativeVoltageEeprom
CMcsBus_VoltageModeNet, 235
GetVMMaxPositiveCurrent
CMcsBus_VoltageModeNet, 235
GetVMMaxPositiveCurrentEeprom
CMcsBus_VoltageModeNet, 235
GetVMMaxPositiveVoltage
CMcsBus_VoltageModeNet, 235
GetVMMaxPositiveVoltageEeprom
CMcsBus_VoltageModeNet, 236
GetVMOutputOnOff
CMcsBus_VoltageModeNet, 236
GetVMVoltage
CMcsBus_VoltageModeNet, 236
GetVolatileClampOffset
CMultiwellDeviceNet, 379
GetVoltage
COkuvisionStimulatorDeviceNet, 394
GetVoltage12V
CRoboDeviceNet, 468
GetVoltage12VLimit
CRoboDeviceNet, 468
GetVoltage5V
CRoboDeviceNet, 468
GetVoltage5VLimit
CRoboDeviceNet, 468
GetVoltageAirvalve
CRoboDeviceNet, 468
GetVoltageAirvalveLimit
CRoboDeviceNet, 468
GetVoltageClampControllerParam_D
CWarnerUssingFunctionNet, 629
GetVoltageClampControllerParam_I
CWarnerUssingFunctionNet, 630
GetVoltageClampControllerParam_P
CWarnerUssingFunctionNet, 630
GetVoltageRange
CGrapheneFunctionNet, 173
GetVoltageRangeIndex
CMcsUsbDacqNet, 271
GetVoltageRangeInMicroVolt
CMcsUsbDacqNet, 272
CStg200xBasicNet, 530
CStimulusFunctionNet, 567
CW2100_StimulatorFunctionNet, 614
GetVoltageRangeInMicroVoltByIndex
CStg200xBasicNet, 530
GetVoltageRangeInMilliVolt
CMcsUsbDacqNet, 272
GetVoltageRangeListInMicroVolt
CStg200xBasicNet, 530
GetVoltageRangeSelectedIndex
CStg200xBasicNet, 530
GetVoltageReached
CGrapheneFunctionNet, 173
GetVoltageResolution
CGrapheneFunctionNet, 174
GetVoltageResolutionInMicroVolt
CStg200xBasicNet, 531
CStimulusFunctionNet, 568
CW2100_StimulatorFunctionNet, 615

GetVoltageResolutionInMicroVoltByIndex
CStg200xBasicNet, 531
GetVoltageRs485A
CRoboDeviceNet, 469
GetVoltageRs485ALimit
CRoboDeviceNet, 469
GetVoltageRs485B
CRoboDeviceNet, 469
GetVoltageRs485BLimit
CRoboDeviceNet, 469
GetVoltageValves
CRoboDeviceNet, 469
GetVoltageValvesLimit
CRoboDeviceNet, 469
GetVolti
CTcxDeviceNet, 586
GetWaveform
CTEERFunctionNet, 595
GetWaveLengthInNanometer
CMultiwellOptoStimFunctionNet, 385
GetWorkingFrequency
CRFFunctionNet, 443
GetWPADebugMode
CWClassicFunctionNet, 666
GetWPAType
CWClassicFunctionNet, 666
GetXGain
CRoboDacqNet, 456
GetXilinxFlashOffset
CMcsUsbFactoryNet, 296
GetXilinxFlashReadCommand
CMcsUsbFactoryNet, 296
GND_SWITCH_BIT
CW2100_StimulatorFunctionNet, 617
Graphene_ASIC
Mcs::Usb, 76
GrapheneASIC
Mcs::Usb, 79
GrapheneASICHeadstage
Mcs::Usb, 66
GrapheneProjectTestDevice
Mcs::Usb, 77
Ground
Mcs::Usb, 56, 64
GroupID
CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet >, 122
GroupType
CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet >, 122
GyroOnly
Mcs::Usb, 88

Hardware
Mcs::Usb, 66
HasAnalogOut
CSCUFunctionNet, 504
HasGalvanicIsolation
CSCUFunctionNet, 504
HasHSPowerSwitch
CSCUFunctionNet, 505
HasIMU
HeadStageIDType, 684
HasOptoCurrentMessurement
HeadStageIDType, 684
HasRadioControl
CRadioControledDevicesNet, 436
HasRef
CRoboDeviceNet::RoboMainLowLevelCommands, 695
HasRefI
CRoboStatorDeviceNet, 486
HasRefXY
CRoboStatorDeviceNet, 486
HasRefZ
CRoboStatorDeviceNet, 486
HasSoftwareKey
CMcsUsbNet, 321
Headstage1NCBathCurrentGroup
Mcs::Usb, 59
Headstage1NCCol2CurrentGroup
Mcs::Usb, 59
Headstage1NChipTempGroup
Mcs::Usb, 59
HeadstageElectrodeGroup
Mcs::Usb, 59
HeadstageIdEnumNet
Mcs::Usb, 67
HeadStageIDType, 682
CompareTo, 684
ElectricalStimulation, 683
Entry, 684
Equals, 684
HasIMU, 684
HasOptoCurrentMessurement, 684
HeadStageIDType, 683
HeadstageType, 684
HeadstageTypeEnum, 683
ID, 684
MeasuringOnly, 683
NumberOfAnalogChannels, 684
NumberOfStimulationChannels, 685
OpticalStimulation, 683
SN, 685
StimulusParameters, 685
ToString, 684
Type, 685
TypeValue, 685
Unknown, 683
UserDefinedName, 685
Valid, 685
W16IsW14, 685
HeadstageIDTypeObject, 685
_AdditionalText, 686
_IdType, 686
AdditionalText, 687
Equals, 686

GetHashCode, 686
HeadstageIDTypeObject, 686
IdType, 687
ToString, 686
HeadStageIDTypeState, 687
ControlState, 687
DataState, 687
IdType, 687
State, 687
HeadstageType
HeadStageIDType, 684
HeadstageTypeEnum
HeadStageIDType, 683
HEKA_LIH3_DEVICE
Mcs::Usb, 61
HekaEPC10Double
Mcs::Usb, 74
HekaEPC10Quadro
Mcs::Usb, 75
HekaEPC10Single
Mcs::Usb, 74
HekaEPC10Triple
Mcs::Usb, 75
HekaEPCLite
Mcs::Usb, 75
HekaITEV100
Mcs::Usb, 75
HekaLIH30
Mcs::Usb, 74
HekaLIH406
Mcs::Usb, 75
HekaLIH816
Mcs::Usb, 75
HekaPG610
Mcs::Usb, 75
HekaPG611
Mcs::Usb, 75
HekaPG612
Mcs::Usb, 75
HekaPG618
Mcs::Usb, 75
HekaPG690
Mcs::Usb, 75
HiClamp
Mcs::Usb, 77
HiClamp4Uart
Mcs::Usb, 77
Highpass
Mcs::Usb, 65
HighSpeed
Mcs::Usb, 70
HLA
Mcs::Usb, 75
HLADacq
CHLADeviceNet, 181
Hs1Digital
Mcs::Usb, 61
HS1DigitalData1
Mcs::Usb, 83
HS1ElectrodeGroup
Mcs::Usb, 70
HS1Sideband1
Mcs::Usb, 62, 71, 81
HS1Sideband10
Mcs::Usb, 71, 81
HS1Sideband11
Mcs::Usb, 71, 81
HS1Sideband12
Mcs::Usb, 71, 81
HS1Sideband13
Mcs::Usb, 71
HS1Sideband14
Mcs::Usb, 71
HS1Sideband15
Mcs::Usb, 71
HS1Sideband16
Mcs::Usb, 71
HS1Sideband17
Mcs::Usb, 71
HS1Sideband18
Mcs::Usb, 71
HS1Sideband2
Mcs::Usb, 62, 71, 81
HS1Sideband3
Mcs::Usb, 62, 71, 81
HS1Sideband4
Mcs::Usb, 62, 71, 81
HS1Sideband5
Mcs::Usb, 62, 71, 81
HS1Sideband6
Mcs::Usb, 62, 71, 81
HS1Sideband7
Mcs::Usb, 71, 81
HS1Sideband8
Mcs::Usb, 71, 81
HS1Sideband9
Mcs::Usb, 71, 81
Hs1SidebandHigh
Mcs::Usb, 62
Hs1SidebandLow
Mcs::Usb, 62
Hs1Trigger
Mcs::Usb, 61
HS1Trigger10Status
Mcs::Usb, 71, 81
HS1Trigger11Status
Mcs::Usb, 71, 81
HS1Trigger12Status
Mcs::Usb, 71, 81
HS1Trigger13Status
Mcs::Usb, 71
HS1Trigger14Status
Mcs::Usb, 71
HS1Trigger15Status
Mcs::Usb, 71
HS1Trigger16Status

Mcs::Usb, 71
HS1Trigger17Status
Mcs::Usb, 71
HS1Trigger18Status
Mcs::Usb, 71
HS1Trigger1Status
Mcs::Usb, 62, 71, 80
HS1Trigger2Status
Mcs::Usb, 62, 71, 80
HS1Trigger3Status
Mcs::Usb, 62, 71, 80
HS1Trigger4Status
Mcs::Usb, 62, 71, 80
HS1Trigger5Status
Mcs::Usb, 62, 71, 80
HS1Trigger6Status
Mcs::Usb, 62, 71, 80
HS1Trigger7Status
Mcs::Usb, 71, 80
HS1Trigger8Status
Mcs::Usb, 71, 81
HS1Trigger9Status
Mcs::Usb, 71, 81
Hs2Digital
Mcs::Usb, 62
HS2DigitalData1
Mcs::Usb, 83
HS2ElectrodeGroup
Mcs::Usb, 70
HS2Sideband1
Mcs::Usb, 62, 72, 81
HS2Sideband10
Mcs::Usb, 72, 81
HS2Sideband11
Mcs::Usb, 72, 81
HS2Sideband12
Mcs::Usb, 72, 81
HS2Sideband13
Mcs::Usb, 72
HS2Sideband14
Mcs::Usb, 72
HS2Sideband15
Mcs::Usb, 72
HS2Sideband16
Mcs::Usb, 72
HS2Sideband17
Mcs::Usb, 72
HS2Sideband18
Mcs::Usb, 72
HS2Sideband2
Mcs::Usb, 62, 72, 81
HS2Sideband3
Mcs::Usb, 62, 72, 81
HS2Sideband4
Mcs::Usb, 62, 72, 81
HS2Sideband5
Mcs::Usb, 62, 72, 81
HS2Sideband6
Mcs::Usb, 62, 72, 81
HS2Sideband7
Mcs::Usb, 72, 81
HS2Sideband8
Mcs::Usb, 72, 81
HS2Sideband9
Mcs::Usb, 72, 81
Hs2SidebandHigh
Mcs::Usb, 62
Hs2SidebandLow
Mcs::Usb, 62
Hs2Trigger
Mcs::Usb, 62
HS2Trigger10Status
Mcs::Usb, 72, 81
HS2Trigger11Status
Mcs::Usb, 72, 81
HS2Trigger12Status
Mcs::Usb, 72, 81
HS2Trigger13Status
Mcs::Usb, 72
HS2Trigger14Status
Mcs::Usb, 72
HS2Trigger15Status
Mcs::Usb, 72
HS2Trigger16Status
Mcs::Usb, 72
HS2Trigger17Status
Mcs::Usb, 72
HS2Trigger18Status
Mcs::Usb, 72
HS2Trigger1Status
Mcs::Usb, 62, 71, 81
HS2Trigger2Status
Mcs::Usb, 62, 71, 81
HS2Trigger3Status
Mcs::Usb, 62, 71, 81
HS2Trigger4Status
Mcs::Usb, 62, 71, 81
HS2Trigger5Status
Mcs::Usb, 62, 72, 81
HS2Trigger6Status
Mcs::Usb, 62, 72, 81
HS2Trigger7Status
Mcs::Usb, 72, 81
HS2Trigger8Status
Mcs::Usb, 72, 81
HS2Trigger9Status
Mcs::Usb, 72, 81
HWInfo
CMcsUsbDacqNet, 272
HwVersion
CMcsUsbListEntryNet, 306

ID
HeadStageIDType, 684
Idle
Mcs::Usb, 82
IdProduct

DeviceIdNet, 670
IdType
HeadstageIDTypeObject, 687
HeadStageIDTypeState, 687
IdVendor
DeviceIdNet, 670
IFB2GoldenInterfaceboard
Mcs::Usb, 67
IFB30GoldenInterfaceboard
Mcs::Usb, 67
IFChannel1
Mcs::Usb, 58
IFChannel2
Mcs::Usb, 58
IFChannel3
Mcs::Usb, 58
IFChannel4
Mcs::Usb, 58
IFChannel5
Mcs::Usb, 58
IFChannel6
Mcs::Usb, 58
IFChannel7
Mcs::Usb, 58
IFChannel8
Mcs::Usb, 58
IFDigChannelsGroup
Mcs::Usb, 59, 70, 80, 90
IM16KRC
Mcs::Usb, 77
IM16S16KRA
Mcs::Usb, 77
IM16S8KRA
Mcs::Usb, 77
IM64KRB
Mcs::Usb, 77
IM64KRC
Mcs::Usb, 77
Input
Mcs::Usb, 74
Intel
Mcs::Usb, 87
InterfaceADCGroup
Mcs::Usb, 59, 70, 80, 88
InterfaceBoard2
Mcs::Usb, 66
IntToDouble
Mcs::Usb, 65
InvitroSignalCollectorUnit
Mcs::Usb, 67
InvivoSignalCollectorUnit
Mcs::Usb, 67
IoVoltageEnumNet
Mcs::Usb, 67
IS32KRA
Mcs::Usb, 77
IsAnalogOutEnabled
CSCUFunctionNet, 505
IsAutomaticAnalogOut
CSCUFunctionNet, 505
IsBusy
CPPCFunctionNet, 420
IsChamberAvailable
CWarnerUssingFunctionNet, 630
IsChipPowered
CCMOSMea_FunctionNet, 106
IsConnected
CMcsUsbNet, 321
IsDeviceHighSpeed
CMcsUsbNet, 321
IsDeviceHighSpeedCapable
CMcsUsbNet, 321
IsDeviceTypeOf
CMcsUsbListNet, 309
IsDigitalChannelDedicated
CMcsUsbDacqNet::CHWInfo, 183
IsDigitalOutPortInverted
CWarnerValveControllerDeviceNet, 647
IsDigitalOutPortInvertedEvent
CWarnerValveControllerDeviceNet, 659
IsEqual
CFilterCoefficientsNet, 131
IsExceptionsEnabled
CMcsUsbNet, 322
IsGateFloating
CCMOSMea_FunctionNet, 106
IsHeadstageAvailable
CSCUFunctionNet, 505
IsHeadstageAvailableEvent
CSCUFunctionNet, 510
IsHighCurrentMode
CWarnerUssingFunctionNet, 631
IsHSPowered
CSCUFunctionNet, 506
IsInDacqLegacyMode
CSCUFunctionNet, 506
IsInternalCalibrationFinished
CTEERFunctionNet, 596
CWarnerUssingFunctionNet, 631
IsPlateTypeValid
CMultiwellDeviceNet, 380
IsPulseEnabled
CWarnerUssingFunctionNet, 631
IsPumpMotorOn
CRoboFluidDeviceNet, 480
IsQueueEnabled
CRoboDeviceNet, 469
IsQueueStarted
CRoboDeviceNet, 469
IsRunning
CMeaCleanDeviceNet, 338
CMeaCoatDeviceNet, 343
IsSamplingFinished
CTEERFunctionNet, 596
IsUserTriggerEnabled
CLIH3DeviceNet, 195

IsValveDigitalInInverted
CWarnerValveControllerDeviceNet, 647
IsValveDigitalInInvertedEvent
CWarnerValveControllerDeviceNet, 659
IsValveOpen
CWarnerValveControllerDeviceNet, 648
IsValveOpenEvent
CWarnerValveControllerDeviceNet, 660
IsValveOpenInAnalogMode
CWarnerValveControllerDeviceNet, 648
IsValveOpenInAnalogModeEvent
CWarnerValveControllerDeviceNet, 660
IsValveOpenInDigitalMode
CWarnerValveControllerDeviceNet, 648
IsValveOpenInDigitalModeEvent
CWarnerValveControllerDeviceNet, 660

Kelvin
Mcs::Usb, 52

LastPosition
Mcs::Usb, 63, 72, 81, 83, 90
LegacyMeaUsb
Mcs::Usb, 74
LIH30_ADC_Channel_EnumNet
Mcs::Usb, 67
LIH30_DAC_Channel_EnumNet
Mcs::Usb, 68
LIH30_EPC10_Bus_EnumNet
Mcs::Usb, 68
LIH30ADCCtrl
Mcs::Usb, 67
LIH30ADCModulesGroup
Mcs::Usb, 59
LIH30Interfaceboard
Mcs::Usb, 66
LIH30TestADCGroup
Mcs::Usb, 59
LIH30UserADCGroup
Mcs::Usb, 59
ListModeSendStart
CStg200xBasicNet, 531
ListModeSendStop
CStg200xBasicNet, 532
ListOfChangedTriggers
StgStatusNet, 701
LoadPressure
CPPCFunctionNet, 422
LoadUserFirmware
CMcsUsbFactoryNet, 296, 297
LoadValveTable
CWarnerValveControllerDeviceNet, 648
Lock
Mcs::Usb, 74
LockPlateClamp
CMultiwellDeviceNet, 380
Lowpass
Mcs::Usb, 65
LowSpeed
Mcs::Usb, 70

M4M_Dock
Mcs::Usb, 66
M4M_ReUse
Mcs::Usb, 66
m_Bottom
CCMOSMeaDeviceNet::CRegionOfInterestRect, 437
m_Left
CCMOSMeaDeviceNet::CRegionOfInterestRect, 437
m_pGilsonDevice
CGilsonDeviceNet, 165
m_pMcsBus_MotorControlNet
CRoboFluidDeviceNet, 481
m_pMcsUsb
CMcsUsbFunctionNet, 301
m_pMcsUsbFunction
CMcsUsbFunctionNet, 301
m_pRoboFluidDevice
CRoboFluidDeviceNet, 481
m_Right
CCMOSMeaDeviceNet::CRegionOfInterestRect, 437
m_Top
CCMOSMeaDeviceNet::CRegionOfInterestRect, 437
Manual
Mcs::Usb, 74, 82, 91
Manufacturer
CMcsUsbListEntryNet, 306
MaxBitNumber
DigitalSource< digitalsourceenum >, 671
DigitalSourceGeneral, 672, 673
MaxBitNumberStatic
DigitalSource< digitalsourceenum >, 671
MBC08
Mcs::Usb, 76
MbcChannelStateEnumNet
Mcs::Usb, 69
MbcChargingModeEnumNet
Mcs::Usb, 69
MbcRatedCapacityEnumNet
Mcs::Usb, 69
MC_Card
Mcs::Usb, 74
MCS
Mcs::Usb, 88
Mcs, 22
Mcs::Usb, 22
A, 68
AccelOnly, 88
AdapterTypeEnumNet, 51
ALA_VC3, 74, 88
ALA_VC3_DEVICE, 61
ALTERA, 54
ALTERA_BASE, 55
ALTERA_BOOTSTRAP, 55

ALTERA_GOLD, 54
ALTERA_TARGET1, 55
ALTERA_TARGET2, 55
ALTERA_TARGET3, 55
AlwaysOn, 77
Ampere, 52, 88
AMS_Dongle, 75
Analog, 74, 91
AnalogGroup, 59
AnalogOut_DAC_Range_EnumNet, 51
AnalogSource_HS1, 52
AnalogSource_HS2, 52
AnalogSource_IF, 52
AnalogSourceEnumNet, 52
AnalogUnitEnumNet, 52
Any, 74, 88
Armed, 82
ASMedia, 87
AudioTestChannelGroup, 59, 70, 80, 90
Aux, 61
AuxIn, 62, 71, 80, 83, 90
AuxPort, 57
B, 68
Bessel, 65
BMI, 84
Bootstrap, 54
BootstrapOtherCypress, 54
Both, 88
Break, 78
BUS0MCSBUS0, 53
BUS0MCSBUS1, 53
BUS0MCSBUS10, 53
BUS0MCSBUS11, 53
BUS0MCSBUS12, 53
BUS0MCSBUS13, 53
BUS0MCSBUS14, 53
BUS0MCSBUS15, 53
BUS0MCSBUS2, 53
BUS0MCSBUS3, 53
BUS0MCSBUS4, 53
BUS0MCSBUS5, 53
BUS0MCSBUS6, 53
BUS0MCSBUS7, 53
BUS0MCSBUS8, 53
BUS0MCSBUS9, 53
BUS1MCSBUS0, 53
BUS1MCSBUS1, 53
BUS1MCSBUS10, 53
BUS1MCSBUS11, 53
BUS1MCSBUS12, 53
BUS1MCSBUS13, 53
BUS1MCSBUS14, 53
BUS1MCSBUS15, 53
BUS1MCSBUS2, 53
BUS1MCSBUS3, 53
BUS1MCSBUS4, 53
BUS1MCSBUS5, 53
BUS1MCSBUS6, 53
BUS1MCSBUS7, 53
BUS1MCSBUS8, 53
BUS1MCSBUS9, 53
BUS2MCSBUS0, 54
BUS2MCSBUS1, 53
BUS2MCSBUS10, 54
BUS2MCSBUS11, 54
BUS2MCSBUS12, 54
BUS2MCSBUS13, 54
BUS2MCSBUS14, 54
BUS2MCSBUS15, 54
BUS2MCSBUS2, 53
BUS2MCSBUS3, 53
BUS2MCSBUS4, 53
BUS2MCSBUS5, 54
BUS2MCSBUS6, 54
BUS2MCSBUS7, 54
BUS2MCSBUS8, 54
BUS2MCSBUS9, 54
BUSNUMBER0, 53
BUSNUMBER1, 53
BUSNUMBER2, 53
Butterworth, 65
Campden_Ci4600EphysVideoDataIntegrator, 74
CatchAmp, 73
CFirmwareDestinationNet, 52
channeldata_current, 83
channeldata_current_always_boost, 83
channeldata_current_always_boost_own_sync, 83
channeldata_current_own_boost_gnd_sync, 83
channeldata_current_own_sync, 83
channeldata_positive_current, 83
channeldata_positive_current_own_boost_gnd_sync, 83
channeldata_positive_current_own_sync, 83
channeldata_positive_voltage, 83
channeldata_voltage, 83
ChannelPIC, 54
ChannelTest, 76
ChecksumAndPacketCounter, 58
Ci4600Intan, 51
ClampModeCurrent, 84
ClampModeInternalCalibration, 84
ClampModeOpen, 84
ClampModeVoltage, 84
Close, 73
CmosMea, 67
CMOSMeaBathModeEnumNet, 56
CmosMeaHeadstage, 66
CMOSMeaHeadstage1NCBathCurrentEnumNet, 56
CMOSMeaHeadstage1NCCol2CurrentEnumNet, 56
CMOSMeaHeadstage1NChipTempEnumNet, 56
CMOSMeaHS1SidebandEnumNet, 57
CMOSMeaHS1TriggerStatusEnumNet, 57
CmosmeaIFB2, 66
CMOSMeaIFDigChannelEnumNet, 57

CMOSMeaInterfaceADCEnumNet, 57
CmosMeaInterfaceboard, 66
CMOSMeaPacketFrameContextGroupEnumNet, 58
CMOSMeaSTG1DACSignalEnumNet, 58
CMOSMeaValueUnitEnumNet, 58
CommaPositionA, 65
CommaPositionB, 65
csCapacityTestDischarge, 69
csCapacityTestPrecharge, 69
csCharge, 69
csDischarge, 69
csError, 69
csIdleChargeFinished, 69
csIdleNoBattery, 69
csRefreshBattery, 69
CurrentClamp, 87
CurrentMeasure, 56
Cypress, 88
Cypress_FX1, 74
Cypress_FX2, 74
Cypress_FX3, 74
DAC1Channel, 58
DAC2Channel, 58
DAC3Channel, 58
DAC4Channel, 58
DACQ1DigitalGroup, 59
DacqGroupChannelEnumNet, 59
DacqMeaGroupTypeEnumNet, 59
DacqTrigger, 63
DataModeEnumNet, 59
DEST_FX3_TARGET_MASK, 55
DEST_TARGET1, 55
DEST_TARGET10, 55
DEST_TARGET11, 55
DEST_TARGET12, 55
DEST_TARGET13, 55
DEST_TARGET14, 55
DEST_TARGET15, 55
DEST_TARGET2, 55
DEST_TARGET3, 55
DEST_TARGET4, 55
DEST_TARGET5, 55
DEST_TARGET6, 55
DEST_TARGET7, 55
DEST_TARGET8, 55
DEST_TARGET9, 55
DEST_TARGET_MASK, 55
DEVICE_NOT_FOUND, 64
DeviceEnumNet, 60
DeviceHasNoHeadstage, 67, 79
DeviceNotConnected, 66, 67, 79
DeviceRunStatus, 63, 71, 80, 83, 90
DigDataFromReceiver, 90
Digital, 74, 91
DigitalData, 63, 71, 80, 83, 90
DigitalDatastreamEnableEnumNet, 61
DigitalGroup, 59
DigitalIn, 61, 62, 70, 80, 83, 90
DigitalInOfOutPort, 62, 70, 80, 83, 90
DigitalInPort, 57
DigitalInReserverd, 61
DigitalMux, 57
DigitalOut, 61
DigitalOutReg, 57
DigitalOutReserved, 61
DigitalOutStimulator, 62, 71, 80, 83, 90
DigitalPulse, 62, 70, 80, 83, 90
DigitalReg, 57
DigitalSourceEnumNet, 62
DigitalStimulatorTriggerEventEnumNet, 63
DigitalStimulatorTriggerSlopeEnumNet, 63
DigitalTargetEnumNet, 63
Digout, 63
DigOutStim, 61
DigOutStimulatorStartTrigger, 63
DigOutStimulatorStopTrigger, 63
Digstream, 63
DigStreamFromReceiver, 90
DigStreamToReceiver, 63
Dilutor, 77
DongleS, 75
Dotriapot, 75
DoubleToInt, 65
DownloadOnly, 82
DSP, 52
DSPAnalogGroup, 70, 80
DSPDataGroup, 59, 89
DSPDigitalGroup, 70, 80
eCube, 76, 79
eCubeHeadstage, 66
ElectrodeDacMuxEnumNet, 63
ElectrodeModeEnumNet, 64
ElectrodeOffset, 87
emAutomatic, 64
emManual, 64
Encapsulator, 76
enCMosMeaChipType, 64
EnSTG200x_STATUS, 64
EOFAndCRC, 58
ExternBCTester, 75
ExternDTester, 75
ExternSTester, 75
Falling, 63
FCB, 75
FCX, 75
Feedback, 62, 71, 80, 83, 90
FeedbackHigh, 61
FeedbackLow, 61
FeedbackReg, 57
FilterAttributeEnumNet, 64
FilterBandEnumNet, 65
FilterCalculationDirectionEnumNet, 65
FilterFamilyEnumNet, 65
FilterTypeEnumNet, 65
Finished, 82

FPGA10, 54
FPGA10_BASE, 55
FPGA10_GOLD, 55
FPGA11, 54
FPGA11_BASE, 55
FPGA11_GOLD, 55
FPGA12, 54
FPGA12_BASE, 55
FPGA12_GOLD, 55
FPGA13, 54
FPGA13_BASE, 55
FPGA13_GOLD, 55
FPGA14, 54
FPGA14_BASE, 55
FPGA14_GOLD, 55
FPGA15, 54
FPGA15_BASE, 55
FPGA15_GOLD, 55
FPGA16, 54
FPGA16_BASE, 55
FPGA16_GOLD, 55
FPGA2, 54
FPGA2_BASE, 55
FPGA2_GOLD, 54
FPGA3, 54
FPGA3_BASE, 55
FPGA3_GOLD, 54
FPGA4, 54
FPGA4_BASE, 55
FPGA4_GOLD, 54
FPGA5, 54
FPGA5_BASE, 55
FPGA5_GOLD, 54
FPGA6, 54
FPGA6_BASE, 55
FPGA6_GOLD, 54
FPGA7, 54
FPGA7_BASE, 55
FPGA7_GOLD, 55
FPGA8, 54
FPGA8_BASE, 55
FPGA8_GOLD, 55
FPGA9, 54
FPGA9_BASE, 55
FPGA9_GOLD, 55
FPGA_BASE, 55
FPGA_BOOTSTRAP, 55
FPGA_GOLD, 54
FPGA_NORMAL, 52
FpgaIdEnumNet, 66
FrameContextGroup, 59
FullCharge, 69
FullSpeed, 70
FunkDongleS, 75
Gated_High_Active, 77
Gated_Low_Active, 77
GE2100, 76
Generic, 75
Graphene_ASIC, 76
GrapheneASIC, 79
GrapheneASICHeadstage, 66
GrapheneProjectTestDevice, 77
Ground, 56, 64
GyroOnly, 88
Hardware, 66
Headstage1NCBathCurrentGroup, 59
Headstage1NCCol2CurrentGroup, 59
Headstage1NChipTempGroup, 59
HeadstageElectrodeGroup, 59
HeadstageIdEnumNet, 67
HEKA_LIH3_DEVICE, 61
HekaEPC10Double, 74
HekaEPC10Quadro, 75
HekaEPC10Single, 74
HekaEPC10Triple, 75
HekaEPCLite, 75
HekaITEV100, 75
HekaLIH30, 74
HekaLIH406, 75
HekaLIH816, 75
HekaPG610, 75
HekaPG611, 75
HekaPG612, 75
HekaPG618, 75
HekaPG690, 75
HiClamp, 77
HiClamp4Uart, 77
Highpass, 65
HighSpeed, 70
HLA, 75
Hs1Digital, 61
HS1DigitalData1, 83
HS1ElectrodeGroup, 70
HS1Sideband1, 62, 71, 81
HS1Sideband10, 71, 81
HS1Sideband11, 71, 81
HS1Sideband12, 71, 81
HS1Sideband13, 71
HS1Sideband14, 71
HS1Sideband15, 71
HS1Sideband16, 71
HS1Sideband17, 71
HS1Sideband18, 71
HS1Sideband2, 62, 71, 81
HS1Sideband3, 62, 71, 81
HS1Sideband4, 62, 71, 81
HS1Sideband5, 62, 71, 81
HS1Sideband6, 62, 71, 81
HS1Sideband7, 71, 81
HS1Sideband8, 71, 81
HS1Sideband9, 71, 81
Hs1SidebandHigh, 62
Hs1SidebandLow, 62
Hs1Trigger, 61
HS1Trigger10Status, 71, 81
HS1Trigger11Status, 71, 81

HS1Trigger12Status, 71, 81
HS1Trigger13Status, 71
HS1Trigger14Status, 71
HS1Trigger15Status, 71
HS1Trigger16Status, 71
HS1Trigger17Status, 71
HS1Trigger18Status, 71
HS1Trigger1Status, 62, 71, 80
HS1Trigger2Status, 62, 71, 80
HS1Trigger3Status, 62, 71, 80
HS1Trigger4Status, 62, 71, 80
HS1Trigger5Status, 62, 71, 80
HS1Trigger6Status, 62, 71, 80
HS1Trigger7Status, 71, 80
HS1Trigger8Status, 71, 81
HS1Trigger9Status, 71, 81
Hs2Digital, 62
HS2DigitalData1, 83
HS2ElectrodeGroup, 70
HS2Sideband1, 62, 72, 81
HS2Sideband10, 72, 81
HS2Sideband11, 72, 81
HS2Sideband12, 72, 81
HS2Sideband13, 72
HS2Sideband14, 72
HS2Sideband15, 72
HS2Sideband16, 72
HS2Sideband17, 72
HS2Sideband18, 72
HS2Sideband2, 62, 72, 81
HS2Sideband3, 62, 72, 81
HS2Sideband4, 62, 72, 81
HS2Sideband5, 62, 72, 81
HS2Sideband6, 62, 72, 81
HS2Sideband7, 72, 81
HS2Sideband8, 72, 81
HS2Sideband9, 72, 81
Hs2SidebandHigh, 62
Hs2SidebandLow, 62
Hs2Trigger, 62
HS2Trigger10Status, 72, 81
HS2Trigger11Status, 72, 81
HS2Trigger12Status, 72, 81
HS2Trigger13Status, 72
HS2Trigger14Status, 72
HS2Trigger15Status, 72
HS2Trigger16Status, 72
HS2Trigger17Status, 72
HS2Trigger18Status, 72
HS2Trigger1Status, 62, 71, 81
HS2Trigger2Status, 62, 71, 81
HS2Trigger3Status, 62, 71, 81
HS2Trigger4Status, 62, 71, 81
HS2Trigger5Status, 62, 72, 81
HS2Trigger6Status, 62, 72, 81
HS2Trigger7Status, 72, 81
HS2Trigger8Status, 72, 81
HS2Trigger9Status, 72, 81
Idle, 82
IFB2GoldenInterfaceboard, 67
IFB30GoldenInterfaceboard, 67
IFChannel1, 58
IFChannel2, 58
IFChannel3, 58
IFChannel4, 58
IFChannel5, 58
IFChannel6, 58
IFChannel7, 58
IFChannel8, 58
IFDigChannelsGroup, 59, 70, 80, 90
IM16KRC, 77
IM16S16KRA, 77
IM16S8KRA, 77
IM64KRB, 77
IM64KRC, 77
Input, 74
Intel, 87
InterfaceADCGroup, 59, 70, 80, 88
InterfaceBoard2, 66
IntToDouble, 65
InvitroSignalCollectorUnit, 67
InvivoSignalCollectorUnit, 67
IoVoltageEnumNet, 67
IS32KRA, 77
Kelvin, 52
LastPosition, 63, 72, 81, 83, 90
LegacyMeaUsb, 74
LIH30_ADC_Channel_EnumNet, 67
LIH30_DAC_Channel_EnumNet, 68
LIH30_EPC10_Bus_EnumNet, 68
LIH30ADCCtrl, 67
LIH30ADCModulesGroup, 59
LIH30Interfaceboard, 66
LIH30TestADCGroup, 59
LIH30UserADCGroup, 59
Lock, 74
Lowpass, 65
LowSpeed, 70
M4M_Dock, 66
M4M_ReUse, 66
Manual, 74, 82, 91
MBC08, 76
MbcChannelStateEnumNet, 69
MbcChargingModeEnumNet, 69
MbcRatedCapacityEnumNet, 69
MC_Card, 74
MCS, 88
MCS_ANY_BUS, 69
MCS_CHANNELTEST_DEVICE, 60
MCS_DEVICE_ANY, 60
MCS_DEVICE_USB, 60
MCS_DEVICE_USB_CYPRESS, 61
MCS_ENCAPSULATOR_DEVICE, 60
MCS_EXTERN_BC_TESTER_DEVICE, 61
MCS_EXTERN_D_TESTER_DEVICE, 61
MCS_FCX_DEVICE, 60

MCS_FYI_DEVICE, 60
MCS_GENERIC_DEVELOPMENT_DEVICE, 60
MCS_HICLAMP_DEVICE, 60
MCS_HLA_DEVICE, 61
MCS_MBC08_DEVICE, 61
MCS_MC_STIMULUS_DEVICE, 60
MCS_MCCARD_DEVICE, 60
MCS_MEA_CLEAN_DEVICE, 61
MCS_MEA_COAT_DEVICE, 61
MCS_MEA_DEVICE, 60
MCS_MEA_IMPEDANCE_DEVICE, 60
MCS_MEA_SWITCH_DEVICE, 60
MCS_MEASURETABLE_DEVICE, 60
MCS_MEAUSB_DEVICE, 60
MCS_NF_GEN_DEVICE, 61
MCS_OCTOPOT_DEVICE, 60
MCS_OKUVISION_STIMULATOR_DEVICE, 61
MCS_PATCHSERVER_DEVICE, 60
MCS_PATHIDENT_DEVICE, 60
MCS_PCI_BUS, 69
MCS_PCX_DEVICE, 60
MCS_PEDOTER_DEVICE, 61
MCS_PERISTALTIC_PUMP_DEVICE, 61
MCS_PGA_DEVICE, 60
MCS_PPC_DEVICE, 61
MCS_PPS5_DEVICE, 61
MCS_PPS_DEVICE, 61
MCS_RETINA_AMS_DONGLE, 60
MCS_RETINA_LED_DEVICE, 60
MCS_ROBO_DEVICE, 60
MCS_ROBOINJECT_DEVICE, 60
MCS_ROBOOCYTE2_DEVICE, 60
MCS_SAFEIS_DEVICE, 61
MCS_SMARTIMPLANT_DEVICE, 61
MCS_SOFTWARE_DONGLE_DEVICE, 61
MCS_STG_DEVICE, 60
MCS_SW2TO64_DEVICE, 60
MCS_TCX_DEVICE, 60
MCS_TERSENS_DEVICE, 60
MCS_UNDEFINED_BUS, 69
MCS_USB_BUS, 69
MCSBUS0, 53
MCSBUS1, 52
MCSBUS10, 53
MCSBUS11, 53
MCSBUS12, 53
MCSBUS13, 53
MCSBUS14, 53
MCSBUS15, 53
MCSBUS2, 52
MCSBUS3, 52
MCSBUS4, 52
MCSBUS5, 52
MCSBUS6, 53
MCSBUS7, 53
MCSBUS8, 53
MCSBUS9, 53
McsBusTypeEnumNet, 69
McsUsbSpeedEnumNet, 70
MCU1, 52
ME128, 76
ME16, 76
ME2100, 76
Me2100_32PICiCE40, 79
Me2100_32PICiCE40Headstage, 66
Me2100_32Xilinx, 79
Me2100_32XilinxHeadstage, 66
Me2100Graphene16_32, 79
Me2100Graphene16_32Headstage, 66
Me2100Interfaceboard, 66
Me2100InvitroSignalCollectorUnit, 66
Me2100InvivoSignalCollectorUnit, 66
Me2100UPA32, 79
Me2100UPA32Headstage, 66
ME256, 76
ME32, 76
ME64, 76
MEA1060, 76
MEA120, 51
MEA2100, 76
Mea2100, 67
MEA2100_256, 76
Mea2100_256, 67
MEA2100_256DacqGroupChannelEnumNet, 70
MEA2100_256DigitalSourceEnumNet, 70
Mea2100_256Headstage, 66
Mea2100_256Interfaceboard, 66
MEA2100_32, 76
MEA2100_Lite, 76
Mea2100_Lite, 67
MEA2100_Mini, 76
MEA2100_Mini_Usb_develop, 76
MEA2100BetaScreen, 76
Mea2100BetaScreen, 79
Mea2100BetaScreenHeadstage, 66
Mea2100Headstage, 66
Mea2100Interfaceboard, 66
Mea2100LiteHeadstage, 66
Mea2100Mini120, 79
Mea2100Mini120Headstage, 66
Mea2100Mini60ECP5, 79
Mea2100Mini60ECP5Headstage, 66
Mea2100Mini60PICiCE40, 79
Mea2100Mini60PICiCE40Headstage, 66
Mea2100MultiwellIFB2, 66
Mea2100STG, 66
MEA252, 51
MEA256, 76
MEA2x32, 51
MEA2x60, 51
MEA32, 51
MEA60, 51
MEA_2_252_2, 51
MEA_2_252_2_6Well, 51
MEA_2_252_2_9Well, 51
MEA_2_252_2_Test, 51

MEA_Clean, 76
MEA_Coat, 76
MEA_Impedance, 75
MEA_Sanofi, 76
MEA_Switch, 75
MEA_Switch_2_1, 76
MEA_Switch_4_2, 76
MeaLayoutEnumNet, 72
MeasureTable, 77
MicroAmpere, 59
MilliDegreeCelsius, 59
mIMEA60, 72
mIUnknown, 72
ModulA_ADC0, 68
ModulA_ADC1, 68
ModulA_ADC2, 68
ModulA_ADC3, 68
ModulA_DAC0, 68
ModulA_DAC1, 68
ModulB_ADC0, 68
ModulB_ADC1, 68
ModulB_ADC2, 68
ModulB_ADC3, 68
ModulB_DAC0, 68
ModulB_DAC1, 68
ModulC_ADC0, 68
ModulC_ADC1, 68
ModulC_ADC2, 68
ModulC_ADC3, 68
ModulC_DAC0, 68
ModulC_DAC1, 68
ModulD_ADC0, 68
ModulD_ADC1, 68
ModulD_ADC2, 68
ModulD_ADC3, 68
ModulD_DAC0, 68
ModulD_DAC1, 68
Monitor, 82
Movement, 78
Multiboot, 76
Multiwell, 67, 76
Multiwell96, 51
Multiwell_ICC, 76
Multiwell_MEA_Mini, 76
MultiwellHeadstage, 66
MultiwellInterfaceboard, 66
MultiwellMini, 79
MultiwellMiniHeadstage, 66
MultiwellOptoStim, 75
MultiwellPlateTypeEnumNet, 72
Mux, 61
MuxOtherDevice, 61
Nanion, 84
NanoAmpere, 59
NanoVolt, 59
NCBathCurrent, 56
NCCol2Current, 56
NChipTemperature, 57
Neptun, 77
NeuroChip, 76
NeurochipConfig, 77
NF_Gen, 76
NineWell, 83
nMos16LV, 64
nMos32LV, 64
nMos36LN, 64
nMos64LN, 64
No_Plate, 73
None, 51, 61, 74, 82, 87, 88
Normal, 73
NOT_CONNECTED, 64
NotApplicable, 51
NoUnit, 59
NTC10K, 84
Octopot, 75
Off, 77, 78, 88
off, 78
OK, 64
Okuvision_Stimulator, 75
OnChannelData, 91
OnDeviceArrivalRemoval, 91
One, 62, 71, 80, 83, 90
OnError, 91
OnMcsUsbDeviceState, 91
OnMcsUsbDeviceStateCallback, 92
OnMwPollStatus, 92
OnStg200xDataHandler, 92
OnStg200xErrorHandler, 92
OnStgPollStatus, 92
OnUpdateFirmwareProgress, 92
OnUpdateFirmwareStatusChange, 92
Open, 73
OpenClamp, 87
Output, 74
PacketFrameContextGroup, 59, 70, 80, 90
PatchServAdcModeEnumNet, 73
PatchServer, 77
PathIdent, 76
PC, 91
PCI, 88
PCX, 75
PeriodicPulse, 61
PeristalticPump, 76
PGA, 75
PIC, 54
PIC10, 54
PIC11, 54
PIC12, 54
PIC2, 54
PIC3, 54
PIC4, 54
PIC5, 54
PIC6, 54
PIC7, 54
PIC8, 54
PIC9, 54

PicoAmpere, 59
Plate_24W030MGA, 73
Plate_24W300_30_1152GBA, 73
Plate_24W300_30GBA, 73
Plate_24W300_30GBB, 73
Plate_24W300_30GMA, 73
Plate_24W700_100FMA, 73
Plate_24W700_100FMB, 73
Plate_24W700_100FMC, 73
Plate_24W700_100PBA, 73
Plate_72W500_100FMA, 73
Plate_72W500_100PMA, 73
Plate_96W300_80_1152FMA, 73
Plate_96W400_80_1152FMB, 73
Plate_96W700_100FMA, 73
Plate_96W700_100FMB, 73
Plate_96W700_100GBA, 73
Plate_96W700_100GBB, 73
Plate_96W700_100GBC, 73
Plate_96W700_100GBD, 73
Plate_96W700_100GMA, 73
Plate_Dummy, 73
Plate_Dummy_126, 73
PlateClampEnumNet, 73
PlateClampLockEnumNet, 73
PlusMinus10Volts, 52
PlusMinus2Comma5Volts, 52
PlusMinus5Volts, 52
PortDirectionEnumNet, 74
Pos900, 77
PositionBase, 77
PositionIIBase, 77
PositionIICentralUnit, 77
PositionImp, 77
PostCommaA, 65
PostCommaB, 65
PP_Pump_Mode_Type_EnumNet, 74
PPC, 76
PPS2, 76
PPS4plus1, 76
PPS5, 76
PPS5_DIG, 76
PreCommaA, 65
PreCommaB, 65
ProductIdEnumNet, 74
PT100, 84
PT1000, 84
PulseGenerator, 62, 71, 80, 83, 90
PulseGenerator_Mode_EnumNet, 77
raGate, 78
raIgnore, 78
raRestart, 78
raSingle, 78
raStop, 78
rawdata, 83
RC, 65
rc100mAh, 69
rc200mAh, 69
rc300mAh, 69
rc30mAh, 69
rcGreater300mAh, 69
Rectangle, 85
Ref16, 78
Ref24, 78
Ref32, 78
Ref8, 78
Reference, 78
ReferenceElectrodeModeEnumNet, 77
ReferenceElectrodeSwitchPositionEnumNet, 78
RegisterHigh, 61
RegisterLow, 61
Regular, 84
Renesas, 87
Reserved1, 84
Reserved2, 84
Reserved3, 84
Reserved4, 84
Reserved5, 84
Retina_LED, 75
RetriggerActionEnumNet, 78
Rising, 63
RoboCurrentModeEnumNet, 78
RoboInject, 77
Robooycte2, 77
RoboStatusEventDelegate, 92
Running, 82
SafeIS, 76
SampleDstSize16, 79
SampleDstSize32, 79
SampleDstSizeNet, 78
SampleSize16Signed, 79
SampleSize16Unsigned, 79
SampleSize24Signed, 79
SampleSize24Unsigned, 79
SampleSize32Signed, 79
SampleSize32Unsigned, 79
SampleSize64Signed, 79
SampleSize64Unsigned, 79
SampleSizeNet, 79
SBSVector1, 57
SBSVector2, 57
SBSVector3, 57
SBSVector4, 57
SCU1ElectrodeGroupHS1, 80
SCU1ElectrodeGroupHS2, 80
SCU1ElectrodeGroupHS3, 80
SCU1ElectrodeGroupHS4, 80
SCU2ElectrodeGroupHS1, 80
SCU2ElectrodeGroupHS2, 80
SCU2ElectrodeGroupHS3, 80
SCU2ElectrodeGroupHS4, 80
SCU_HeadstageIdEnumNet, 79
SCUDacqGroupChannelEnumNet, 79
SCUDigitalSourceEnumNet, 80
Settings, 91
Signed_16bit, 60

Signed_24bit, 60
Signed_32bit, 60
Sine, 85
SingleWell, 83
SixWell, 83
SmartImplant, 77
SOFAndCTRLword, 58
Software, 66
SoftwareDongle, 76
Standby, 78, 87
Start, 63
State, 88
STG, 75
Stg1, 64
STG1DACSignalGroup, 59, 70, 80
STG1SidebandsGroup, 59, 70, 80
STG1TriggerStatusGroup, 59, 70, 80
Stg2, 64
Stg200xDigoutModeEnumNet, 81
Stg200xSegmentFlagsEnumNet, 82
Stg200xTriggerStatusEnumNet, 82
STG2DACSignalGroup, 70, 80
STG2SidebandsGroup, 70, 80
STG2TriggerStatusGroup, 70, 80
Stg3, 64
STG3008_FA, 75
STG4002, 75
STG4002_opto, 75
STG4004, 75
STG4004_opto, 75
STG4008, 75
STG4008_opto, 75
STG400x, 75
STG400x_opto, 75
STG5, 75
STG_DestinationEnumNet, 82
StgListModeTrigger, 63
StgTrigger, 63
Stimulation, 56
StimulationLayoutConfigurationEnumNet, 83
Stop, 63, 73
StorageCharge, 69
SubtractFromAll, 77
SubtractFromAllOther, 77
SubtractFromReferenceElectrodeOnly, 77
SubtractionOff, 77
SuperSpeed, 70
Sw2to64, 76
SYNCOUT1, 82
SYNCOUT2, 82
SYNCOUT3, 82
SYNCOUT4, 82
SYNCOUT5, 82
SYNCOUT6, 82
SYNCOUT7, 82
SYNCOUT8, 82
syncoutdata, 83
SyncStart, 82
Table, 91
TBSI_127, 51
TBSI_15, 51
TBSI_31, 51
TBSI_5, 51
TBSI_63, 51
TBSI_Dacq, 76
TBSI_DACQDigitalSourceEnumNet, 83
TBSI_Reserved, 51
TbsiDacq, 67
TbsiDacqHeadstage, 66
TbsiDacqInterfaceboard, 66
TC01, 75
TC02, 75
TCX, 75
TcxDeviceTypeEnumNet, 84
TcxSensorTypeEnumNet, 84
TeerClampModeEnumNet, 84
TeerWaveformEnumNet, 84
Tersens, 75
Test_ADC_EPC10, 68
Test_DAC_EPC10, 68
Timestamp, 58
TouchTest, 91
Triggerbox_AMS, 75
Triggerbox_AMS3, 75
Triggerbox_IMS, 75
Triggerbox_R5, 75
TriggerOnly, 82
TriggerSourceEnumNet, 85
TriggerStatus1, 57
TriggerStatus2, 57
TriggerStatus3, 57
TriggerStatus4, 57
tsAuxIn1, 86
tsAuxIn2, 86
tsDACQCy1Dev1Runs, 87
tsDACQCy1Dev2Runs, 87
tsDACQCy2Dev1Runs, 87
tsDACQCy2Dev2Runs, 87
tsDigitalIn1, 85
tsDigitalIn10, 85
tsDigitalIn11, 85
tsDigitalIn12, 85
tsDigitalIn13, 85
tsDigitalIn14, 85
tsDigitalIn15, 85
tsDigitalIn16, 85
tsDigitalIn17, 85
tsDigitalIn18, 85
tsDigitalIn19, 85
tsDigitalIn2, 85
tsDigitalIn20, 85
tsDigitalIn21, 85
tsDigitalIn22, 85
tsDigitalIn23, 85
tsDigitalIn24, 85
tsDigitalIn25, 85

tsDigitalIn26, 85
tsDigitalIn27, 85
tsDigitalIn28, 85
tsDigitalIn29, 85
tsDigitalIn3, 85
tsDigitalIn30, 85
tsDigitalIn31, 85
tsDigitalIn32, 85
tsDigitalIn4, 85
tsDigitalIn5, 85
tsDigitalIn6, 85
tsDigitalIn7, 85
tsDigitalIn8, 85
tsDigitalIn9, 85
tsDigitalPuse0, 86
tsDigitalPuse1, 86
tsDigitalPuse10, 86
tsDigitalPuse11, 86
tsDigitalPuse12, 86
tsDigitalPuse13, 86
tsDigitalPuse14, 86
tsDigitalPuse15, 86
tsDigitalPuse16, 86
tsDigitalPuse17, 86
tsDigitalPuse18, 87
tsDigitalPuse19, 87
tsDigitalPuse2, 86
tsDigitalPuse20, 87
tsDigitalPuse21, 87
tsDigitalPuse22, 87
tsDigitalPuse23, 87
tsDigitalPuse24, 87
tsDigitalPuse25, 87
tsDigitalPuse26, 87
tsDigitalPuse27, 87
tsDigitalPuse28, 87
tsDigitalPuse29, 87
tsDigitalPuse3, 86
tsDigitalPuse30, 87
tsDigitalPuse31, 87
tsDigitalPuse4, 86
tsDigitalPuse5, 86
tsDigitalPuse6, 86
tsDigitalPuse7, 86
tsDigitalPuse8, 86
tsDigitalPuse9, 86
tsFeedback1, 85
tsFeedback10, 86
tsFeedback11, 86
tsFeedback12, 86
tsFeedback13, 86
tsFeedback14, 86
tsFeedback15, 86
tsFeedback16, 86
tsFeedback17, 86
tsFeedback18, 86
tsFeedback19, 86
tsFeedback2, 85
tsFeedback20, 86
tsFeedback21, 86
tsFeedback22, 86
tsFeedback23, 86
tsFeedback24, 86
tsFeedback25, 86
tsFeedback26, 86
tsFeedback27, 86
tsFeedback28, 86
tsFeedback29, 86
tsFeedback3, 85
tsFeedback30, 86
tsFeedback31, 86
tsFeedback32, 86
tsFeedback4, 86
tsFeedback5, 86
tsFeedback6, 86
tsFeedback7, 86
tsFeedback8, 86
tsFeedback9, 86
tsNone, 85
tsSidebandBit8, 87
tsTriggered, 87
Unknown, 51, 52, 65, 84, 87
unknown, 64
UnknownDest, 56
UnknownSpeed, 70
Unlock, 74
Unsigned_16bit, 60
Unsigned_24bit, 60
Unsigned_32bit, 60
UpdateTrigger, 82
USB, 52
USB_TARGET1, 56
USB_TARGET2, 56
USB_TARGET3, 56
UsbTest, 76
UsbVendorIdEnumNet, 87
User_ADC_0, 67
User_ADC_1, 67
User_ADC_2, 68
User_ADC_3, 68
User_ADC_4, 68
User_DAC_0, 68
User_DAC_1, 68
User_DAC_2, 68
UssingChamber, 67
UssingClampModeEnumNet, 87
UssingRail, 67
UssingUnitEnumNet, 88
VendorIdEnumNet, 88
Volt, 52, 88
Voltage_3V3, 67
Voltage_5V0, 67
VoltageClamp, 87
W2100, 76
W2100_Accel_Gyro_Select_EnumNet, 88
W2100DacqGroupChannelEnumNet, 88

W2100DigitalSourceEnumNet, 90
W2100IFB2, 66
W2100Interfaceboard, 66
W2100WirelessReceiver, 66, 67
W2100WirelessReceiverAnalog, 66, 67
Warner, 84
Warner_TEER_Machine, 77
Warner_Ussing, 77
WARNER_USSING_DEVICE, 61
Warner_Valve_Control, 77
WARNER_VALVE_CONTROL_DEVICE, 61
Whole_Cell_Patch, 76
WholeCellPatch, 79
WholeCellPatchHeadstage, 66
WirelessHeadStageAccDataRE1HS1, 89
WirelessHeadStageAccDataRE1HS2, 89
WirelessHeadStageAccDataRE1HS3, 89
WirelessHeadStageAccDataRE1HS4, 89
WirelessHeadStageAccDataRE2HS1, 89
WirelessHeadStageAccDataRE2HS2, 89
WirelessHeadStageAccDataRE2HS3, 89
WirelessHeadStageAccDataRE2HS4, 89
WirelessHeadStageAnalogRE1HS1, 89
WirelessHeadStageAnalogRE1HS2, 89
WirelessHeadStageAnalogRE1HS3, 89
WirelessHeadStageAnalogRE1HS4, 89
WirelessHeadStageAnalogRE2HS1, 89
WirelessHeadStageAnalogRE2HS2, 89
WirelessHeadStageAnalogRE2HS3, 89
WirelessHeadStageAnalogRE2HS4, 89
WirelessHeadStageGyroDataRE1HS1, 89
WirelessHeadStageGyroDataRE1HS2, 89
WirelessHeadStageGyroDataRE1HS3, 89
WirelessHeadStageGyroDataRE1HS4, 89
WirelessHeadStageGyroDataRE2HS1, 89
WirelessHeadStageGyroDataRE2HS2, 89
WirelessHeadStageGyroDataRE2HS3, 89
WirelessHeadStageGyroDataRE2HS4, 89
WirelessHeadStageOptoStimCurrentRE1HS1, 89
WirelessHeadStageOptoStimCurrentRE1HS2, 89
WirelessHeadStageOptoStimCurrentRE1HS3, 89
WirelessHeadStageOptoStimCurrentRE1HS4, 89
WirelessHeadStageOptoStimCurrentRE2HS1, 89
WirelessHeadStageOptoStimCurrentRE2HS2, 89
WirelessHeadStageOptoStimCurrentRE2HS3, 89
WirelessHeadStageOptoStimCurrentRE2HS4, 90
WirelessHeadStageReservedARE1HS1, 89
WirelessHeadStageReservedARE1HS2, 89
WirelessHeadStageReservedARE1HS3, 89
WirelessHeadStageReservedARE1HS4, 89
WirelessHeadStageReservedARE2HS1, 89
WirelessHeadStageReservedARE2HS2, 89
WirelessHeadStageReservedARE2HS3, 90
WirelessHeadStageReservedARE2HS4, 90
WirelessHeadStageReservedBRE1HS1, 90
WirelessHeadStageReservedBRE1HS2, 90
WirelessHeadStageReservedBRE1HS3, 90
WirelessHeadStageReservedBRE1HS4, 90
WirelessHeadStageReservedBRE2HS1, 90
WirelessHeadStageReservedBRE2HS2, 90
WirelessHeadStageReservedBRE2HS3, 90
WirelessHeadStageReservedBRE2HS4, 90
WirelessHeadStageReservedCRE1HS1, 90
WirelessHeadStageReservedCRE1HS2, 90
WirelessHeadStageReservedCRE1HS3, 90
WirelessHeadStageReservedCRE1HS4, 90
WirelessHeadStageReservedCRE2HS1, 90
WirelessHeadStageReservedCRE2HS2, 90
WirelessHeadStageReservedCRE2HS3, 90
WirelessHeadStageReservedCRE2HS4, 90
WirelessHeadStageStatusRE1HS1, 89
WirelessHeadStageStatusRE1HS2, 89
WirelessHeadStageStatusRE1HS3, 89
WirelessHeadStageStatusRE1HS4, 89
WirelessHeadStageStatusRE2HS1, 89
WirelessHeadStageStatusRE2HS2, 89
WirelessHeadStageStatusRE2HS3, 89
WirelessHeadStageStatusRE2HS4, 89
WirelessTestAdapter, 51
Work, 91
WPA16, 76
WPA32, 76
WPA4, 76
WPA8, 76
WvcDisplayModeEnumNet, 91
WvcValveModeEnumNet, 91
Zero, 62, 71, 80, 83, 90
MCS_ANY_BUS
Mcs::Usb, 69
MCS_CHANNELTEST_DEVICE
Mcs::Usb, 60
MCS_DEVICE_ANY
Mcs::Usb, 60
MCS_DEVICE_USB
Mcs::Usb, 60
MCS_DEVICE_USB_CYPRESS
Mcs::Usb, 61
MCS_ENCAPSULATOR_DEVICE
Mcs::Usb, 60
MCS_EXTERN_BC_TESTER_DEVICE
Mcs::Usb, 61
MCS_EXTERN_D_TESTER_DEVICE
Mcs::Usb, 61
MCS_FCX_DEVICE
Mcs::Usb, 60
MCS_FYI_DEVICE
Mcs::Usb, 60
MCS_GENERIC_DEVELOPMENT_DEVICE
Mcs::Usb, 60
MCS_HICLAMP_DEVICE
Mcs::Usb, 60
MCS_HLA_DEVICE
Mcs::Usb, 61
MCS_MBC08_DEVICE
Mcs::Usb, 61
MCS_MC_STIMULUS_DEVICE

Mcs::Usb, 60
MCS_MCCARD_DEVICE
Mcs::Usb, 60
MCS_MEA_CLEAN_DEVICE
Mcs::Usb, 61
MCS_MEA_COAT_DEVICE
Mcs::Usb, 61
MCS_MEA_DEVICE
Mcs::Usb, 60
MCS_MEA_IMPEDANCE_DEVICE
Mcs::Usb, 60
MCS_MEA_SWITCH_DEVICE
Mcs::Usb, 60
MCS_MEASURETABLE_DEVICE
Mcs::Usb, 60
MCS_MEAUSB_DEVICE
Mcs::Usb, 60
MCS_NF_GEN_DEVICE
Mcs::Usb, 61
MCS_OCTOPOT_DEVICE
Mcs::Usb, 60
MCS_OKUVISION_STIMULATOR_DEVICE
Mcs::Usb, 61
MCS_PATCHSERVER_DEVICE
Mcs::Usb, 60
MCS_PATHIDENT_DEVICE
Mcs::Usb, 60
MCS_PCI_BUS
Mcs::Usb, 69
MCS_PCX_DEVICE
Mcs::Usb, 60
MCS_PEDOTER_DEVICE
Mcs::Usb, 61
MCS_PERISTALTIC_PUMP_DEVICE
Mcs::Usb, 61
MCS_PGA_DEVICE
Mcs::Usb, 60
MCS_PPC_DEVICE
Mcs::Usb, 61
MCS_PPS5_DEVICE
Mcs::Usb, 61
MCS_PPS_DEVICE
Mcs::Usb, 61
MCS_RETINA_AMS_DONGLE
Mcs::Usb, 60
MCS_RETINA_LED_DEVICE
Mcs::Usb, 60
MCS_ROBO_DEVICE
Mcs::Usb, 60
MCS_ROBOINJECT_DEVICE
Mcs::Usb, 60
MCS_ROBOOCYTE2_DEVICE
Mcs::Usb, 60
MCS_SAFEIS_DEVICE
Mcs::Usb, 61
MCS_SMARTIMPLANT_DEVICE
Mcs::Usb, 61
MCS_SOFTWARE_DONGLE_DEVICE
Mcs::Usb, 61
MCS_STG_DEVICE
Mcs::Usb, 60
MCS_SW2TO64_DEVICE
Mcs::Usb, 60
MCS_TCX_DEVICE
Mcs::Usb, 60
MCS_TERSENS_DEVICE
Mcs::Usb, 60
MCS_UNDEFINED_BUS
Mcs::Usb, 69
MCS_USB_BUS
Mcs::Usb, 69
McsBus
CPPCDeviceNet, 415
CPPS_DeviceNet, 424
CRoboDeviceNet, 477
MCSBUS0
Mcs::Usb, 53
MCSBUS1
FirmwareDestinationNames, 681
Mcs::Usb, 52
MCSBUS10
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS11
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS12
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS13
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS14
Mcs::Usb, 53
MCSBUS15
Mcs::Usb, 53
MCSBUS2
FirmwareDestinationNames, 681
Mcs::Usb, 52
MCSBUS3
FirmwareDestinationNames, 681
Mcs::Usb, 52
MCSBUS4
FirmwareDestinationNames, 681
Mcs::Usb, 52
MCSBUS5
FirmwareDestinationNames, 681
Mcs::Usb, 52
MCSBUS6
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS7
FirmwareDestinationNames, 681
Mcs::Usb, 53
MCSBUS8
FirmwareDestinationNames, 682

Mcs::Usb, 53
MCSBUS9
FirmwareDestinationNames, 682
Mcs::Usb, 53
McsBus_MotorControl
CPeristalticPumpDeviceNet, 400
CPPCDeviceNet, 415
CPPS_DeviceNet, 424
CRoboDeviceNet, 477
CRoboFluidDeviceNet, 481
McsBus_Sensor
CPPCDeviceNet, 415
CPPS_DeviceNet, 424
McsBus_VoltageMode
CFluidControlDeviceNet, 144
McsBus_XY
CRoboDeviceNet, 474
McsBus_ZI
CRoboDeviceNet, 474
McsBusTypeEnumNet
Mcs::Usb, 69
McsUsbDeviceStateEvent
CMcsUsbDeviceStatePushFunctionNet, 290
CMcsUsbDeviceStatePushNet, 291
McsUsbSpeedEnumNet
Mcs::Usb, 70
MCU1
FirmwareDestinationNames, 682
Mcs::Usb, 52
ME128
Mcs::Usb, 76
ME16
Mcs::Usb, 76
ME2100
Mcs::Usb, 76
Me2100_32PICiCE40
Mcs::Usb, 79
Me2100_32PICiCE40Headstage
Mcs::Usb, 66
Me2100_32Xilinx
Mcs::Usb, 79
Me2100_32XilinxHeadstage
Mcs::Usb, 66
Me2100Graphene16_32
Mcs::Usb, 79
Me2100Graphene16_32Headstage
Mcs::Usb, 66
Me2100Interfaceboard
Mcs::Usb, 66
Me2100InvitroSignalCollectorUnit
Mcs::Usb, 66
Me2100InvivoSignalCollectorUnit
Mcs::Usb, 66
Me2100UPA32
Mcs::Usb, 79
Me2100UPA32Headstage
Mcs::Usb, 66
ME256
Mcs::Usb, 76
ME32
Mcs::Usb, 76
ME64
Mcs::Usb, 76
MEA1060
Mcs::Usb, 76
MEA120
Mcs::Usb, 51
MEA2100
Mcs::Usb, 76
Mea2100
Mcs::Usb, 67
MEA2100_256
Mcs::Usb, 76
Mea2100_256
Mcs::Usb, 67
MEA2100_256DacqGroupChannelEnumNet
Mcs::Usb, 70
MEA2100_256DigitalSourceEnumNet
Mcs::Usb, 70
Mea2100_256Headstage
Mcs::Usb, 66
Mea2100_256Interfaceboard
Mcs::Usb, 66
MEA2100_32
Mcs::Usb, 76
MEA2100_Lite
Mcs::Usb, 76
Mea2100_Lite
Mcs::Usb, 67
MEA2100_Mini
Mcs::Usb, 76
MEA2100_Mini_Usb_develop
Mcs::Usb, 76
MEA2100BetaScreen
Mcs::Usb, 76
Mea2100BetaScreen
Mcs::Usb, 79
Mea2100BetaScreenHeadstage
Mcs::Usb, 66
Mea2100Headstage
Mcs::Usb, 66
Mea2100Interfaceboard
Mcs::Usb, 66
Mea2100LiteHeadstage
Mcs::Usb, 66
Mea2100Mini120
Mcs::Usb, 79
Mea2100Mini120Headstage
Mcs::Usb, 66
Mea2100Mini60ECP5
Mcs::Usb, 79
Mea2100Mini60ECP5Headstage
Mcs::Usb, 66
Mea2100Mini60PICiCE40
Mcs::Usb, 79
Mea2100Mini60PICiCE40Headstage

Mcs::Usb, 66
Mea2100MultiwellIFB2
Mcs::Usb, 66
Mea2100STG
Mcs::Usb, 66
MEA252
Mcs::Usb, 51
MEA256
Mcs::Usb, 76
MEA2x32
Mcs::Usb, 51
MEA2x60
Mcs::Usb, 51
MEA32
Mcs::Usb, 51
MEA60
Mcs::Usb, 51
MEA_2_252_2
Mcs::Usb, 51
MEA_2_252_2_6Well
Mcs::Usb, 51
MEA_2_252_2_9Well
Mcs::Usb, 51
MEA_2_252_2_Test
Mcs::Usb, 51
MEA_Clean
Mcs::Usb, 76
MEA_Coat
Mcs::Usb, 76
MEA_Impedance
Mcs::Usb, 75
MEA_Sanofi
Mcs::Usb, 76
MEA_Switch
Mcs::Usb, 75
MEA_Switch_2_1
Mcs::Usb, 76
MEA_Switch_4_2
Mcs::Usb, 76
MeaAudioFunctionNet
CMeaDeviceNet, 353
MeaDigitalDataFunctionNet
CMeaDeviceNet, 353
MeaFeedbackFunctionNet
CMeaDeviceNet, 353
MeaLayoutEnumNet
Mcs::Usb, 72
Measure
CPathIdentDeviceNet, 397
MeasureReservoir
CPPCFunctionNet, 422
MeasureTable
Mcs::Usb, 77
MeasuringOnly
HeadStageIDType, 683
MeFunctionNet
CMeaDeviceNet, 353
MicroAmpere
Mcs::Usb, 59
MilliDegreeCelsius
Mcs::Usb, 59
mkfilter
mkfilterNet, 688
mkfilter_coef_in_one_set
mkfilterNet, 688
mkfilter_highpass_coeff
mkfilterNet, 689
mkfilter_highpass_frequency_from_coeff
mkfilterNet, 689
mkfilter_highpass_frequency_from_k
mkfilterNet, 689
mkfilter_highpass_k
mkfilterNet, 689
mkfilter_MCS
mkfilterNet, 689
mkfilter_MCS_k
mkfilterNet, 689, 690
mkfilter_normalize_coeffs_int
mkfilterNet, 690
mkfilter_normalize_coeffs_short
mkfilterNet, 690
mkfilter_normalize_scale_coeffs_int
mkfilterNet, 690
mkfilter_scale_coef_in_one_set
mkfilterNet, 690
mkfilterNet, 688
mkfilter, 688
mkfilter_coef_in_one_set, 688
mkfilter_highpass_coeff, 689
mkfilter_highpass_frequency_from_coeff, 689
mkfilter_highpass_frequency_from_k, 689
mkfilter_highpass_k, 689
mkfilter_MCS, 689
mkfilter_MCS_k, 689, 690
mkfilter_normalize_coeffs_int, 690
mkfilter_normalize_coeffs_short, 690
mkfilter_normalize_scale_coeffs_int, 690
mkfilter_scale_coef_in_one_set, 690
mlMEA60
Mcs::Usb, 72
mlUnknown
Mcs::Usb, 72
ModulA_ADC0
Mcs::Usb, 68
ModulA_ADC1
Mcs::Usb, 68
ModulA_ADC2
Mcs::Usb, 68
ModulA_ADC3
Mcs::Usb, 68
ModulA_DAC0
Mcs::Usb, 68
ModulA_DAC1
Mcs::Usb, 68
ModulB_ADC0
Mcs::Usb, 68

ModulB_ADC1
Mcs::Usb, 68
ModulB_ADC2
Mcs::Usb, 68
ModulB_ADC3
Mcs::Usb, 68
ModulB_DAC0
Mcs::Usb, 68
ModulB_DAC1
Mcs::Usb, 68
ModulC_ADC0
Mcs::Usb, 68
ModulC_ADC1
Mcs::Usb, 68
ModulC_ADC2
Mcs::Usb, 68
ModulC_ADC3
Mcs::Usb, 68
ModulC_DAC0
Mcs::Usb, 68
ModulC_DAC1
Mcs::Usb, 68
ModulD_ADC0
Mcs::Usb, 68
ModulD_ADC1
Mcs::Usb, 68
ModulD_ADC2
Mcs::Usb, 68
ModulD_ADC3
Mcs::Usb, 68
ModulD_DAC0
Mcs::Usb, 68
ModulD_DAC1
Mcs::Usb, 68
Monitor
Mcs::Usb, 82
MoveAbs
CRoboDeviceNet, 469, 470
MoveAbsI
CRoboStatorDeviceNet, 486
MoveAbsXY
CRoboStatorDeviceNet, 486
MoveAbsZ
CRoboStatorDeviceNet, 486, 487
Movement
Mcs::Usb, 78
Multiboot
Mcs::Usb, 76
MultibootGetCypressImageId
CMcsUsbNet, 322
MultibootGetImageId
CMcsUsbNet, 322
MultibootGetSelectedImage
CMcsUsbNet, 322
MultibootSelectImage
CMcsUsbNet, 322
Multiwell
Mcs::Usb, 67, 76
Multiwell96
Mcs::Usb, 51
Multiwell_ICC
Mcs::Usb, 76
Multiwell_MEA_Mini
Mcs::Usb, 76
MultiwellHeadstage
Mcs::Usb, 66
MultiwellInterfaceboard
Mcs::Usb, 66
MultiwellMini
Mcs::Usb, 79
MultiwellMiniHeadstage
Mcs::Usb, 66
MultiwellOptoStim
Mcs::Usb, 75
MultiwellPlateTypeEnumNet
Mcs::Usb, 72
Mux
Mcs::Usb, 61
MuxOtherDevice
Mcs::Usb, 61
MwPollStatusEvent
CStg200xDownloadNet, 562

Nanion
Mcs::Usb, 84
NanoAmpere
Mcs::Usb, 59
NanoVolt
Mcs::Usb, 59
NCBathCurrent
Mcs::Usb, 56
NCCol2Current
Mcs::Usb, 56
NChipTemperature
Mcs::Usb, 57
Neptun
Mcs::Usb, 77
NeuroChip
Mcs::Usb, 76
NeurochipConfig
Mcs::Usb, 77
NF_Gen
Mcs::Usb, 76
NineWell
Mcs::Usb, 83
nMos16LV
Mcs::Usb, 64
nMos32LV
Mcs::Usb, 64
nMos36LN
Mcs::Usb, 64
nMos64LN
Mcs::Usb, 64
No_Plate
Mcs::Usb, 73
None
Mcs::Usb, 51, 61, 74, 82, 87, 88

Normal
Mcs::Usb, 73
NOT_CONNECTED
Mcs::Usb, 64
NotApplicable
Mcs::Usb, 51
NoUnit
Mcs::Usb, 59
NTC10K
Mcs::Usb, 84
NullCommand
CRoboDeviceNet, 471
NumberOfAnalogChannels
HeadStageIDType, 684
NumberOfChannels
CDeviceGroupChannelInfoTemplateNet< DacqGroupChannelEnumTemplateNet >, 122
NumberOfStimulationChannels
HeadStageIDType, 685
NumCoefSets
CCreateFilterNet, 113

Octopot
Mcs::Usb, 75
Off
Mcs::Usb, 77, 78, 88
off
Mcs::Usb, 78
OK
Mcs::Usb, 64
Okuvision_Stimulator
Mcs::Usb, 75
OnChannelData
Mcs::Usb, 91
OnDeviceArrivalRemoval
Mcs::Usb, 91
One
Mcs::Usb, 62, 71, 80, 83, 90
OnError
Mcs::Usb, 91
OnGetActiveRunningTableNumber
CWarnerValveControllerDeviceNet, 649
OnGetAnalogThresholdHigh
CWarnerValveControllerDeviceNet, 649
OnGetAnalogThresholdLow
CWarnerValveControllerDeviceNet, 649
OnGetAnalogVoltage
CWarnerValveControllerDeviceNet, 649
OnGetAvailableHeadstages
CSCUFunctionNet, 506
OnGetCurrentNumberOfValves
CWarnerValveControllerDeviceNet, 649
OnGetDigitalOutPortValve
CWarnerValveControllerDeviceNet, 649
OnGetDigitalPortDirection
CWarnerValveControllerDeviceNet, 649
OnGetDisplayMode
CWarnerValveControllerDeviceNet, 649
OnGetPlateClampStateByHeadstage
CMultiwellCallbackFunctionNet, 375
OnGetTableNamebyIndex
CWarnerValveControllerDeviceNet, 649
OnGetValveActive
CWarnerValveControllerDeviceNet, 650
OnGetValveBoardRevision
CWarnerValveControllerDeviceNet, 650
OnGetValveDigitalInPort
CWarnerValveControllerDeviceNet, 650
OnGetValveLedOn
CWarnerValveControllerDeviceNet, 650
OnGetValveManualGroup
CWarnerValveControllerDeviceNet, 650
OnGetValveManualState
CWarnerValveControllerDeviceNet, 650
OnGetValveMode
CWarnerValveControllerDeviceNet, 650
OnIsDigitalOutPortInverted
CWarnerValveControllerDeviceNet, 650
OnIsHeadstageAvailable
CSCUFunctionNet, 506
OnIsValveDigitalInInverted
CWarnerValveControllerDeviceNet, 651
OnIsValveOpen
CWarnerValveControllerDeviceNet, 651
OnIsValveOpenInAnalogMode
CWarnerValveControllerDeviceNet, 651
OnIsValveOpenInDigitalMode
CWarnerValveControllerDeviceNet, 651
OnMcsUsbDeviceState
Mcs::Usb, 91
OnMcsUsbDeviceStateCallback
Mcs::Usb, 92
OnMwPollStatus
Mcs::Usb, 92
OnStg200xDataHandler
Mcs::Usb, 92
OnStg200xErrorHandler
Mcs::Usb, 92
OnStgPollStatus
Mcs::Usb, 92
OnTableEntryChanged
CWarnerValveControllerDeviceNet, 651
OnUpdateFirmwareProgress
Mcs::Usb, 92
OnUpdateFirmwareStatusChange
Mcs::Usb, 92
Open
Mcs::Usb, 73
OpenClamp
Mcs::Usb, 87
OpenPipe
CGenericDevelopDeviceNet, 158
OpenPlateClamp
CMultiwellDeviceNet, 380
operator=
DeviceIdNet, 670
OpticalStimulation

HeadStageIDType, 683
Order
CCreateFilterNet, 113
CFilterPropertyNet, 137
Output
Mcs::Usb, 74

PacketFrameContextGroup
Mcs::Usb, 59, 70, 80, 90
PatchServAdcModeEnumNet
Mcs::Usb, 73
PatchServer
Mcs::Usb, 77
PathIdent
Mcs::Usb, 76
PatternListStart
COctoPotDeviceNet, 390
PC
Mcs::Usb, 91
PCI
Mcs::Usb, 88
PCX
Mcs::Usb, 75
PeriodicPulse
Mcs::Usb, 61
PeristalticPump
Mcs::Usb, 76
PGA
Mcs::Usb, 75
PIC
FirmwareDestinationNames, 682
Mcs::Usb, 54
PIC10
Mcs::Usb, 54
PIC11
Mcs::Usb, 54
PIC12
Mcs::Usb, 54
PIC2
FirmwareDestinationNames, 682
Mcs::Usb, 54
PIC3
FirmwareDestinationNames, 682
Mcs::Usb, 54
PIC4
FirmwareDestinationNames, 682
Mcs::Usb, 54
PIC5
Mcs::Usb, 54
PIC6
Mcs::Usb, 54
PIC7
Mcs::Usb, 54
PIC8
Mcs::Usb, 54
PIC9
Mcs::Usb, 54
PicoAmpere
Mcs::Usb, 59
Plate_24W030MGA
Mcs::Usb, 73
Plate_24W300_30_1152GBA
Mcs::Usb, 73
Plate_24W300_30GBA
Mcs::Usb, 73
Plate_24W300_30GBB
Mcs::Usb, 73
Plate_24W300_30GMA
Mcs::Usb, 73
Plate_24W700_100FMA
Mcs::Usb, 73
Plate_24W700_100FMB
Mcs::Usb, 73
Plate_24W700_100FMC
Mcs::Usb, 73
Plate_24W700_100PBA
Mcs::Usb, 73
Plate_72W500_100FMA
Mcs::Usb, 73
Plate_72W500_100PMA
Mcs::Usb, 73
Plate_96W300_80_1152FMA
Mcs::Usb, 73
Plate_96W400_80_1152FMB
Mcs::Usb, 73
Plate_96W700_100FMA
Mcs::Usb, 73
Plate_96W700_100FMB
Mcs::Usb, 73
Plate_96W700_100GBA
Mcs::Usb, 73
Plate_96W700_100GBB
Mcs::Usb, 73
Plate_96W700_100GBC
Mcs::Usb, 73
Plate_96W700_100GBD
Mcs::Usb, 73
Plate_96W700_100GMA
Mcs::Usb, 73
Plate_Dummy
Mcs::Usb, 73
Plate_Dummy_126
Mcs::Usb, 73
PlateClampEnumNet
Mcs::Usb, 73
PlateClampLockEnumNet
Mcs::Usb, 73
PlusMinus10Volts
Mcs::Usb, 52
PlusMinus2Comma5Volts
Mcs::Usb, 52
PlusMinus5Volts
Mcs::Usb, 52
PollStatusEvent
CStimulusFunctionNet, 573
CW2100_StimulatorFunctionNet, 617
PortDirectionEnumNet

Mcs::Usb, 74
Pos900
Mcs::Usb, 77
PositionBase
Mcs::Usb, 77
PositionIIBase
Mcs::Usb, 77
PositionIICentralUnit
Mcs::Usb, 77
PositionImp
Mcs::Usb, 77
PostCommaA
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
PostCommaB
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
PowerChip
CCMOSMea_FunctionNet, 107
PowerHS
CSCUFunctionNet, 506
PP_Pump_Mode_Type_EnumNet
Mcs::Usb, 74
PPC
Mcs::Usb, 76
PPCFunction
CPPCDeviceNet, 415
PPS2
Mcs::Usb, 76
PPS4plus1
Mcs::Usb, 76
PPS5
Mcs::Usb, 76
PPS5_DIG
Mcs::Usb, 76
PPS_Function
CPPS_DeviceNet, 424
PreCommaA
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
PreCommaB
CFilterCoefficientsNet::s_FilterAttributesNet, 699
Mcs::Usb, 65
PrepareAndAppendData
CStg200xDownloadNet, 558
CStimulusFunctionNet, 568
PrepareAndSendData
CStg200xDownloadNet, 559
CStimulusFunctionNet, 569
PrepareChannelData
CDigOutStimulatorFunctionNet, 126
PrepareData
CStimulusFunctionNet, 570
CW2100_StimulatorFunctionNet, 615
PrepareDataSync
CW2100_StimulatorFunctionNet, 615
Product
CMcsUsbListEntryNet, 306
ProductIdEnumNet
Mcs::Usb, 74
Program
CProgramPressureCurveNet, 431
PT100
Mcs::Usb, 84
PT1000
Mcs::Usb, 84
PulseGenerator
CW2100_FunctionNet, 610
Mcs::Usb, 62, 71, 80, 83, 90
PulseGenerator_Mode_EnumNet
Mcs::Usb, 77
PumpOff
CRoboFluidDeviceNet, 480
PumpOn
CRoboFluidDeviceNet, 480

QueryTriggerstatus
CStg200xDownloadNet, 560

raGate
Mcs::Usb, 78
raIgnore
Mcs::Usb, 78
RampStart
COctoPotDeviceNet, 390
raRestart
Mcs::Usb, 78
raSingle
Mcs::Usb, 78
raStop
Mcs::Usb, 78
rawdata
Mcs::Usb, 83
RC
Mcs::Usb, 65
rc100mAh
Mcs::Usb, 69
rc200mAh
Mcs::Usb, 69
rc300mAh
Mcs::Usb, 69
rc30mAh
Mcs::Usb, 69
rcGreater300mAh
Mcs::Usb, 69
Read
CExternDTesterDeviceNet, 129
Read2
CExternDTesterDeviceNet, 129
ReadBlockFromFlash
CMcsUsbFactoryNet, 297
ReadBlockFromIFBGlobalEEprom
CMcsUsbFactoryNet, 297
ReadBlockFromNVMEM
CMcsUsbFactoryNet, 297
ReadClipping
CLIH3DeviceNet, 196

ReadEepromRegisterPreconfig
CMcsUsbNet, 322, 323
ReadPipe
CGenericDevelopDeviceNet, 158
ReadRegister
CMcsUsbNet, 323
ReadRegister32
CMcsUsbNet, 323
ReadRegisterTimeSlot
CMcsUsbNet, 323
ReadUARTData
CLIH3DeviceNet, 196
Receive
CSerialPortNet, 511
ReceiveString
CSerialPortNet, 511
Rectangle
Mcs::Usb, 85
Ref16
Mcs::Usb, 78
Ref24
Mcs::Usb, 78
Ref32
Mcs::Usb, 78
Ref8
Mcs::Usb, 78
Reference
Mcs::Usb, 78
ReferenceElectrodeModeEnumNet
Mcs::Usb, 77
ReferenceElectrodeSwitchPositionEnumNet
Mcs::Usb, 78
RegisterHigh
Mcs::Usb, 61
RegisterLow
Mcs::Usb, 61
Regular
Mcs::Usb, 84
RemoveSoftwareKey
CMcsUsbNet, 323
Renesas
Mcs::Usb, 87
RescanHeadstage
CMcsUsbNet, 323
Reserved1
Mcs::Usb, 84
Reserved2
Mcs::Usb, 84
Reserved3
Mcs::Usb, 84
Reserved4
Mcs::Usb, 84
Reserved5
Mcs::Usb, 84
ResetAdcOffset
COctoPotDeviceNet, 390
ResetChannelmap
CWClassicFunctionNet, 666
ResetDacOffset
COctoPotDeviceNet, 390
ResetHighpassFilter
CFilterConfigurationNet, 133
ResetPipe
CGenericDevelopDeviceNet, 158
ResetStatus
CStg200xDownloadBasicNet, 552
Retina_LED
Mcs::Usb, 75
RetriggerActionEnumNet
Mcs::Usb, 78
RFFunction
CPositionIIDeviceNet, 411
Rising
Mcs::Usb, 63
RoboCurrentModeEnumNet
Mcs::Usb, 78
RoboDacq
CHiClampDeviceNet, 179
RoboDevice
CSafeISDeviceNet, 492
RoboError_AnotherMaster
CRoboDeviceNet, 474
RoboError_Base
CRoboDeviceNet, 475
RoboError_CannotEscapeEndSwitch
CRoboDeviceNet, 475
RoboError_CommandAlreadyInProgress
CRoboDeviceNet, 475
RoboError_CommandNotPossible
CRoboDeviceNet, 475
RoboError_CommunicationTimeout
CRoboDeviceNet, 475
RoboError_DacqNotReady
CRoboDeviceNet, 475
RoboError_DLLMovementTimeout
CRoboDeviceNet, 475
RoboError_FindReferenceMethod
CRoboDeviceNet, 475
RoboError_GilsonCommandPending
CRoboDeviceNet, 475
RoboError_GilsonTimeout
CRoboDeviceNet, 475
RoboError_GilsonWrondID
CRoboDeviceNet, 476
RoboError_McsBus_UnknownCommand
CRoboDeviceNet, 476
RoboError_NoEndSwitch
CRoboDeviceNet, 476
RoboError_NoMoreData
CRoboDeviceNet, 476
RoboError_NoReference
CRoboDeviceNet, 476
RoboError_NoSpeedOrAcceleration
CRoboDeviceNet, 476
RoboError_OverPressure
CRoboDeviceNet, 476

RoboError_ParameterNotAllowed
CRoboDeviceNet, 476
RoboError_PeristalticTimeout
CRoboDeviceNet, 476
RoboError_Phase0OutOfRange
CRoboDeviceNet, 476
RoboError_PollLoopCanceled
CRoboDeviceNet, 477
RoboError_PollLoopCanceledAndStopMovement
CRoboDeviceNet, 477
RoboError_Pressure
CRoboDeviceNet, 477
RoboError_RangeExceeded
CRoboDeviceNet, 477
RoboError_StateChangeNotPossible
CRoboDeviceNet, 477
RoboError_Timeout
CRoboDeviceNet, 477
RoboError_UnknownCommand
CRoboDeviceNet, 477
RoboInject
Mcs::Usb, 77
RoboMainLowLevelCommand
CRoboDeviceNet, 478
RoboMainStatorLowLevelCommand
CRoboStatorDeviceNet, 489
Robooycte2
Mcs::Usb, 77
RoboStatusEvent
CRoboDeviceNet, 478
RoboStatusEventDelegate
Mcs::Usb, 92
Running
Mcs::Usb, 82
RunTable
CRoboDacqNet, 456

s_FilterAttributesNet
CFilterCoefficientsNet::s_FilterAttributesNet, 698
SafeIS
Mcs::Usb, 76
SampleDstSize16
Mcs::Usb, 79
SampleDstSize32
Mcs::Usb, 79
SampleDstSizeNet
Mcs::Usb, 78
SampleRate
CCreateFilterNet, 113
Samplerate
CMcsUsbDacqNet, 289
SampleSize16Signed
Mcs::Usb, 79
SampleSize16Unsigned
Mcs::Usb, 79
SampleSize24Signed
Mcs::Usb, 79
SampleSize24Unsigned
Mcs::Usb, 79
SampleSize32Signed
Mcs::Usb, 79
SampleSize32Unsigned
Mcs::Usb, 79
SampleSize64Signed
Mcs::Usb, 79
SampleSize64Unsigned
Mcs::Usb, 79
SampleSizeNet
Mcs::Usb, 79
SBSVector1
Mcs::Usb, 57
SBSVector2
Mcs::Usb, 57
SBSVector3
Mcs::Usb, 57
SBSVector4
Mcs::Usb, 57
Scale
CCreateFilterNet, 113
ScanForHeadstages
CWClassicFunctionNet, 666
SCU1ElectrodeGroupHS1
Mcs::Usb, 80
SCU1ElectrodeGroupHS2
Mcs::Usb, 80
SCU1ElectrodeGroupHS3
Mcs::Usb, 80
SCU1ElectrodeGroupHS4
Mcs::Usb, 80
SCU2ElectrodeGroupHS1
Mcs::Usb, 80
SCU2ElectrodeGroupHS2
Mcs::Usb, 80
SCU2ElectrodeGroupHS3
Mcs::Usb, 80
SCU2ElectrodeGroupHS4
Mcs::Usb, 80
SCU_HeadstageIdEnumNet
Mcs::Usb, 79
SCUDacqGroupChannelEnumNet
Mcs::Usb, 79
SCUDigitalSourceEnumNet
Mcs::Usb, 80
SelectHeadstage
CW2100_FunctionNet, 609
SelectTimeSlot
CW2100_StimulatorFunctionNet, 615
Send
CSerialPortNet, 511
SendBuffered
CGilsonDeviceNet, 165
SendChannelData
CDigOutStimulatorFunctionNet, 126
CStg200xDownloadBasicNet, 552
SendCommand
CLIH3DeviceNet, 196
SendImmediate

CGilsonDeviceNet, 165
SendImmediateGetResponse
CGilsonDeviceNet, 165
SendMultiplexedData
CStimulusFunctionNet, 570
SendPreparedData
CStimulusFunctionNet, 570
CW2100_StimulatorFunctionNet, 615
SendSegmentDefine
CStg200xDownloadNet, 560
SendSegmentSelect
CStg200xDownloadNet, 560
SendSegmentStart
CStg200xDownloadNet, 561
SendStart
CStg200xBasicNet, 532
CStimulusFunctionNet, 570
CW2100_StimulatorFunctionNet, 616
SendStartDacq
CMcsUsbDacqNet, 272
SendStartStgAndDacq
CMcsUsbDacqNet, 272
SendStop
CStg200xBasicNet, 532
CStimulusFunctionNet, 571
CW2100_StimulatorFunctionNet, 616
SendStopDacq
CMcsUsbDacqNet, 273
SendStopStgAndDacq
CMcsUsbDacqNet, 273
SendStopStgAndDacqWithOptions
CMcsUsbDacqNet, 273
SendSyncData
CStg200xDownloadBasicNet, 553
Sensor
CFYIDeviceNet, 145
CMeasureTableDeviceNet, 361
CPatchServerDeviceNet, 396
SerialNumber
CMcsUsbListEntryNet, 306
CMcsUsbNet, 330
SerialPort
CHLADeviceNet, 181
Set4ADCCatchampAverageShift
CMcsBus_SensorNet, 229
Set4ADCMode
CMcsBus_SensorNet, 229
Set4DAC
CMcsBus_SensorNet, 229
Set_Values
CNF_GenDeviceNet, 388
CPathIdentDeviceNet, 397
SetAbsMaxCurrentInMicroAmp
CMultiwellOptoStimFunctionNet, 386
SetAccelerationI
CRoboStatorDeviceNet, 487
SetAccelerationNativeI
CRoboStatorDeviceNet, 487
SetAccelerationNativeXY
CRoboStatorDeviceNet, 487
SetAccelerationNativeZ
CRoboStatorDeviceNet, 487
SetAccelerationXY
CRoboStatorDeviceNet, 487
SetAccelerationZ
CRoboStatorDeviceNet, 487
SetAccelGyroDesiredRate
CW2100_FunctionNet, 609
SetAccelGyroEnabled
CW2100_FunctionNet, 609
SetAccelRange
CW2100_FunctionNet, 609
SetActiveRunningTableNumber
CWarnerValveControllerDeviceNet, 651
SetADC
CWarnerValveControllerDeviceTesterFunctionNet, 662
SetAdcChannels
CSafeISDeviceNet, 491
SetADCInputOffset
CCMOSMea_FunctionNet, 107
SetADCOffset
CGrapheneFunctionNet, 174, 175
SetAdcOffset
CLIH3DeviceNet, 196
COctoPotDeviceNet, 391
SetAdcOffsetPermanent
CLIH3DeviceNet, 197
SetAdcSamplePos
CSafeISDeviceNet, 491
SetAirpressureLimit
CRoboDeviceNet, 471
SetAirValve
CRoboDeviceNet, 471
SetAllDigout
CRoboDacqNet, 456
SetAmplificationSwitch
COctoPotDeviceNet, 391
SetAmplitude
CChannelTestDeviceNet, 97
SetAmplitude_nA
CTEERFunctionNet, 596
SetAnalogOutADCRange
CSCUFunctionNet, 507
SetAnalogOutChannel
CW2100_FunctionNet, 609
SetAnalogOutChannels
CSCUFunctionNet, 507
SetAnalogOutDACRange
CSCUFunctionNet, 507
SetAnalogOutFilter
CW2100_FunctionNet, 609
SetAnalogThresholdHigh
CWarnerValveControllerDeviceNet, 651
SetAnalogThresholdLow
CWarnerValveControllerDeviceNet, 652

SetAnalogVoltageRange
CPPCFunctionNet, 422
SetAnalogVoltages
CPPS_FunctionNet, 427
SetAttenuation
CChannelTestDeviceNet, 97
SetAudioChannels
CMeaAudioFunctionNet, 335
CW2100_FunctionNet, 609
SetAudioOutDacParameter
CLIH3DeviceNet, 197
SetAutocalibrationDisabled
CStg200xBasicNet, 533
SetAxisConfig
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetAxisLED
CRoboocyte2DeviceNet, 483
SetAxisParametersEeprom
CMcsBus_AxisParametersNet, 200, 201
SetBandwidthByIndex
CIntanMea_FunctionNet, 185
SetBaseFrequency
CRFFunctionNet, 443
SetBaseSamplerate
CCMOSMeaDeviceNet, 111
CGrapheneASICDeviceNet, 167
SetBath
CCMOSMea_FunctionNet, 107
SetBathclamp
COctoPotDeviceNet, 391
SetBathMode
CCMOSMea_FunctionNet, 107
SetBlankingEnable
CStg200xBasicNet, 533, 534
SetBuffer
CGenericDevelopDeviceNet, 159
SetBufferIndex
CTEERFunctionNet, 596
SetBusAddress
CMcsBusNet, 240
SetBusAddressEeprom
CMcsBusNet, 240
SetByteBuffer
CGenericDevelopDeviceNet, 159
SetCalibration
CTcxDeviceNet, 586
SetCardinalDacqSamplerate
CInterfaceboardFunctionNet, 189
SetCardinalStgOutputrate
CInterfaceboardFunctionNet, 189
SetChannel
CSw2to64DeviceNet, 574
SetChannelmap
CWClassicFunctionNet, 666
SetChannels
CSw2to64DeviceNet, 575
SetChannelSwitch
COctoPotDeviceNet, 391
SetChargingMode
CMultiBatteryChargerDeviceNet, 372
SetChargingPCoefficient
CMultiBatteryChargerDeviceNet, 372
SetCheckVoltage
COkuvisionStimulatorDeviceNet, 395
SetClampMode
CTEERFunctionNet, 597
CWarnerUssingFunctionNet, 632
SetColorRgb
CMultiwellOptoStimFunctionNet, 386
SetColorStr
CMultiwellOptoStimFunctionNet, 386
SetCommand
CMcsBusNet, 241
CPedoterDeviceNet, 399
CRoboDacqNet, 456
SetConfiguration
CMcsUsbNet, 324
SetConfigurationBit
CRoboDacqNet, 456
SetConfigurationBitAxc
CRoboDacqNet, 457
SetConfigurationBitBlu_Led
CRoboDacqNet, 457
SetConfigurationBitBlu_LedToggleFast
CRoboDacqNet, 457
SetConfigurationBitBlu_LedToggleSlow
CRoboDacqNet, 457
SetConfigurationBitCC_Gen
CRoboDacqNet, 457
SetConfigurationBitCV_Gen
CRoboDacqNet, 457
SetConfigurationBitRC_Gen
CRoboDacqNet, 457
SetConfigurationBitRed_Led
CRoboDacqNet, 457
SetConfigurationBitRed_LedSaturation
CRoboDacqNet, 457
SetConfigurationBitRed_LedToggleFast
CRoboDacqNet, 458
SetConfigurationBitRed_LedToggleSlow
CRoboDacqNet, 458
SetConfigurationBitRelais
CRoboDacqNet, 458
SetConfigurationBitRV_Gen
CRoboDacqNet, 458
SetConfigurationBitStream
CRoboDacqNet, 458
SetConfigurationBitSupply
CRoboDacqNet, 458
SetControllerParams
CTEERFunctionNet, 597
SetCrossTalkOffset
CRoboDacqNet, 458
SetCrossTalkOptimum
CRoboDacqNet, 458

SetCurrentAirvalveLimit
CRoboDeviceNet, 471
SetCurrentAndAir
CRoboDeviceNet, 471
SetCurrentAndAirXY
CRoboStatorDeviceNet, 487
SetCurrentEditTableNumber
CWarnerValveControllerDeviceNet, 652
SetCurrentEnable
CTEERFunctionNet, 597
SetCurrentFactor
COkuvisionStimulatorDeviceNet, 395
SetCurrentMode
CStg200xBasicNet, 534
SetCurrentRangeSelectedIndex
CStg200xBasicNet, 535
SetCycles
CMeaCleanDeviceNet, 338
CMeaCoatDeviceNet, 343
SetD
CTcxDeviceNet, 586
SetDacAmplificationFactor
CStg200xBasicNet, 535
SetDacAutoControl
COctoPotDeviceNet, 391
SetDacIdleValue
CLIH3DeviceNet, 197
SetDacMode
CSafeISDeviceNet, 491
SetDACOffset
CGrapheneFunctionNet, 175
COkuvisionStimulatorDeviceNet, 395
SetDacOffset
CDacCalibrationFunctionNet, 115
CLIH3DeviceNet, 197
COctoPotDeviceNet, 391
SetDacOffsetPermanent
CLIH3DeviceNet, 198
SetDacPeriode
CSafeISDeviceNet, 491
SetDacPulseform
CSafeISDeviceNet, 491
SetDacqLegacyMode
CSCUFunctionNet, 507
SetDacRange
CW2100_FunctionNet, 610
SetDACs
CMcsBus_SensorNet, 229
SetDacUseIdleValue
CLIH3DeviceNet, 198
SetDacValue
COctoPotDeviceNet, 391
SetDataMode
CMcsUsbDacqNet, 274
SetDefault
CWarnerValveControllerDeviceNet, 652
SetDestinationSerialNumber
CMcsUsbFactoryNet, 297
SetDetectionThreshold
CMcsBus_SensorNet, 229
SetDevice
CTcxDeviceNet, 586
SetDeviceId
CUsbDeviceConfigurationFunctionNet, 601
SetDeviceList
CPositionImpDeviceNet, 413
SetDeviceName
CUsbDeviceConfigurationFunctionNet, 601
SetDeviceType
CTcxDeviceNet, 586
SetDevname
CTcxDeviceNet, 586
SetDiagnosticMode
CIntanMea_FunctionNet, 185
SetDigitalData
CMeaDigitalDataFunctionNet, 354, 355
SetDigitalOut
CMeaDeviceNet, 349
SetDigitalOutPortInvert
CWarnerValveControllerDeviceNet, 652
SetDigitalOutPortValve
CWarnerValveControllerDeviceNet, 653
SetDigitalPortDirection
CWarnerValveControllerDeviceNet, 653
SetDigitalSource
CMcsUsbDacqNet, 274–276
SetDigitalStimulatorTrigger
CW2100_StimulatorFunctionNet, 616
SetDigitalStimulatorTriggerSlope
CW2100_StimulatorFunctionNet, 616
SetDigout
CFluidControlDeviceNet, 142
CRoboDacqNet, 458
SetDigoutMode
CStg200xBasicNet, 535
SetDigOutState
CLIH3DeviceNet, 198
SetDigoutValue
CStg200xBasicNet, 535
SetDIO
CMcsBus_FYIExtensionNet, 203
SetDischargeCurrentSetPoint
CMultiBatteryChargerDeviceNet, 372
SetDisplayMode
CWarnerValveControllerDeviceNet, 653
SetDisplayText
CRoboDacqNet, 459
SetDownsampleFactor
CRoboDacqNet, 459
SetDSPHighPassByIndex
CIntanMea_FunctionNet, 186
SetDuration
CMeaCoatDeviceNet, 344
SetEEpromPage
CLIH3DeviceNet, 198
SetElectrodeDacMux

CStg200xBasicNet, 536, 537
SetElectrodeEnable
CStg200xBasicNet, 538, 539
SetElectrodeMode
CStg200xBasicNet, 540, 541
SetEnableAmplifierProtectionSwitch
CStg200xBasicNet, 542, 543
SetEnableHeaterLimit
CTcxDeviceNet, 586
SetEnablePulse
CWarnerUssingFunctionNet, 632
SetEnableThermocouple
CTcxDeviceNet, 587
SetExternalElectrodeEnable
CStg200xBasicNet, 543, 544
SetExternalLED
CTEERFunctionNet, 597
SetFAAmplification
CStg200xBasicNet, 544
SetFilter
CRoboDacqNet, 459
SetFilterCoeffs
CRoboDacqNet, 459
SetFilterParameter
CFilterConfigurationNet, 133
CFilterConfigurationRegisterNet, 135
SetFilterParameterPermanent
CFilterConfigurationNet, 133
CFilterConfigurationRegisterNet, 135
SetFilterParametersHeadstage
CWClassicFunctionNet, 666
SetFinalDischargeVoltage
CMultiBatteryChargerDeviceNet, 372
SetFrequency
CChannelTestDeviceNet, 97
CRadioControledDevicesNet, 436
SetGain
CPgaDeviceNet, 402
SetGate
CCMOSMea_FunctionNet, 107
SetGateFloating
CCMOSMea_FunctionNet, 107
SetGateToVOP
CCMOSMea_FunctionNet, 107
SetGlobalRepeat
CDigOutStimulatorFunctionNet, 126
SetGyroRange
CW2100_FunctionNet, 610
SetHasChecksum
CWClassicFunctionNet, 667
SetHeadstage
CStg200xBasicNet, 544
SetHeadstageFrameCyclesToComparePermanent
CSCUFunctionNet, 508
SetHeadstageLinkSpeedPermanent
CSCUFunctionNet, 508
SetHeadstageNumberOfAnalogChannelsPermanent
CSCUFunctionNet, 508
SetHeadstageOnOff
CW2100_FunctionNet, 610
CWClassicFunctionNet, 667
SetHeadstagePowerStateAtStart
CSCUFunctionNet, 508
SetHeadstageSampleratePermanent
CSCUFunctionNet, 509
SetHeadstageSamplingActive
CW2100_FunctionNet, 610
SetHeadstageToSleep
CW2100_FunctionNet, 610
SetHeaterLimit
CTcxDeviceNet, 587
SetHighCurrentMode
CWarnerUssingFunctionNet, 632
SetHighpassFilterEnable
CFilterConfigurationNet, 134
SetHWConfig
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetHWRevision
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetHWRevisionEeprom
CMcsBusNet, 241
SetHWSelectedChannels
CWClassicFunctionNet, 667
SetI
CTcxDeviceNet, 587
SetIClamp
CRoboDacqNet, 459
SetICoeff
CRobo_FYITemp_FunctionNet, 447
SetICOffset
CRoboDacqNet, 459
SetIdleModeOffset
CWarnerUssingFunctionNet, 633
SetIGain
CRoboDacqNet, 459
SetImpedanceTestFrequency
CMeaImpedanceDeviceNet, 360
SetImpId
CPositionImpDeviceNet, 413
SetImplantCurrentSetpoint
CPositionIIDeviceNet, 408
SetInMovement
CRoboDeviceNet, 471
SetIntanRegister
CIntanMea_FunctionNet, 186
SetIntBuffer
CGenericDevelopDeviceNet, 159
SetIO
CWarnerValveControllerDeviceTesterFunctionNet, 662
SetIODirection
CWarnerValveControllerDeviceTesterFunctionNet, 663
SetIoVoltage

CInterfaceboard2FunctionNet, 187
SetLatency
CMcsBus_SensorNet, 229
SetLayoutConfiguration
CMEA2100x256FunctionNet, 332
SetLED
CRetinaLedDeviceNet, 438
SetLEDSwitch
CMcsBus_ExtensionNet, 202
SetLength
CRobo_FYIProgram_FunctionNet, 445
SetLiquidResistance
CTEERFunctionNet, 598
CWarnerUssingFunctionNet, 633
SetListmodeIndexRange
CStg200xBasicNet, 544
SetListmodeTriggerSource
CStg200xBasicNet, 545
SetLowCurrentMode
CWarnerUssingFunctionNet, 633
SetLumi
CRetinaLedDeviceNet, 438
SetMaxCurrent
CMeaCoatDeviceNet, 344
SetMaxDurationHighCurrentInMicroSec
CMultiwellOptoStimFunctionNet, 386
SetMaxDutyCycleHighCurrent
CMultiwellOptoStimFunctionNet, 387
SetMaxHeaterPowerMultiwell
CTcxDeviceNet, 587
SetMaxNoPressure
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMaxNoPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMaxP
CTcxDeviceNet, 587
SetMaxPower
COkuvisionStimulatorDeviceNet, 395
CRobo_FYITemp_FunctionNet, 447
SetMaxPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMaxVoltage
CMeaCleanDeviceNet, 339
COkuvisionStimulatorDeviceNet, 395
SetMCAcceleration
CMcsBus_MotorControlNet, 213
SetMCAccelerationEeprom
CMcsBus_MotorControlNet, 214
SetMCAccelerationShortCommand
CMcsBus_MotorControlNet, 214
SetMCAxisRevisionEeprom
CMcsBus_MotorControlNet, 214
SetMCBreakCurrent
CMcsBus_MotorControlNet, 214
SetMCBreakCurrentEeprom
CMcsBus_MotorControlNet, 214
SetMCConfig
CMcsBus_MotorControlNet, 214
SetMCConfigEeprom
CMcsBus_MotorControlNet, 215
SetMCCurrent
CMcsBus_MotorControlNet, 215
SetMCCurrentEeprom
CMcsBus_MotorControlNet, 215
SetMCCurrentMode
CMcsBus_MotorControlNet, 215
SetMCCurrentModeEeprom
CMcsBus_MotorControlNet, 215
SetMCCurrentModeShortCommand
CMcsBus_MotorControlNet, 215
SetMCCurrentPosition
CMcsBus_MotorControlNet, 216
SetMCCurrentShortCommand
CMcsBus_MotorControlNet, 216
SetMCMaxAcceleration
CMcsBus_MotorControlNet, 216
SetMCMaxAccelerationEeprom
CMcsBus_MotorControlNet, 216
SetMCMaxCurrent
CMcsBus_MotorControlNet, 216
SetMCMaxCurrentEeprom
CMcsBus_MotorControlNet, 216
SetMCMaxSpeed
CMcsBus_MotorControlNet, 217
SetMCMaxSpeedEeprom
CMcsBus_MotorControlNet, 217
SetMCMaxTravel
CMcsBus_MotorControlNet, 217
SetMCMaxTravelEeprom
CMcsBus_MotorControlNet, 217
SetMCMaxTravelShortCommand
CMcsBus_MotorControlNet, 217
SetMCNewPosition
CMcsBus_MotorControlNet, 217
SetMCOutputOnOff
CMcsBus_MotorControlNet, 218
SetMCReference
CMcsBus_MotorControlNet, 218
SetMCReferenceCurrent
CMcsBus_MotorControlNet, 218
SetMCReferenceCurrentEeprom
CMcsBus_MotorControlNet, 218
SetMCRegulatorGain
CMcsBus_MotorControlNet, 218
SetMCRegulatorGainEeprom
CMcsBus_MotorControlNet, 218
SetMCRotation
CMcsBus_MotorControlNet, 219
SetMCScalingFactor
CMcsBus_MotorControlNet, 219
SetMCScalingFactorEeprom
CMcsBus_MotorControlNet, 219
SetMCSpeed

CMcsBus_MotorControlNet, 219
SetMCSpeedEeprom
CMcsBus_MotorControlNet, 219
SetMCSpeedShortCommand
CMcsBus_MotorControlNet, 219
SetMCSpeedUnitEeprom
CMcsBus_MotorControlNet, 220
SetMCStandbyCurrent
CMcsBus_MotorControlNet, 220
SetMCStandbyCurrentEeprom
CMcsBus_MotorControlNet, 220
SetMCStandbyTime
CMcsBus_MotorControlNet, 220
SetMCStandbyTimeEeprom
CMcsBus_MotorControlNet, 220
SetMeasurementMode
CStg200xBasicNet, 546
SetMinimalThreshold
CMcsBus_SensorNet, 229
SetMinNoPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMinPressure
CRoboDeviceNet, 472
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMinPressureWaitTime
CRoboDeviceNet::RoboMainLowLevelCommands, 695
SetMinVoltage
CMeaCleanDeviceNet, 339
SetModeSelect
CPulseGeneratorFunctionNet, 434
SetMovePump
CMcsBus_SensorNet, 230
SetMultiHeadstageMode
CW2100_FunctionNet, 610
SetNanoVoltsPerKelvin
CMcsBus_TempSensorNet, 233
SetNeurochipMemoryData
CCMOSMea_FunctionNet, 107
SetNoFilterCoeffs
CRoboDacqNet, 459
SetNumberOfAnalogChannels
CMeaDeviceNet, 350
SetNumberOfChannels
CMeaDeviceNet, 351
COctoPotDeviceNet, 391
SetOffsetCurrent
CMeaCoatDeviceNet, 344
SetOnOff
CTcxDeviceNet, 587
SetOutputMap
CStg200xDownloadNet, 561
SetOutputRate
COctoPotDeviceNet, 391
CStg200xBasicNet, 546
SetP
CTcxDeviceNet, 588
SetParameter
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetPattern
CMeaSwitchDeviceNet, 363
SetPatternBool
CMeaSwitchDeviceNet, 363
SetPatternListEntry
COctoPotDeviceNet, 392
SetPauseDuration
CMeaCoatDeviceNet, 344
SetPCoeff
CRobo_FYITemp_FunctionNet, 447
SetPeriod
CPulseGeneratorFunctionNet, 434
SetPeriod_us
CTEERFunctionNet, 598
SetPermanentCurrentInMicroAmp
CMultiwellOptoStimFunctionNet, 387
SetPersistency
CRetinaLedDeviceNet, 438
SetPGain
CRoboDacqNet, 459
SetPidParameter
COctoPotDeviceNet, 392
SetPiezoState
CMcsBus_SensorNet, 230
SetPlateMux
CMultiwellDeviceNet, 380, 381
SetPlateType
CMultiwellDeviceNet, 381
SetPoti
CMcsUsbDacqNet, 276
SetPowerMuxPlate
CMultiwellDeviceNet, 381
SetPowerStrength
CPositionIIDeviceNet, 408
SetPressureOffset
CMcsBus_SensorNet, 230
CPPCFunctionNet, 422
SetPressureRange
CPPCFunctionNet, 422
SetPulse
CWarnerUssingFunctionNet, 633
SetPulseform
COkuvisionStimulatorDeviceNet, 395
SetPulseLength
CPulseGeneratorFunctionNet, 434
SetPumpCouple
CPPS_FunctionNet, 428
SetPumpEnableSpeedRatio
CPPS_FunctionNet, 428
SetPumpFastOnOff
CPPS_FunctionNet, 428
SetPumpFastSpeed
CPPS_FunctionNet, 428
SetPumpFunctionSpeeds

CPPS_FunctionNet, 428
SetPumpManualOnOff
CPPS_FunctionNet, 428
SetPumpMaxSpeed
CPPS_FunctionNet, 428
SetPumpModeType
CPPCFunctionNet, 423
CPPS_FunctionNet, 428
SetPumpSpeed
CRoboFluidDeviceNet, 480
SetPumpSpeedRatio
CPPS_FunctionNet, 429
SetPumpSpeedUnit
CPPCFunctionNet, 423
CPPS_FunctionNet, 429
SetPWM
CFluidControlDeviceNet, 142
SetRampParameter
COctoPotDeviceNet, 392
SetRatedCapacity
CMultiBatteryChargerDeviceNet, 373
SetRatedCapacityVolatile
CMultiBatteryChargerDeviceNet, 373
SetRecordingNumber
CRoboDacqNet, 460
SetReferenceElectrodeMode
CSCUFunctionNet, 509
SetReferenceElectrodeSwitchState
CSCUFunctionNet, 509
SetRegionOfInterests
CCMOSMeaDeviceNet, 111
CGrapheneASICDeviceNet, 167
SetRegulationTimeouts
CMcsBus_SensorNet, 230
SetRegulatorFactor
CMcsBus_SensorNet, 230
SetRegulatorOnOff
CMcsBus_SensorNet, 230
CRobo_FYITemp_FunctionNet, 447
SetRepeat
CRetinaLedDeviceNet, 439
SetRepeats
CProgramPressureCurveNet, 431
SetResetFilter
CWClassicFunctionNet, 667
SetRFFrequency
CPositionImpDeviceNet, 414
SetRFFrequencyHeadstage
CWClassicFunctionNet, 667
SetRFFrequencyReceiver
CWClassicFunctionNet, 667
SetRFFrequencyReceiverEeprom
CWClassicFunctionNet, 667
SetRFLostBehaviour
CWClassicFunctionNet, 667
SetRFPower
CWClassicFunctionNet, 668
SetRotatePump
CMcsBus_SensorNet, 230
SetRTC
COkuvisionStimulatorDeviceNet, 395
CPositionIIDeviceNet, 408
SetSampleInterval
CLIH3DeviceNet, 199
SetSamplePeriode
CMcsBus_SensorNet, 231
SetSamplerate
CMcsUsbDacqNet, 276
SetScreen
CRoboDacqNet, 460
SetSearchReferenceFastAccel
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetSearchReferenceFastSpeed
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetSearchReferenceFineAccel
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetSearchReferenceFineSpeed
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetSearchReferenceMethod
CRoboDeviceNet::RoboMainLowLevelCommands, 696
SetSearchReferenceMoveOut
CRoboDeviceNet::RoboMainLowLevelCommands, 697
SetSearchReferenceOffsetPos
CRoboDeviceNet::RoboMainLowLevelCommands, 697
SetSelectedChannels
CMcsUsbDacqNet, 277–279
CW2100_FunctionNet, 610
SetSelectedChannelsQueue
CMcsUsbDacqNet, 279–281
SetSelectedData
CMcsUsbDacqNet, 281–283
SetSelectedHeadstage
CWClassicFunctionNet, 668
SetSensorType
CTcxDeviceNet, 588
SetSerialNumberHeadstage
CWClassicFunctionNet, 668
SetSetpoint
CTcxDeviceNet, 588
SetShortBuffer
CGenericDevelopDeviceNet, 160
SetSimulation
CRoboDacqNet, 460
SetSineParameter
COctoPotDeviceNet, 392
SetSingleHeater
CMcsBus_FYIExtensionNet, 203
SetSingleValve
CFluidControlDeviceNet, 142

CRoboFluidDeviceNet, 480
SetSlope
CMeaCleanDeviceNet, 339
CMeaCoatDeviceNet, 345
SetSoftwareKey
CMcsUsbNet, 324
SetSollPressure
CMcsBus_SensorNet, 231
SetSollTemp
CRobo_FYITemp_FunctionNet, 447
SetSourceBulk
CCMOSMea_FunctionNet, 107
SetSourceDrain
CCMOSMea_FunctionNet, 108
SetSourceGate
CCMOSMea_FunctionNet, 108
SetSpeedI
CRoboStatorDeviceNet, 488
SetSpeedNativeI
CRoboStatorDeviceNet, 488
SetSpeedNativeXY
CRoboStatorDeviceNet, 488
SetSpeedNativeZ
CRoboStatorDeviceNet, 488
SetSpeedXY
CRoboStatorDeviceNet, 488
SetSpeedZ
CRoboStatorDeviceNet, 488
SetStartTriggerSlope
CDigOutStimulatorFunctionNet, 127
SetStateDebugData
CPositionIIDeviceNet, 410
SetStateEventData
CPositionIIDeviceNet, 410
SetStgProgramInfo
CStg200xBasicNet, 546
SetStimulusSites
CCMOSMea_FunctionNet, 108
SetStopTriggerSlope
CDigOutStimulatorFunctionNet, 127
SetStringFormat
CMcsUsbListEntryNet, 305
CMcsUsbListNet, 309
SetSubChannel
CMcsBus_MotorControlNet, 220
SetSwitches
CSafeISDeviceNet, 492
SetSyncoutMap
CStg200xBasicNet, 546
SetTableName
CWarnerValveControllerDeviceNet, 653
SetTablepointer
CRetinaLedDeviceNet, 439
SetTableStep
CWarnerValveControllerDeviceNet, 654
SetTableStepAll
CWarnerValveControllerDeviceNet, 654
SetTestMode
CRFFunctionNet, 443
SetThermocoupleNanovoltPerKelvin
CFluidControlDeviceNet, 144
CTcxDeviceNet, 588
SetThermoOffset
CMcsBus_TempSensorNet, 233
Settings
Mcs::Usb, 91
SetTouchPadEnable
CMultiwellDeviceNet, 382
SetTransformer
CMeFunctionNet, 366
SetTrigger
CRetinaLedDeviceNet, 439
CWarnerValveControllerDeviceTesterFunctionNet, 663
SetTriggerMaskValue
CMeaDeviceNet, 351
CRoboDacqNet, 460
SetTriggerPeriod
CMeaDeviceNet, 352
SetTriggerSource
CStg200xBasicNet, 547
SetTriggerSyncDirection
CWarnerValveControllerDeviceTesterFunctionNet, 663
SetUByteBuffer
CGenericDevelopDeviceNet, 161
SetUClamp
CRoboDacqNet, 460
SetUCOffset
CRoboDacqNet, 460
SetUIntBuffer
CGenericDevelopDeviceNet, 161
SetupGroupDacqQueue
CMcsUsbDacqNet, 283
SetupRetriggerMode
CStg200xDownloadBasicNet, 553
SetupTrigger
CStg200xDownloadBasicNet, 554
CStimulusFunctionNet, 571
SetupTriggerSingle
CStg200xDownloadBasicNet, 554
CStimulusFunctionNet, 572
SetUseBubble
CPPS_FunctionNet, 429
SetUserParameter
CRoboDeviceNet::RoboMainLowLevelCommands, 697
SetUShortBuffer
CGenericDevelopDeviceNet, 162
SetUVOffset
CRoboDacqNet, 460
SetValue
CGenericDevelopDeviceNet, 162
SetValve
CFluidControlDeviceNet, 144
CRoboFluidDeviceNet, 480

SetValve1
CRobo_FYIProgram_FunctionNet, 445
SetValve2
CRobo_FYIProgram_FunctionNet, 445
SetValveActive
CPPCFunctionNet, 423
CWarnerValveControllerDeviceNet, 654
SetValveCurrent
CWarnerValveControllerDeviceNet, 654
SetValveDigitalInInvert
CWarnerValveControllerDeviceNet, 655
SetValveDigitalInPort
CWarnerValveControllerDeviceNet, 655
SetValveLedOn
CWarnerValveControllerDeviceNet, 655
SetValveManualGroup
CWarnerValveControllerDeviceNet, 655
SetValveManualState
CWarnerValveControllerDeviceNet, 656
SetValveMode
CWarnerValveControllerDeviceNet, 656
SetValves
CMcsBus_FYIExtensionNet, 203
SetValvesActiveMap
CWarnerValveControllerDeviceNet, 656
SetValvesManualStateMap
CWarnerValveControllerDeviceNet, 656
SetValveTableEntry
CWarnerValveControllerDeviceNet, 656
SetVdsVgs
CGrapheneFunctionNet, 175, 176
SetVdVs
CGrapheneFunctionNet, 176
SetVdVsDAC
CGrapheneFunctionNet, 177
SetVelocityI
CRoboStatorDeviceNet, 488
SetVelocityXY
CRoboStatorDeviceNet, 488
SetVelocityZ
CRoboStatorDeviceNet, 488
SetVMMaxNegativeCurrent
CMcsBus_VoltageModeNet, 236
SetVMMaxNegativeCurrentEeprom
CMcsBus_VoltageModeNet, 236
SetVMMaxNegativeVoltage
CMcsBus_VoltageModeNet, 236
SetVMMaxNegativeVoltageEeprom
CMcsBus_VoltageModeNet, 236
SetVMMaxPositiveCurrent
CMcsBus_VoltageModeNet, 237
SetVMMaxPositiveCurrentEeprom
CMcsBus_VoltageModeNet, 237
SetVMMaxPositiveVoltage
CMcsBus_VoltageModeNet, 237
SetVMMaxPositiveVoltageEeprom
CMcsBus_VoltageModeNet, 237
SetVMOutputOnOff
CMcsBus_VoltageModeNet, 237
SetVMVoltage
CMcsBus_VoltageModeNet, 237
SetVolatileClampOffset
CMultiwellDeviceNet, 382
SetVoltage12VLimit
CRoboDeviceNet, 472
SetVoltage5VLimit
CRoboDeviceNet, 472
SetVoltageAirvalveLimit
CRoboDeviceNet, 472
SetVoltageClampControllerParam_D
CWarnerUssingFunctionNet, 634
SetVoltageClampControllerParam_I
CWarnerUssingFunctionNet, 634
SetVoltageClampControllerParam_P
CWarnerUssingFunctionNet, 634
SetVoltageMode
CStg200xBasicNet, 547
SetVoltageRange
CGrapheneFunctionNet, 177
SetVoltageRangeByIndex
CMcsUsbDacqNet, 283
SetVoltageRangeForIndex
CMeaUSBDeviceNet, 365
SetVoltageRangeInMicroVolt
CMcsUsbDacqNet, 284
SetVoltageRangeSelectedIndex
CStg200xBasicNet, 547
SetVoltageResolution
CGrapheneFunctionNet, 178
SetVoltageRs485ALimit
CRoboDeviceNet, 472
SetVoltageRs485BLimit
CRoboDeviceNet, 472
SetVoltageValvesLimit
CRoboDeviceNet, 472
SetWaveform
CChannelTestDeviceNet, 97
CTEERFunctionNet, 598
SetWaveLengthInNanometer
CMultiwellOptoStimFunctionNet, 387
SetWorkingFrequency
CRFFunctionNet, 443
SetWPADebugMode
CWClassicFunctionNet, 668
SetWPAType
CWClassicFunctionNet, 668
SetXGain
CRoboDacqNet, 460
Sideband
CStimulusFunctionNet::SidebandData, 700
SidebandData
CStimulusFunctionNet::SidebandData, 700
Signed_16bit
Mcs::Usb, 60
Signed_24bit
Mcs::Usb, 60

Signed_32bit
Mcs::Usb, 60
Sine
Mcs::Usb, 85
SineStart
COctoPotDeviceNet, 392
SingleWell
Mcs::Usb, 83
SixWell
Mcs::Usb, 83
size
DigitalSource< digitalsourceenum >, 671
DigitalSourceGeneral, 673
SmartImplant
Mcs::Usb, 77
SN
HeadStageIDType, 685
SOFAndCTRLword
Mcs::Usb, 58
Software
Mcs::Usb, 66
SoftwareDongle
Mcs::Usb, 76
Source
DigitalSource< digitalsourceenum >, 672
DigitalSourceGeneral, 673
Standby
Mcs::Usb, 78, 87
Start
CMeaCleanDeviceNet, 339
CMeaCoatDeviceNet, 345
CRobo_FYIProgram_FunctionNet, 445
Mcs::Usb, 63
StartDacq
CMcsUsbDacqNet, 284, 285
StartInternalCalibration
CTEERFunctionNet, 598
StartLoop
CMcsUsbDacqNet, 286, 287
StartMCMovement
CMcsBus_MotorControlNet, 221
StartMeasurement
CMeaImpedanceDeviceNet, 360
StartPoll
CStimulusFunctionNet, 572
CW2100_StimulatorFunctionNet, 616
StartQueue
CRoboDeviceNet, 472
StartSampling
CTEERFunctionNet, 598
StartSync
CMcsBus_SensorNet, 231
State
HeadStageIDTypeState, 687
Mcs::Usb, 88
Status
CUsbExceptionNet, 602
Status_AlreadyConfigured
CMcsUsbNet, 326
Status_BadStartFrame
CMcsUsbNet, 326
Status_Btstuff
CMcsUsbNet, 326
Status_BufferOverrun
CMcsUsbNet, 326
Status_BufferUnderrun
CMcsUsbNet, 326
Status_Canceled
CMcsUsbNet, 326
Status_Canceling
CMcsUsbNet, 327
Status_ConnectedPipes
CMcsUsbNet, 327
Status_ControlNotOwned
CMcsUsbNet, 327
Status_Crc
CMcsUsbNet, 327
Status_DataOverrun
CMcsUsbNet, 327
Status_DataToggleMismatch
CMcsUsbNet, 327
Status_DataUnderrun
CMcsUsbNet, 327
Status_DeviceLocked
CMcsUsbNet, 327
Status_DeviceNotFound
CMcsUsbNet, 327
Status_DeviceRemoved
CMcsUsbNet, 327
Status_DevNotResponding
CMcsUsbNet, 327
Status_EndpointHalted
CMcsUsbNet, 328
Status_ErrorBusy
CMcsUsbNet, 328
Status_ErrorShortTransfer
CMcsUsbNet, 328
Status_Fifo
CMcsUsbNet, 328
Status_FrameControlOwned
CMcsUsbNet, 328
Status_InternalHcError
CMcsUsbNet, 328
Status_InvalidDeviceHandle
CMcsUsbNet, 328
Status_InvalidHandle
CMcsUsbNet, 328
Status_InvalidParameter
CMcsUsbNet, 328
Status_InvalidPipeHandle
CMcsUsbNet, 328
Status_InvalidUrbFunction
CMcsUsbNet, 329
Status_IoPending
CMcsUsbNet, 329
Status_IoTimeout

CMcsUsbNet, 329
Status_IsochRequestFailed
CMcsUsbNet, 329
Status_LastUsbErrorMismatch
CMcsUsbNet, 329
Status_NoBandwidth
CMcsUsbNet, 329
Status_NoMemory
CMcsUsbNet, 329
Status_NoSuchDevice
CMcsUsbNet, 329
Status_NotAccessed
CMcsUsbNet, 329
Status_NotSupported
CMcsUsbNet, 329
Status_PidCheckFailure
CMcsUsbNet, 329
Status_PipeNotLinked
CMcsUsbNet, 330
Status_RequestFailed
CMcsUsbNet, 330
Status_RequestMutexFailed
CMcsUsbNet, 330
Status_RequestMutexTimeout
CMcsUsbNet, 330
Status_Stall
CMcsUsbNet, 330
Status_Unconfigured
CMcsUsbNet, 330
Status_UnexpectedPid
CMcsUsbNet, 330
STG
Mcs::Usb, 75
Stg1
Mcs::Usb, 64
STG1DACSignalGroup
Mcs::Usb, 59, 70, 80
STG1SidebandsGroup
Mcs::Usb, 59, 70, 80
STG1TriggerStatusGroup
Mcs::Usb, 59, 70, 80
Stg2
Mcs::Usb, 64
Stg200xDigoutModeEnumNet
Mcs::Usb, 81
Stg200xPollStatusEvent
CStg200xDownloadNet, 562
Stg200xSegmentFlagsEnumNet
Mcs::Usb, 82
Stg200xTriggerStatusEnumNet
Mcs::Usb, 82
STG2DACSignalGroup
Mcs::Usb, 70, 80
STG2SidebandsGroup
Mcs::Usb, 70, 80
STG2TriggerStatusGroup
Mcs::Usb, 70, 80
Stg3
Mcs::Usb, 64
STG3008_FA
Mcs::Usb, 75
STG4002
Mcs::Usb, 75
STG4002_opto
Mcs::Usb, 75
STG4004
Mcs::Usb, 75
STG4004_opto
Mcs::Usb, 75
STG4008
Mcs::Usb, 75
STG4008_opto
Mcs::Usb, 75
STG400x
Mcs::Usb, 75
STG400x_opto
Mcs::Usb, 75
STG5
Mcs::Usb, 75
STG_DestinationEnumNet
Mcs::Usb, 82
StgListModeTrigger
Mcs::Usb, 63
StgStatusNet, 701
FromIntPtr, 701
FromPtr, 701
ListOfChangedTriggers, 701
TiggerStatus, 701
StgTrigger
Mcs::Usb, 63
StillConnected
CRadioControledDevicesNet, 436
Stimulation
Mcs::Usb, 56
StimulationLayoutConfigurationEnumNet
Mcs::Usb, 83
Stimulator
CW2100_FunctionNet, 611
Stimulus
CCMOSMeaDeviceNet, 111
CStg200xDownloadBasicNet, 555
StimulusDeviceDataAndUnrolledData
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
StimulusFunction
CLIH3DeviceNet, 199
StimulusParameters
HeadStageIDType, 685
Stop
CMeaCleanDeviceNet, 339
CMeaCoatDeviceNet, 345
Mcs::Usb, 63, 73
StopDacq
CMcsUsbDacqNet, 288
StopLoop
CMcsUsbDacqNet, 288

StopMCMovement
CMcsBus_MotorControlNet, 221
StopMovement
CRoboDeviceNet, 473
StopMovementI
CRoboStatorDeviceNet, 489
StopMovementXY
CRoboStatorDeviceNet, 489
StopMovementZ
CRoboStatorDeviceNet, 489
StopPlateClamp
CMultiwellDeviceNet, 382
StopPoll
CStimulusFunctionNet, 572
CW2100_StimulatorFunctionNet, 616
StopSampling
CTEERFunctionNet, 599
StopTable
CRoboDacqNet, 460, 461
StorageCharge
Mcs::Usb, 69
StoreValveTable
CWarnerValveControllerDeviceNet, 657
SubtractFromAll
Mcs::Usb, 77
SubtractFromAllOther
Mcs::Usb, 77
SubtractFromReferenceElectrodeOnly
Mcs::Usb, 77
SubtractionOff
Mcs::Usb, 77
SuperSpeed
Mcs::Usb, 70
Sw2to64
Mcs::Usb, 76
SwitchOnOff
CPositionIIDeviceNet, 410
SYNC_BIT0
CW2100_StimulatorFunctionNet, 617
SYNC_BIT1
CW2100_StimulatorFunctionNet, 617
SYNCOUT1
Mcs::Usb, 82
SYNCOUT2
Mcs::Usb, 82
SYNCOUT3
Mcs::Usb, 82
SYNCOUT4
Mcs::Usb, 82
SYNCOUT5
Mcs::Usb, 82
SYNCOUT6
Mcs::Usb, 82
SYNCOUT7
Mcs::Usb, 82
SYNCOUT8
Mcs::Usb, 82
syncoutdata
Mcs::Usb, 83
SyncStart
Mcs::Usb, 82

Table
Mcs::Usb, 91
Table_Wait
CRoboDacqNet, 461
TableDefBegin
CRoboDacqNet, 461
TableDefEnd
CRoboDacqNet, 461
TableEntryChangedEvent
CWarnerValveControllerDeviceNet, 660
TactSwitchGetState
CMcsBus_SensorNet, 231
TactSwitchSetDisplay
CMcsBus_SensorNet, 231
TBSI_127
Mcs::Usb, 51
TBSI_15
Mcs::Usb, 51
TBSI_31
Mcs::Usb, 51
TBSI_5
Mcs::Usb, 51
TBSI_63
Mcs::Usb, 51
TBSI_Dacq
Mcs::Usb, 76
TBSI_DACQDigitalSourceEnumNet
Mcs::Usb, 83
TBSI_Reserved
Mcs::Usb, 51
TbsiDacq
Mcs::Usb, 67
TbsiDacqHeadstage
Mcs::Usb, 66
TbsiDacqInterfaceboard
Mcs::Usb, 66
TC01
Mcs::Usb, 75
TC02
Mcs::Usb, 75
TCX
Mcs::Usb, 75
TcxDeviceTypeEnumNet
Mcs::Usb, 84
TcxSensorTypeEnumNet
Mcs::Usb, 84
TeerClampModeEnumNet
Mcs::Usb, 84
TEERFunctionNet
CTEERMachineDeviceNet, 600
TeerWaveformEnumNet
Mcs::Usb, 84
Tersens
Mcs::Usb, 75
Test_ADC_EPC10

Mcs::Usb, 68
Test_DAC_EPC10
Mcs::Usb, 68
ThrowCUsbExceptionNetOnError
CMcsUsbFunctionNet, 301
CMcsUsbNet, 324
TiggerStatus
StgStatusNet, 701
TimeResolutionInNanoSeconds
W2100_StimulusParametersNet, 704
Timestamp
Mcs::Usb, 58
ToCpp
CFilterCoefficientsNet::s_FilterAttributesNet, 698
ToString
CFilterPropertyNet, 136
CMcsUsbListEntryNet, 306
HeadStageIDType, 684
HeadstageIDTypeObject, 686
TouchTest
Mcs::Usb, 91
Triggerbox_AMS
Mcs::Usb, 75
Triggerbox_AMS3
Mcs::Usb, 75
Triggerbox_IMS
Mcs::Usb, 75
Triggerbox_R5
Mcs::Usb, 75
TriggerMask_Default
CRoboDacqNet, 461
TriggerOnly
Mcs::Usb, 82
TriggerSourceEnumNet
Mcs::Usb, 85
TriggerStatus
CMcsUsbDeviceStatePushFunctionNet, 290
CMcsUsbDeviceStatePushNet, 291
TriggerStatus1
Mcs::Usb, 57
TriggerStatus2
Mcs::Usb, 57
TriggerStatus3
Mcs::Usb, 57
TriggerStatus4
Mcs::Usb, 57
TriggerValue_MoveAbs
CRoboDacqNet, 461
TriggerValue_StartQueue
CRoboDacqNet, 461
tsAuxIn1
Mcs::Usb, 86
tsAuxIn2
Mcs::Usb, 86
tsDACQCy1Dev1Runs
Mcs::Usb, 87
tsDACQCy1Dev2Runs
Mcs::Usb, 87
tsDACQCy2Dev1Runs
Mcs::Usb, 87
tsDACQCy2Dev2Runs
Mcs::Usb, 87
tsDigitalIn1
Mcs::Usb, 85
tsDigitalIn10
Mcs::Usb, 85
tsDigitalIn11
Mcs::Usb, 85
tsDigitalIn12
Mcs::Usb, 85
tsDigitalIn13
Mcs::Usb, 85
tsDigitalIn14
Mcs::Usb, 85
tsDigitalIn15
Mcs::Usb, 85
tsDigitalIn16
Mcs::Usb, 85
tsDigitalIn17
Mcs::Usb, 85
tsDigitalIn18
Mcs::Usb, 85
tsDigitalIn19
Mcs::Usb, 85
tsDigitalIn2
Mcs::Usb, 85
tsDigitalIn20
Mcs::Usb, 85
tsDigitalIn21
Mcs::Usb, 85
tsDigitalIn22
Mcs::Usb, 85
tsDigitalIn23
Mcs::Usb, 85
tsDigitalIn24
Mcs::Usb, 85
tsDigitalIn25
Mcs::Usb, 85
tsDigitalIn26
Mcs::Usb, 85
tsDigitalIn27
Mcs::Usb, 85
tsDigitalIn28
Mcs::Usb, 85
tsDigitalIn29
Mcs::Usb, 85
tsDigitalIn3
Mcs::Usb, 85
tsDigitalIn30
Mcs::Usb, 85
tsDigitalIn31
Mcs::Usb, 85
tsDigitalIn32
Mcs::Usb, 85
tsDigitalIn4
Mcs::Usb, 85

tsDigitalIn5
Mcs::Usb, 85
tsDigitalIn6
Mcs::Usb, 85
tsDigitalIn7
Mcs::Usb, 85
tsDigitalIn8
Mcs::Usb, 85
tsDigitalIn9
Mcs::Usb, 85
tsDigitalPuse0
Mcs::Usb, 86
tsDigitalPuse1
Mcs::Usb, 86
tsDigitalPuse10
Mcs::Usb, 86
tsDigitalPuse11
Mcs::Usb, 86
tsDigitalPuse12
Mcs::Usb, 86
tsDigitalPuse13
Mcs::Usb, 86
tsDigitalPuse14
Mcs::Usb, 86
tsDigitalPuse15
Mcs::Usb, 86
tsDigitalPuse16
Mcs::Usb, 86
tsDigitalPuse17
Mcs::Usb, 86
tsDigitalPuse18
Mcs::Usb, 87
tsDigitalPuse19
Mcs::Usb, 87
tsDigitalPuse2
Mcs::Usb, 86
tsDigitalPuse20
Mcs::Usb, 87
tsDigitalPuse21
Mcs::Usb, 87
tsDigitalPuse22
Mcs::Usb, 87
tsDigitalPuse23
Mcs::Usb, 87
tsDigitalPuse24
Mcs::Usb, 87
tsDigitalPuse25
Mcs::Usb, 87
tsDigitalPuse26
Mcs::Usb, 87
tsDigitalPuse27
Mcs::Usb, 87
tsDigitalPuse28
Mcs::Usb, 87
tsDigitalPuse29
Mcs::Usb, 87
tsDigitalPuse3
Mcs::Usb, 86
tsDigitalPuse30
Mcs::Usb, 87
tsDigitalPuse31
Mcs::Usb, 87
tsDigitalPuse4
Mcs::Usb, 86
tsDigitalPuse5
Mcs::Usb, 86
tsDigitalPuse6
Mcs::Usb, 86
tsDigitalPuse7
Mcs::Usb, 86
tsDigitalPuse8
Mcs::Usb, 86
tsDigitalPuse9
Mcs::Usb, 86
tsFeedback1
Mcs::Usb, 85
tsFeedback10
Mcs::Usb, 86
tsFeedback11
Mcs::Usb, 86
tsFeedback12
Mcs::Usb, 86
tsFeedback13
Mcs::Usb, 86
tsFeedback14
Mcs::Usb, 86
tsFeedback15
Mcs::Usb, 86
tsFeedback16
Mcs::Usb, 86
tsFeedback17
Mcs::Usb, 86
tsFeedback18
Mcs::Usb, 86
tsFeedback19
Mcs::Usb, 86
tsFeedback2
Mcs::Usb, 85
tsFeedback20
Mcs::Usb, 86
tsFeedback21
Mcs::Usb, 86
tsFeedback22
Mcs::Usb, 86
tsFeedback23
Mcs::Usb, 86
tsFeedback24
Mcs::Usb, 86
tsFeedback25
Mcs::Usb, 86
tsFeedback26
Mcs::Usb, 86
tsFeedback27
Mcs::Usb, 86
tsFeedback28
Mcs::Usb, 86

tsFeedback29
Mcs::Usb, 86
tsFeedback3
Mcs::Usb, 85
tsFeedback30
Mcs::Usb, 86
tsFeedback31
Mcs::Usb, 86
tsFeedback32
Mcs::Usb, 86
tsFeedback4
Mcs::Usb, 86
tsFeedback5
Mcs::Usb, 86
tsFeedback6
Mcs::Usb, 86
tsFeedback7
Mcs::Usb, 86
tsFeedback8
Mcs::Usb, 86
tsFeedback9
Mcs::Usb, 86
tsNone
Mcs::Usb, 85
tsSidebandBit8
Mcs::Usb, 87
tsTriggered
Mcs::Usb, 87
TxnGetSerialNumber
CMcsUsbNet, 324
TxnSetSerialNumber
CMcsUsbNet, 324
TxnTestMemoryReadAndCheck
CMcsUsbNet, 324
TxnTestMemoryWrite
CMcsUsbNet, 324
Type
HeadStageIDType, 685
TypeValue
HeadStageIDType, 685

Unknown
HeadStageIDType, 683
Mcs::Usb, 51, 52, 65, 84, 87
unknown
Mcs::Usb, 64
UnknownDest
Mcs::Usb, 56
UnknownSpeed
Mcs::Usb, 70
Unlock
Mcs::Usb, 74
UnlockPlateClamp
CMultiwellDeviceNet, 382
UnrolledAmplitude
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
UnrolledDuration
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
UnrolledSync
CStimulusFunctionNet::StimulusDeviceDataAndUnrolledData, 702
Unsigned_16bit
Mcs::Usb, 60
Unsigned_24bit
Mcs::Usb, 60
Unsigned_32bit
Mcs::Usb, 60
UpdateChannelBlock
CCMOSMeaDeviceNet, 111
UpdateDisplay
CRoboDacqNet, 461
UpdateFirmware
CMcsUsbFactoryNet, 297–299
UpdateTransistorVoltages
CCMOSMea_FunctionNet, 108
UpdateTrigger
Mcs::Usb, 82
USB
FirmwareDestinationNames, 682
Mcs::Usb, 52
USB_TARGET1
Mcs::Usb, 56
USB_TARGET2
Mcs::Usb, 56
USB_TARGET3
Mcs::Usb, 56
usbSetupPacket_t, 703
bmRequestType, 703
bRequest, 703
wIndex, 703
wLength, 703
wValue, 704
UsbTest
Mcs::Usb, 76
UsbVendorIdEnumNet
Mcs::Usb, 87
User_ADC_0
Mcs::Usb, 67
User_ADC_1
Mcs::Usb, 67
User_ADC_2
Mcs::Usb, 68
User_ADC_3
Mcs::Usb, 68
User_ADC_4
Mcs::Usb, 68
User_DAC_0
Mcs::Usb, 68
User_DAC_1
Mcs::Usb, 68
User_DAC_2
Mcs::Usb, 68
UserDefinedName
HeadStageIDType, 685

UssingChamber
Mcs::Usb, 67
UssingClampModeEnumNet
Mcs::Usb, 87
UssingRail
Mcs::Usb, 67
UssingUnitEnumNet
Mcs::Usb, 88

Valid
HeadStageIDType, 685
ValidKey
CMcsUsbNet, 324
Value
CMcsUsbFactoryNet::TargetSelectionInfoNet, 703
VendorIdEnumNet
Mcs::Usb, 88
VendorInRequest
CGenericDevelopDeviceNet, 163
VendorOutRequest
CGenericDevelopDeviceNet, 163
VirtualDevice_ContinousDacq
CRoboDacqNet, 461
VirtualDevice_TableRun
CRoboDacqNet, 461
Volt
Mcs::Usb, 52, 88
Voltage
BatteryState, 94
Voltage_3V3
Mcs::Usb, 67
Voltage_5V0
Mcs::Usb, 67
VoltageClamp
Mcs::Usb, 87
VoltageRangeDisplayStringMilliVolt
CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet, 603
VoltageRangeInMicroVolt
CMcsUsbDacqNet::CHWInfo::CVoltageRangeInfoNet, 603
W2100_StimulusParametersNet, 704
VoltageResolutionInMicroVolt
W2100_StimulusParametersNet, 704
VoltageString
BatteryState, 94
VOPSTimerSetResetTimes
CCMOSMea_FunctionNet, 108

W16IsW14
HeadStageIDType, 685
W2100
Mcs::Usb, 76
W2100_Accel_Gyro_Select_EnumNet
Mcs::Usb, 88
W2100_FunctionNet
CMeaDeviceNet, 353
W2100_StimulusParametersNet, 704
CurrentRangeInNanoAmp, 704
CurrentResolutionInNanoAmp, 704
DACResolution, 704
TimeResolutionInNanoSeconds, 704
VoltageRangeInMicroVolt, 704
VoltageResolutionInMicroVolt, 704
W2100DacqGroupChannelEnumNet
Mcs::Usb, 88
W2100DigitalSourceEnumNet
Mcs::Usb, 90
W2100IFB2
Mcs::Usb, 66
W2100Interfaceboard
Mcs::Usb, 66
W2100WirelessReceiver
Mcs::Usb, 66, 67
W2100WirelessReceiverAnalog
Mcs::Usb, 66, 67
WaitForAllChambers
CWarnerUssingFunctionNet, 635
WaitForChamber
CWarnerUssingFunctionNet, 635
WaitTimer
CRoboDeviceNet, 473
Warner
Mcs::Usb, 84
Warner_TEER_Machine
Mcs::Usb, 77
Warner_Ussing
Mcs::Usb, 77
WARNER_USSING_DEVICE
Mcs::Usb, 61
Warner_Valve_Control
Mcs::Usb, 77
WARNER_VALVE_CONTROL_DEVICE
Mcs::Usb, 61
WarnerUssingFunction
CWarnerUssingDeviceNet, 619
WClassicFunctionNet
CMeaDeviceNet, 353
Whole_Cell_Patch
Mcs::Usb, 76
WholeCellPatch
Mcs::Usb, 79
WholeCellPatchHeadstage
Mcs::Usb, 66
wIndex
usbSetupPacket_t, 703
WirelessHeadStageAccDataRE1HS1
Mcs::Usb, 89
WirelessHeadStageAccDataRE1HS2
Mcs::Usb, 89
WirelessHeadStageAccDataRE1HS3
Mcs::Usb, 89
WirelessHeadStageAccDataRE1HS4
Mcs::Usb, 89
WirelessHeadStageAccDataRE2HS1
Mcs::Usb, 89
WirelessHeadStageAccDataRE2HS2

Mcs::Usb, 89
WirelessHeadStageAccDataRE2HS3
Mcs::Usb, 89
WirelessHeadStageAccDataRE2HS4
Mcs::Usb, 89
WirelessHeadStageAnalogRE1HS1
Mcs::Usb, 89
WirelessHeadStageAnalogRE1HS2
Mcs::Usb, 89
WirelessHeadStageAnalogRE1HS3
Mcs::Usb, 89
WirelessHeadStageAnalogRE1HS4
Mcs::Usb, 89
WirelessHeadStageAnalogRE2HS1
Mcs::Usb, 89
WirelessHeadStageAnalogRE2HS2
Mcs::Usb, 89
WirelessHeadStageAnalogRE2HS3
Mcs::Usb, 89
WirelessHeadStageAnalogRE2HS4
Mcs::Usb, 89
WirelessHeadStageGyroDataRE1HS1
Mcs::Usb, 89
WirelessHeadStageGyroDataRE1HS2
Mcs::Usb, 89
WirelessHeadStageGyroDataRE1HS3
Mcs::Usb, 89
WirelessHeadStageGyroDataRE1HS4
Mcs::Usb, 89
WirelessHeadStageGyroDataRE2HS1
Mcs::Usb, 89
WirelessHeadStageGyroDataRE2HS2
Mcs::Usb, 89
WirelessHeadStageGyroDataRE2HS3
Mcs::Usb, 89
WirelessHeadStageGyroDataRE2HS4
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE1HS1
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE1HS2
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE1HS3
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE1HS4
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE2HS1
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE2HS2
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE2HS3
Mcs::Usb, 89
WirelessHeadStageOptoStimCurrentRE2HS4
Mcs::Usb, 90
WirelessHeadStageReservedARE1HS1
Mcs::Usb, 89
WirelessHeadStageReservedARE1HS2
Mcs::Usb, 89
WirelessHeadStageReservedARE1HS3
Mcs::Usb, 89
WirelessHeadStageReservedARE1HS4
Mcs::Usb, 89
WirelessHeadStageReservedARE2HS1
Mcs::Usb, 89
WirelessHeadStageReservedARE2HS2
Mcs::Usb, 89
WirelessHeadStageReservedARE2HS3
Mcs::Usb, 90
WirelessHeadStageReservedARE2HS4
Mcs::Usb, 90
WirelessHeadStageReservedBRE1HS1
Mcs::Usb, 90
WirelessHeadStageReservedBRE1HS2
Mcs::Usb, 90
WirelessHeadStageReservedBRE1HS3
Mcs::Usb, 90
WirelessHeadStageReservedBRE1HS4
Mcs::Usb, 90
WirelessHeadStageReservedBRE2HS1
Mcs::Usb, 90
WirelessHeadStageReservedBRE2HS2
Mcs::Usb, 90
WirelessHeadStageReservedBRE2HS3
Mcs::Usb, 90
WirelessHeadStageReservedBRE2HS4
Mcs::Usb, 90
WirelessHeadStageReservedCRE1HS1
Mcs::Usb, 90
WirelessHeadStageReservedCRE1HS2
Mcs::Usb, 90
WirelessHeadStageReservedCRE1HS3
Mcs::Usb, 90
WirelessHeadStageReservedCRE1HS4
Mcs::Usb, 90
WirelessHeadStageReservedCRE2HS1
Mcs::Usb, 90
WirelessHeadStageReservedCRE2HS2
Mcs::Usb, 90
WirelessHeadStageReservedCRE2HS3
Mcs::Usb, 90
WirelessHeadStageReservedCRE2HS4
Mcs::Usb, 90
WirelessHeadStageStatusRE1HS1
Mcs::Usb, 89
WirelessHeadStageStatusRE1HS2
Mcs::Usb, 89
WirelessHeadStageStatusRE1HS3
Mcs::Usb, 89
WirelessHeadStageStatusRE1HS4
Mcs::Usb, 89
WirelessHeadStageStatusRE2HS1
Mcs::Usb, 89
WirelessHeadStageStatusRE2HS2
Mcs::Usb, 89
WirelessHeadStageStatusRE2HS3
Mcs::Usb, 89
WirelessHeadStageStatusRE2HS4

Mcs::Usb, 89
WirelessTestAdapter
Mcs::Usb, 51
wLength
usbSetupPacket_t, 703
Work
Mcs::Usb, 91
WPA16
Mcs::Usb, 76
WPA32
Mcs::Usb, 76
WPA4
Mcs::Usb, 76
WPA8
Mcs::Usb, 76
WPAError_ScanningIsPending
CMcsUsbNet, 330
Write
CExternDTesterDeviceNet, 129
Write2
CExternDTesterDeviceNet, 130
WriteEepromRegisterPreconfig
CMcsUsbNet, 325
WritePipe
CGenericDevelopDeviceNet, 163
WriteRegister
CMcsUsbNet, 325
WriteRegister32
CMcsUsbNet, 325
WriteRegisterArray
CMcsUsbNet, 325
WriteRegisterTimeSlot
CMcsUsbNet, 326
WriteRegisterValue
CMcsUsbNet, 326
WriteUARTData
CLIH3DeviceNet, 199
wValue
usbSetupPacket_t, 704
WvcDisplayModeEnumNet
Mcs::Usb, 91
WvcValveModeEnumNet
Mcs::Usb, 91

Zero
Mcs::Usb, 62, 71, 80, 83, 90