



June 2018
Version 2.4.0

Thank you for choosing HBM for your test, analysis and measurement task. This document shows the released product package of SomatXR. Please always check whether an updated version is available at: <http://www.hbm.com>. Please note that the firmware has been optimized. We recommend installing the latest firmware on all existing modules.

What's new?

Modules / Firmware

- **Firmware**
 - CX23-R Firmware Version 2.4.0
 - MX Module Firmware Version 4.10.4.0
 - Included in CX23-R firmware to update from the Web Interface.
- **New Module Support**
 - None

Software Tools / Libraries

- **Software Updates**
 - SomatXR Emulator v2.4.0
 - XR Download Manager v1.2.2

Documentation

- **New Documentation**
 - None
- **Updated Documentation**
 - CX23-R / EX23-R User Manual Version 9.0
 - CX23-R Quick Start Guide Version 3.0
 - EX23-R Quick Start Guide Version 2.0
 - SomatXR Accessories Data Sheet (English / German) Version 7.1
 - MX Modules User Manual (English / German) Version 5.1

Accessories

- **New Accessories**
 - None
- **Updated Accessories**
 - None

A complete listing of all supported modules, accessories, and documentation of the SomatXR line is available at the end of these release notes.



Notes about the CX23-R firmware v2.4.0

- **New Features**

- **ACTION REQUIRED: TCE / eDAQ Channel Calibration functionality.** There is a new System preference to enable using the "Channel calibration locks and dates" functionality that TCE/eDAQ supported unconditionally. This preference is disabled by default. **Carefully consider whether or not you want to use this new functionality before creating new SXR files. When an SXR file is created, it inherits this preference and it cannot be changed.**
- **Additional GPS channels added as selectable inputs.** Added new "utc_nanoseconds" and "utc_seconds_floor" channels to Garmin and EGPS-200 devices for backwards compatibility with the Somat eDAQ product line. They are respectively the fractional part of the "utc_seconds" channel (in nanoseconds) and the integer part of the "utc_seconds" channel.
- **New column on the SIE management page.** Added a new column "Run description" in the SIE data page. Note that this will only be shown for SIE files generated using the v2.4.0 or later firmware versions - even though the run description is resident in the metadata of all SIE files generated with all previous firmware versions.
- **Custom parameter channel sorting.** The user can now sort channel lists against custom parameter columns based on text and numeric sorting algorithms.
- **XY Plotter Chart Type.** A new chart XY Plotter Chart type has been added as a visualization type. More information is available in the help system.

- **Optimizations**

- **Display charts will now function with live update data.** The charts functionality has been enhanced to run and show data while running live updates.
- **Over Range Detector notifications now metered.** To avoid deluging the customer with huge numbers of notifications, the Over Range Detector has now been metered.
- **Single Channel Editor enhancements.** The Single Channel Editor will now by default be maximized when it's called for visibility and to aid in quick setup changes. Additionally, the user preference "Select cell text on focus" in all single channel editor dialog edit controls will be honored.
- **Nomenclature change for zeroing.** Previously appearing "Prerun Zero" has been changed to "Zero" in GUI column names for consistency and to reduce confusion.
- **Signal Calculator editing enhancements.** The Signal Calculator editing dialog window has been optimized for better usability and editability.
- **Live update indicators for channels being updated.** The channel selection pane in the display views will now indicate with a channel by channel indicator, if the channel in question is being updated during live update tests or not. The icon is an orange refresh insignia with a line through it when that channel is not being updated during live update tests.

- **Bugs Fixed / Issues Resolved**

- **Duplicate SIE file name generation issue.** In certain situations it would be possible to generate duplicate SIE file names if appending the standard SIE incremental numbering scheme manually. This issue has been resolved.
- **Rainflow DataMode and unactivated trigger issue.** Previously when using the Rainflow DataMode with a trigger, if the trigger was never activated during the course of the test an error reset would result. This issue has been corrected.
- **State mapper single channel editor issue.** Previously there were validation inconsistencies in the GUI when editing the state mapper computed channel in the single channel editor window. This issue has been resolved.



- **Various usability enhancements and bug fixes throughout the GUI.** The GUI continued to receive various bug fixes, optimizations, and enhancements to improve usability, speed, and reliability.
 - **Reported total RAM in the GUI issue.** Previously the amount of total RAM on the system would be improperly reported. This issue has been corrected.
 - **Multichannel copy naming issue.** Previously when doing multichannel copy of the name parameter, the copied names would not correspond to normal copied channel naming conventions. This issue has been corrected.
 - **Chart signal loss issues.** Previously when attempting to remove charts with channels where the same channels existed in other charts, signals could disappear. This issue has been corrected.
 - **Channel by Channel TEDS conflicts.** Previously it was not possible to resolve TEDS conflicts on a per channel basis. This deficiency has been corrected, and the user can now resolve TEDS conflicts on a per channel basis.
 - **Experimental two point scaling issues.** Previously there would be in certain situations issues defining two point scaling. These issues have been corrected.
 - **SDBX Database importing and deleting issues.** Previously if the user attempted to import an SDBX database a second time after it was imported once, it would not be possible to delete the SDBX database. This issue has been corrected.
- **Known Issues and Advisories**
 - **SIE file naming conventions when using FTP upload.** Please note that file naming conventions and special character usage can affect whether the FTP server you are uploading to, will accept the file. There are characters that are illegal file name characters in Windows systems, and likewise for Linux systems. Please avoid these illegal characters when considering what operating system your FTP server is running on.
 - **Use of HTTP and HTTPS protocols and browser add-ons / extensions when connecting to the CX23-R.** When performing a firmware upgrade and using the HTTP protocol, a CTRL+F5 refresh of your browser after the firmware update is required to ensure that new features and GUI elements are available. The same is true of the help system. If the user accesses the help system after a firmware update, a CTRL+F5 is required to ensure new help content is made available as well. Additionally, it is recommended that any browser add-ons or extensions be disabled when using the CX23-R as their enablement has been linked to degrading performance of the GUI interface when in use.
 - **Push notifications on iOS devices.** Currently there is a known issue with the iOS HBM Push application, where notifications will not be pushed, but instead have to be fetched by closing or reopening the app on your iOS device, or performing a pull down refresh of the notification list. This issue is being currently looked at for fixing in the next release.
 - **Spikes on MX840 channels using Pulse or Encoder frequency channels.** Spikes will occur on MX840 channels configured as Pulse frequency or Encoder frequency channels whenever there are no pulses from the sensor for a period of approximately 107 seconds. The magnitude of the spikes will vary and is not deterministic.
 - **Emulator import of MX460 channels.** Currently importing tests into the CX23R Emulator which contain MX460 channels will not automatically populate MX460 hardware on import. This will be corrected in a future release.
 - **MX471 CAN channels potential issue.** There is the following known issue with using MX471 CAN channels in a CX23R test. Sometimes the test will fail to start on a "Timeout waiting for (MX471) channel ready announcements" error and the system will reset. In almost all cases, the test will restart properly after the system reset. We have never seen this issue on a power cycle test restart so that's the last resort for getting a test to run if it does not start on the error reset.
 - **Recommended browsers.** The recommended browsers when using the CX23-R web interface are up to date versions of Chrome and Firefox. The web interface may work on other browsers but may result in degraded or undesirable operation.



- **Setups utilizing a video encoder, created with v1.14.0 will require configuration changes to work in v1.14.1.** If a previous setup was created with v1.14.0 or earlier firmware, the resolution of your video image will need to be changed to a properly supported resolution prior to running the test.
- **Setups utilizing multiple video channels from a multi-channel video encoder is not supported.** Although the CX23-R will allow the user to specify multiple video streams from a multi-channel encoder, using more than one channel from a multi-channel encoder is not supported, and configuring a test with this configuration may in not as-configured results, and is at the user's own risk. It is recommended the user only use one channel on a multi-channel video encoder.
- **Help system extensions appearing after firmware updates.** When upgrading firmware, it is possible for browsers not to update the Help system content when opening the Help System. A full browser refresh, and removing of all temporary files is recommended to fix this issue.
- **Issue with propagating changes in the hardware panel.** Changes made to test setup parameters in the Hardware page are currently not propagated to computed channels, output channels, DataModes or display charts like they are when changes are made using the Input channel spreadsheet. Until this is fixed, users should keep this in mind when using the Hardware page to edit channels if the test setup contains computed channels, output channels, DataModes or display charts.
- **Live video displays when using the Axis m7001 video encoder.** The Axis m7001 encoder can be used, but there are limitations on video display capabilities with this old and now discontinued Axis product. Video frames will be properly stored in the SIE file; however, viewing of the video frames is supported in the Hardware view only. As such, video frames cannot be displayed when the SIE test is running.
- **Users with previously undefined profiles.** If users have been previously configured with no profile, those users will be given read only permissions until a profile is assigned. This is an advisory effective if upgrading from v1.8.3 or earlier firmware.
- **Caution when using Netgear networking interfaces with the CX23-R.** Certain Netgear switches and routers have been known to not work reliably when connected to the Host port of the CX23-R. The problem will manifest as the Netgear networking interface showing the CX23-R is not connected when in fact it is. In certain situations, a power cycle of the Netgear networking interfaces can correct the problem. For these reasons, it is strongly recommended that for any high availability or high assurance test platforms, that Netgear networking interfaces not be used to connect to the CX23-R Host port.
- **Caution when using Firewire with MX Modules.** In certain atypical usage scenarios, MX modules can lose PTP sync when a test run is restarted after a reboot. See the help system topic that discusses setting up the SomatXR system for more information.
- **MX modules can get into a state where they can only be recovered via a power cycle.** On occasion, MX modules may get into a state where they are no longer recognized by the CX23-R interface. The work around for this issue is to power cycle the MX module.
- **EX23-R PTP Synchronization with MX modules using ports 5 and 6.** Using a system connected with MX modules connected to ports 5 or 6 on the EX23R can rarely result in the MX modules losing sync with the CX23R until the EX23R is rebooted or power cycles. This has only been encountered in QA testing a few times and only when the system has been running for relatively long periods of time (e.g., over a week). However, this can be very problematic for long term unattended testing - particularly in scenarios where power is never cycled. As such, it is strongly advised that MX modules are not connected to ports 5 or 6 in long term unattended tests. Network sources such as Axis cameras can be connected to port 6 (or port 5 when routed through a commercial PoE switch).

RELEASEnotes



SOMAT XR

Complete Listing of Modules, Accessories, Documentation and available Support Software Tools / Libraries

Modules

- SomatXR: Data Processor with 64 GB memory 1-CX23-R-64-2
- SomatXR: Ethernet Switch PTP 1-EX23-R
- SomatXR: Standard Amplifier 1-MX1601B-R
- SomatXR: Bridge Amplifier 1-MX1615B-R
- SomatXR: Thermo Amplifier 1-MX1609KB-R
- SomatXR: Universal Amplifier 1-MX840B-R
- SomatXR: Highly Dynamic Amplifier 1-MX411B-R
- SomatXR: CAN module 1-MX471B-R
- SomatXR: Frequency Amplifier 1-MX460B-R
- QuantumX: Measuring Amplifier / 16 channels 1-MX1601B
- QuantumX: Bridge Amplifier / 16 channels 1-MX1615B
- QuantumX: Thermocouple Type K / 16 channels 1-MX1609KB
- QuantumX: CAN Module / 4 channels 1-MX471B
- QuantumX: Analog Voltage Output 1-MX878B
- QuantumX: Digital Dynamic 1-MX460B
- QuantumX: Universal Amplifier 1-MX840B

Documentation

- CX23-R / EX23-R User Manual Version 9.0
- CX23-R Quick Start Guide Version 3.0
- EX23-R Quick Start Guide Version 2.0
- SomatXR Accessories Data Sheet (English / German) Version 7.1
- CX23-R Data Sheet (English / German) Version 2.2
- EX23-R Data Sheet (English / German) Version 1.2 (1.1)
- SomatXR Safety Manual Version 2.1
- MX1601B-R Data Sheet (English / German) Version 3.0
- MX1609KB-R Data Sheet (English / German) Version 3.0
- MX1615B-R Data Sheet (English / German) Version 4.0
- MX840B-R Data Sheet (English / German) Version 1.0
- MX878B Data Sheet (English / German) Version 2.0
- MX411B-R Data Sheet (English / German) Version 1.0
- MX471B-R Data Sheet (English / German) Version 1.0
- MX Modules User Manual (English / German) Version 5.1
- MX Modules Quick Start Guide (English / German) Version 3.0
- NTX003 Data Sheet Version 1.1
- 1-UPX00x-2 UPS Data Sheet (English / German) Version 2.0
- 1-SCM-R-TCX-2 Data Sheet (English) Version 1.3
- Reference Manual For libsie Version 1.0
- 1-SCM-R-SG120-300-1000-2 Data Sheet Version 1.2
- 1-CON-S3005-2 Adapter Data Sheet Version 1.1
- 1-CASEMOUNT-UMB-2 Data Sheet Version 1.0
- 1-CASEMOUNT2-2/3-2 Data Sheet Version 1.0



Software Tools / Libraries

- HBM Device Manager v1.0.0.1
- XR Download Manager v1.2.2
- SomatXR Emulator v2.4.0
- libsie SIE library v1.1.5

Accessories

- Xcode to Xcode Adapter w/Mount 1-CON-S3005-2
- Fastener CaseLink-Rug, 160mmx80mmx12mm 1-CASELINK-RUG-2
- 2 Unit Mounting System, 200mmx130mmx50mm 1-CASEMOUNT2-2
- 3/4 Unit Mounting Syst,295mmx130mmx50mm 1-CASEMOUNT3-2
- Universal Mounting Bracket 1-CASEMOUNT-UMB-2
- Voltage conditioner .3M 840BR adapter 1-SCM-R-VC60-2
- ¼ bridge 1000 .3M 840BR Adapter 1-SCM-R-SG1000-2
- ¼ bridge 350 .3M 840BR adapter 1-SCM-R-SG350-2
- ¼ bridge 120 .3M 840BR adapter 1-SCM-R-SG120-2
- K type thermal couple .3M 840BR adapter 1-SCM-R-TCK-2
- E type thermal couple .3M 840BR adapter 1-SCM-R-TCE-2
- ICP, with BNC .3M 840BR adapter 1-KAB430-0.3
- AC/DC power supply unit (24 V, 120 W) 1-NTX003-2
- Power supply cable (CX23-R to MX module) 1-KAB2110
- Power supply cable (low loss) with exposed wires 1-KAB2115
- Mounting brackets 1-CASEMOUNT
- Ethernet cable (CX23-R / EX23-R to MX module) 1-KAB2100
- Ethernet cable (CX23-R / EX23-R to PC / access point) 1-KAB2106
- Ethernet cable (CX23-R to EX23-R) 1-KAB2107
- Push-pull sensor cable 1-KAB183
- Break away sensor cable 1-KAB184
- Digital I/O cable with exposed wires 1-KAB2101
- GPS/AUX adapter (CX23-R to EGPS-5Hz) 1-KAB2102
- CAN adapter (CX23-R to SomatCR KAB292) 1-KAB2104
- GPS/AUX cable with exposed wires 1-KAB2108
- CAN cable with exposed wires 1-KAB2109
- Precision GPS Receiver-200Hz 1-EGPS-200-B-2
- Precision GPS Receiver-200Hz-PLUS 1-EGPS-200-P-2
- EGPS-200 GPS Antenna 1-EGPS-200-ANT-2
- EGPS-200 GPS Template – RTK 1-EGPS-200-TEM-2
- Trigger Cable for EGPS-200 1-SAC-GPSTRIG-2
- Cable Extensions 1-SAC-EXT-MF



Accessories (cont'd)

- Full-bridge adapter (to eDAQ M8 connector)
(4 wire - no sense line) 1-KAB2117
- Quarter-bridge adapter (to eDAQ M8 connector)
(3 wire - no sense line) 1-KAB2118
- Voltage adapter (to eDAQ M8 connector) 1-KAB2119
- ¼ Bridge Adapter (ODU 14 pin to M8F connector) 1-KAB2122-0.3
- CX23 + eDAQ sync cable (M12 to LEMO) 1-KAB2111-2
- GPS Receiver - 5Hz Update 1-EGPS-5HZ-2
- Pelican Case - eDAQ-lite/SXR 1-PEL1520-2
- Pelican Case - eDAQ/eDAQ-lite/SXR 1-PEL1600-2
- AC/DC Power Supply (24 V, 30 W) ODU 4p 1-NTX002
- Plug (ODU 4p push-pull) 1-CON-P1001
- Power supply (ODU, 5 m, open) 1-KAB294-5
- Connecting elements 1-CASELINK
- Carrying handle 1-CASECARRY
- 4 protective caps for ODU sensors 1-CON-A2013
- 2 protective caps for ODU system 1-CON-A2014
- FireWire ExpressCard adapter 1-IF-002
- FireWire intermodule (ODU, IP68, 2 m) 1-KAB272
- FireWire PC (ODU / FW, IP68, 3 m) 1-KAB276-3
- FireWire (module to PC, IP68, 5 m) 1-KAB293-5
- Ethernet cable (IP65/5m) 1-KAB273-5
- Connector (ODU, 14 pol, IP68) 1-CON-P1007
- Plug (ODU 14p break-away) 1-CON-P1016
- 1-wire-EEPROM DS24B33 1-TEDS-PAK
- 10 Connectors thermo mini (type K, RFID) 1-THERMO-MINI
- QuantumX: UPS 1-UPX001-2
- SomatXR Uninterruptable Power Supply 1-UPX002-2