

Keysight M8070A System Software for M8000 Series of BER Test Solutions

The M8070A system software for the M8000 Series of BER Test Solutions is required to control M8041A, M8045A, M8046A, M8051A, M8061A, M8062A, M8195A and M8196A.

Software licensing

Offline version does not require a license.

For controlling the hardware you can choose between a transportable, perpetual license (M8070A-0TP) and a network, perpetual license (M8070A-0NP). The network license is only recommended when using multiple M8020A or M8040A setups within one company. When ordering M8020A-BU1 or M8040A-BU1 the M8070A-0TP license will be pre-installed on the embedded controller.

For further important information see

- [M8020AInstallationGuide.pdf](#)
- [M8020AGettingStartedGuide.pdf](#)
- [M8070APluginsGettingStartedGuide.pdf](#)
- [M8020AUserGuide.pdf](#)
- [M8020AProgrammingGuide.pdf](#)
- [M8030AStartHere.pdf](#)
- [M8040AStartHere.pdf](#)
- [M8040AGettingStartedGuide.pdf](#)

- M8000-91010TipsForPreventingDamage.pdf

located on this CD or after installation in the start menu under All Programs ⇒ Keysight M8070A.

Updating “Factory” folder

If you have previously installed the M8070A software on your PC, upgrading to a newer version will not automatically update the predefined settings and pattern in the “Factory” folder. This is to ensure that user created settings containing references to a predefined pattern are not deleted from the “Factory” folder which could cause the settings to become corrupted.

To ensure that the latest “Factory” folder is created, you must delete the current “Factory” folder before starting the latest version of the M8070A software.

On the command line the path to this folder is:

```
C:\Users\<login_name>\Documents\Agilent\M8070A\Workspaces\Default\Factory
```

In a file explorer window the path is:

```
C:\Users\<login_name>\My Documents\Agilent\M8070A\Workspaces\Default\Factory
```

After deleting the “Factory” folder, starting the latest version of the M8070A software will automatically create a new “Factory” folder containing the latest settings and pattern.

Fixing pattern-synchronization issues

If the analyzer fails to sync on a memory based pattern make sure, that the first 48bits of the pattern are unique by rotating the pattern in the pattern editor.

Recommendations for working with an embedded controller

- With an embedded controller (e.g. M9537A) installed, do not connect an external host PC to the AXIe System Module (ASM) or Embedded System Module (ESM) front panel PCIe or USB connector.
- Do not leave empty slots between the embedded controller M9537A and instrument modules. Modules may be inaccessible with some ESM firmware revisions.
- Ensure that the ESM firmware version matches the embedded controller’s minimum requirements. Consult the ESM and embedded controller’s documentation for further details.

Recommendations for working with M8030A setups

- Using Keysight IO Library rev. 17.2.20605 or above is mandatory to prevent enumeration issues.
- If working with an external computer.
Wait until all LEDs on the chassis and all modules have reached a stable condition before turning on the external computer. This can take several minutes.
- Always shut down the external computer before switching off the M9514A chassis.
- Make sure to use the correct clock cables when using a M8192A to synchronize multiple modules.
The cables that come with M8051A modules are not working together with a M8192A synchronization module.

Release 3.5.104.4

Released Date:	09. February 2017
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit) Microsoft Windows 10 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI or M8040A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal to version 1.3.42
File Name:	M8070A_Setup_3.5.104.4.exe

Breaking changes

- M8046A: Minimum Symbol Rate increased to 5.0 GBd
Please refer to updated data sheet for updated specification.
- M8046A: Minimum CLK IN frequency increased to 2.5 GHz
Please refer to updated data sheet for updated specification.

Fixed defects

- 494139 M8046A: When being operated with an embedded PC or via PCIe cable, the following self-test error message is reported in the power on self-test result
Error: M1.MBd.DataIn.Memory reports Setting up HMC for BIST failed.
- 495292 GUI crops Analyzer Status window

Known defects

- Ignore following self-test message:
“Before performing a system self-test terminate every DATA OUT pin with 50 Ohms. Take care to remove any devices from the tested M8000 system as any connected device under test might be damaged.”

- 493938 Hardware bring-up sporadically fails with error message 'AWG FPGA test register access failed' on M8041A, M8051A and M8045A. Work around: Power-cycle AXIe chassis and restart the software.
- 492740 Instantaneous BER value is not always completely readable in the status display.
- 494050 Auto-alignment button not completely visible in the status display.

Known limitations

- M8196A
 - The maximum system data rate is limited to 46 GBd.
- M8045A
 - Pattern and Sequence:
 - Pattern memory limited to 4 Mbit per channel.
 - SYS IN A, SYS IN B cannot be used to control sequence
 - Direct clock mode is limited to 8.1GHz to 16.2GHz
 - Timing relation between channel 1 and 2 is non-deterministic and can vary with each timing parameter change.
 - Timing relation between channel 1 and TRIG OUT/CLK OUT is non-deterministic and can vary with each timing parameter change.
 - Jitter profiles of channel 1, channel 2 and TRIG OUT/CLK OUT are not phase aligned.
- M8046A
 - Pattern and Sequence:
 - Pattern must have a mark density of 50% because of AC coupled data input. Non-balanced patterns will lead to pattern-sync and alignment failures caused by the average voltage mismatch before and after the AC coupling.
 - Pattern memory limited to 4Mbit.
 - Pattern capture
 - limited to 2 Mbit

- PAM-4 threshold parameters and SCPI commands are now using the unit Volt instead of %.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x and the PAM-4 threshold values will remain at the default settings.

Release 3.5.100.2

Released Date:	22. December 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit) Microsoft Windows 10 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI or M8040A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal to version 1.3.42
File Name:	M8070A_Setup_3.5.100.2.exe

New features

- M8040A High-performance BERT 64 GBaud
 - Support for M8045A
 - Support for M8046A
 - Support for M8057A
- New Factory Patterns
 - IEEE\PRBS13Q_Lane0_bit
 - IEEE\PRBS13Q_Lane1_bit
 - IEEE\PRBS13Q_Lane2_bit
 - IEEE\PRBS13Q_Lane3_bit
 - IEEE\SSPRQ_bit_SelectGrayCoded
 - IEEE\QPRBS13_Lane0_bit_SelectGrayCoded

Breaking changes

The factory pattern IEEE\PRBS13Q_bit was renamed to IEEE\PRBS13Q_Lane0_bit.

Effect:

Existing settings that are using the previous factory pattern PRBS13Q_bit cannot be recalled. This problem occurs after updating the Factory folder as described above.

Workaround:

1. Before upgrading to M8070A 3.5.100.2
Temporarily change all settings that use PRBS13Q_bit
 - Recall the setting
 - Change all sequences that use PRBS13Q_bit to use another factory pattern
 - Save the setting
2. After upgrading to M8070A 3.5.100.2
 - Update the Factory folder as described above
 - Start M8070A 3.5.100.2
 - Load each setting that has been modified in the previous step and select PRBS13Q_Lane0_bit in the sequences that have been using PRBS13Q_bit.
 - Save the setting

Fixed defects

494233 M8062A: Output Timing measurement sporadically shows wrong bathtub curve and calculated results

Known defects

- Ignore following self-test message:
“Before performing a system self-test terminate every DATA OUT pin with 50 Ohms. Take care to remove any devices from the tested M8000 system as any connected device under test might be damaged.”

- 493938 Hardware bring-up sporadically fails with error message 'AWG FPGA test register access failed' on M8041A, M8051A and M8045A. Work around: Power-cycle AXIe chassis and restart the software.
- 494139 M8046A: When being operated with an embedded PC or via PCIe cable, the following self-test error message is reported in the power on self-test result *Error: M1.MBd.DataIn.Memory reports Setting up HMC for BIST failed.* Workaround: Ignore the error message after verifying that the problem is not being reported using a USB connection. Note: All M8046A have passed the memory self-test during manufacturing.
- 492740 Instantaneous BER value is not always completely readable in the status display.
- 494050 Auto-alignment button not completely visible in the status display.

Known limitations

- M8196A
 - The maximum system data rate is limited to 46 GbD.
- M8045A
 - Pattern and Sequence:
 - Pattern memory limited to 4 Mbit per channel.
 - SYS IN A, SYS IN B cannot be used to control sequence
 - Direct clock mode is limited to 8.1GHz to 16.2GHz
 - Timing relation between channel 1 and 2 is non-deterministic and can vary with each timing parameter change.
 - Timing relation between channel 1 and TRIG OUT/CLK OUT is non-deterministic and can vary with each timing parameter change.
 - Jitter profiles of channel 1, channel 2 and TRIG OUT/CLK OUT are not phase aligned.
- M8046A
 - Pattern and Sequence:
 - Pattern must have a mark density of 50% because of AC coupled data input. Non-balanced patterns will lead to pattern-sync and alignment failures caused by the average voltage mismatch before and after the AC coupling.

- Pattern memory limited to 4Mbit.
- Pattern capture
 - limited to 2 Mbit
- PAM-4 threshold parameters and SCPI commands are now using the unit Volt instead of %.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x and the PAM-4 threshold values will remain at the default settings.

Release 3.5.0.2

Released Date:	1. December 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit) Microsoft Windows 10 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal to version 1.3.42
File Name:	M8070A_Setup_3.5.0.2.exe

New features

- M8041A and M8051A
 - LTSSM for USB 3.1 (requires license)
 - Allow user to select the LTSSM phase that will send a trigger
 - Increased maximum rSSC amplitude to 600ps
 - TX EQ negotiation for 10GBASE-KR (requires plug-in installation and corresponding license)
- Support of M8195A as a
 - digital data source
 - level interference source for M8045A
- Support of M8196A as a
 - digital data source
 - level interference source for M8045A
- Import and export of sequences and referenced patterns from within the sequence editor
- Impairment Setup View

- Pattern Editor
 - Go To functionality
 - Find in pattern
 - Create new patterns from imported ASCII file
 - Improved selection of pattern for copy and find functionality
 - Import pattern from external ASCII files into pattern editor with code conversion
- New Pattern files
 - IEEE\PRBS13Q_bit
the generator polynomial is $G(x) = 1 + x + x^2 + x^{12} + x^{13}$ and the seed used for the stored pattern is 0000010101011.
 - IEEE\JP03A
 - IEEE\JP03B
 - IEEE\PAM-4_Linearity_Test_bit
- Eye diagram measurement
 - Improved measurement duration for M8041A, M8051A and M8062A
- Script Editor
 - Improved auto-completion
- Switch between BER and SER display
- Individual stop indicators for Generator and Analyzer channels
- Support of embedded controller M9537A
- Windows 10 support
- Restart pattern sequence at a certain block via SCPI command.
See remote programming guide for details.
- Limited support of M8045A 64 GBd Generator-Clock Module for early shipments and demos
- Limited support of M8046A 32 GBd Analyzer Module for early shipments and demos
- Documentation and context sensitive help is already prepared for M8045A and M8046A, but not yet completed.

Fixed defects

478584	SSC on DATA Out if no jitter option present
479497	M8041A, M8051A: Wrong data rate when SSC is being used at 8.1 Gb/s
477522	M8041A/51A: Sequencer controlled trigger out toggles although not defined in sequence
473797	Error when opening factory DisplayPort settings on PG only M8041A
469990	M8062A: Error message generated when no CDR board present
470196	Auto correction dialog causes the instrument to change system frequency without executing the mandatory hardware re-initialization.
489683	M8070A / M8195A: With a two or one channel licensed AWG module it is not possible to select data rates going below 50 ps minimum transition time.
489784	File-save naming error pop-up
489931	M8070A SW pulling network license of M8085A plugin.
489978	Auto align doesn't work properly in M8062A
489875	M8070A Software Crashes within BER measurements
481565	SSC indicator disappears from status section in 32G mode
480306	SCPI command returns undefined signs
469746	Capture Measurement crash

Known defects

- Ignore following self-test message:
“Before performing a system self-test terminate every DATA OUT pin with 50 Ohms. Take care to remove any devices from the tested M8000 system as any connected device under test might be damaged.”
- Pattern editor does not support editing mask information in PAM-4 mode

Known limitations

- M8045A
 - Pattern and Sequence:
 - Pattern memory limited to 2 Mb per channel.
 - SYS IN A, SYS IN B cannot be used to control sequence
 - Symbol rates below 5 GBd are non-functional on LSR units
 - Direct clock mode is limited to 8.1GHz to 16.2GHz
 - Clock/2 jitter is non-functional on LSR units
 - Timing relation between channel 1 and 2 is non-deterministic and can vary with each timing parameter change.
 - Timing relation between channel 1 and TRIG OUT/CLK OUT is non-deterministic and can vary with each timing parameter change.
 - Jitter profiles of channel 1, channel 2 and TRIG OUT/CLK OUT are not phase aligned.
 - De-emphasis parameters and SCPI commands are subject to change.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x
 - Parameter limits may differ from the specified values in the data sheet.
- M8046A
 - Pattern and Sequence:
 - Pattern memory limited to 2Mb.
 - Pattern capture
 - limited to 2 Mb
 - error information not correctly aligned with captured data
 - PAM-4 threshold parameters and SCPI commands are now using the unit Volt instead of %.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x
 - Maximum symbol rate in PAM-4 mode is 29 GBd

- Parameter limits may differ from the specified values in the data sheet.
- Embedded controller M9536/7A works if controller is in highest slot of chassis and instrument is connected with USB
- The amount of jitter at the CLK IN connector is limited.
- In rare cases the auto alignment needs retry.

Release 3.4.20200.4

Released Date:	10. August 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.4.20200.4.exe

New features

- Limited support of M8046A 32 Gb/s Analyzer Module for early shipments and demos

Known defect

Ignore following self-test message:

“Before performing a system self-test terminate every DATA OUT pin with 50 Ohms. Take care to remove any devices from the tested M8000 system as any connected device under test might be damaged.”

Fixed defect

- M8045A
 - PRBS polynomials $2^{13}-1$, $2^{23}-1$, $2^{45}-1$ and $2^{51}-1$ are now functional
 - De-emphasis setting is inaccurate after a symbol rate change and the output signal may remain at static levels after starting up the software.
Workaround: Toggle Data Out polarity

Known limitations

- M8045A
 - Pattern and Sequence:
 - Limited to one sequencer block with infinite loop.
 - Limited to hardware generated PRBS.
Use the 'Select Pattern' dialog to configure the PRBS to be used.
 - TRIG OUT, SYS OUT A, SYS OUT B, CTRL OUT A and CTRL OUT B cannot be controlled from within sequence
 - SYS IN A, SYS IN B, CTRL IN A and CTRL IN B cannot be used to control sequence
 - Symbol rates below 5 GBd are non-functional
 - SSC is non-functional
 - Jitter sweep is non-functional
 - Error insertion is non-functional
 - Direct clock mode is limited to 8.1GHz to 16.2GHz
 - Clock/2 jitter is non-functional
 - Timing relation between channel 1 and 2 is non-deterministic and can vary with each timing parameter change.
 - Timing relation between channel 1 and TRIG OUT/CLK OUT is non-deterministic and can vary with each timing parameter change.
 - Jitter profiles of channel 1, channel 2 and TRIG OUT/CLK OUT are not phase aligned.
 - De-emphasis parameters and SCPI commands are subject to change.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x
 - Parameter limits may differ from the specified values in the data sheet.
- M8046A
 - Pattern and Sequence:
 - Limited to one sequencer block with infinite loop.

- Limited to hardware generated PRBS.
Use the 'Select Pattern' dialog to configure the PRBS to be used.
 - CTRL OUT A cannot be controlled from within sequence
 - CTRL IN A cannot be used to control sequence
 - Pattern capture not enabled
 - PAM-4 threshold parameters and SCPI commands are subject to change (unit will change from % to V).
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x
 - Data Loss indicator not functional
 - Maximum symbol rate in PAM-4 mode is 29 GBd
 - Parameter limits may differ from the specified values in the data sheet.
 - Embedded controller M9536/7A works if controller is in highest slot of chassis and instrument is connected with USB
 - The amount of jitter at the CLK IN connector is limited.
 - Unstable or missing clock can cause system hang-up and requires power cycle of the AXIe chassis.
 - In rare cases the auto alignment needs retry.
- No context sensitive help for new features

Release 3.4.10100.2

Released Date:	10. August 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.4.10100.2.exe

New features

- Limited support of M8045A 64 GBd Generator-Clock Module for early shipments and demos
- Support of M8196A as digital data source
- Import and export of sequences and referenced patterns from within the sequence editor
- M8041A, M8051A: Increased maximum rSSC amplitude to 600ps
- Pattern Editor
 - Go To functionality
 - Find in pattern
 - Create new patterns from imported ASCII file
 - Improved selection of pattern for copy and find functionality
- New Pattern files
 - IEEE\PRBS13Q_bit
the generator polynomial is $G(x) = 1 + x + x^2 + x^{12} + x^{13}$ and the seed used for the stored pattern is 0000010101011.
 - IEEE\JP03A
 - IEEE\JP03B

- IEEE\PAM-4_Linearity_Test_bit
- Restart pattern sequence at a certain block via SCPI command.
See remote programming guide for details.
- Individual stop indicators for Generator and Analyzer channels

Known defect

Ignore following self-test message:

“Before performing a system self-test terminate every DATA OUT pin with 50 Ohms. Take care to remove any devices from the tested M8000 system as any connected device under test might be damaged.”

Fixed defects

478584	SSC on DATA Out if no jitter option present
479497	M8041A, M8051A: Wrong data rate when SSC is being used at 8.1 Gb/s
477522	M8041A/51A: Sequencer controlled trigger out toggles although not defined in sequence
473797	Error when opening factory DisplayPort settings on PG only M8041A
469990	M8062A: Error message generated when no CDR board present
470196	Auto correction dialog causes the instrument to change system frequency without executing the mandatory hardware re-initialization.

Known limitations

- M8045A
 - Pattern and Sequence:
 - Limited to one sequencer block with infinite loop.
 - Limited to hardware generated PRBS.
Use the ‘Select Pattern’ dialog to configure the PRBS to be used.
 - PRBS polynomials $2^{13}-1$, $2^{23}-1p$, $2^{45}-1$ and $2^{51}-1$ are non-functional
 - TRIG OUT, SYS OUT A, SYS OUT B, CTRL OUT A and CTRL OUT B cannot be controlled from within sequence

- SYS IN A, SYS IN B, CTRL IN A and CTRL IN B cannot be used to control sequence
 - Symbol rates below 5 GBd are non-functional
 - SSC is non-functional
 - Jitter sweep is non-functional
 - Error insertion is non-functional
 - Direct clock mode is limited to 8.1GHz to 16.2GHz
 - Clock/2 jitter is non-functional
 - De-emphasis setting is inaccurate after a symbol rate change and the output signal may remain at static levels after starting up the software.
Workaround: Toggle Data Out polarity
 - Timing relation between channel 1 and 2 is non-deterministic and can vary with each timing parameter change.
 - Timing relation between channel 1 and TRIG OUT/CLK OUT is non-deterministic and can vary with each timing parameter change.
 - Jitter profiles of channel 1, channel 2 and TRIG OUT/CLK OUT are not phase aligned.
 - De-emphasis parameters and SCPI commands are subject to change.
Instrument settings created with 3.4.x.x may not recall completely with version 3.5.x.x
 - Parameter limits may differ from the specified values in the data sheet.
- No context sensitive help for new features

Release 3.1.55.14

Released Date:	08. June 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.1.55.14.exe

Fixed defect

- Incompatibility with the C-PHY CTS plug-in

Release 3.1.52.10

Released Date:	23. May 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.1.52.10.exe

New features

- Limits for termination resistance increased (valid for M8041A, M8051A, M8061A, M8062A)
 - o from 120 Ohm to 130 Ohm for balanced dc coupling
 - o from 60 Ohm to 65 Ohm for unbalanced dc coupling

Fixed defect

457875	
462222	
464288	
463098	
464810	
464812	
462169	Eye diagram enhancements and stability improvements
465168	:OUTP:DEEM:CONF:SIGN accepts now 3 or 7 arguments for supporting M8061A; Programming guide was updated correspondingly
465434	Global SSC switch turns off SSC on Clock Out in common with the DataOuts now
463963	M8195A Increased lower limits of transition time in 2 or 4 channel deep memory configurations. Using very low transition times does not increase signal performance but instead causes jitter.
460958	Several enhancements to run measurements for a long time

- 464842 M8062A Clean Clock Out is now part of the global outputs switch on/off mechanism
- 471451 PCIe3 link training is possible on every lane now

Release 3.1.15.6

Released Date:	14. April 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.1.15.6.exe

Fixed defect

464485 CMI/DMI frequency change on single channel module failed

Release 3.1.14.4

Released Date:	24. March 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.1.14.4.exe

New features

- Support for the M8062A CDR option (-OA4).

Release 3.0.40.20

Released Date:	14. March 2016
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.0.40.20.exe

New features

- Support for next generation HH-ASIC

Release 3.0.34.10

Released Date:	27. February 2016
Operating System:	Microsoft Windows 7 (64 bit) SPI, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.2.20605 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_3.0.34.10.exe

New features

- M8030A Multi-Channel BERT
- Eye diagram measurement
- Support M8192A Multi-Channel Synchronization Module
- Support of M8195A rev2
- M8195A
 - S-parameter based embedding
 - RJ and PJ generation
 - SSC generation
 - Increase channel delay from $\pm 100\text{ps}$ to $\pm 1\text{ns}$
 - Support for extended memory configuration of M8195A rev2
 - Additional PRBS polynomial
 $X^{13} + X^{12} + X^2 + X + 1$
- M8041A and M8051A
 - Bit recovery mode with CDR
 - Additional PRBS polynomials
 $X^{13} + X^{12} + X^2 + X + 1$
 $X^{33} + X^{20} + 1$

- $X^{35} + X^{33} + 1$
 - $X^{39} + X^{35} + 1$
 - $X^{41} + X^{38} + 1$
 - $X^{45} + X^{44} + X^{42} + X^{41} + 1$
 - $X^{47} + X^{42} + 1$
 - $X^{49} + X^{40} + 1$
 - $X^{51} + X^{50} + X^{48} + X^{45} + 1$
 - Changed default value of SSC Deviation to 0.5%
- Measurement enhancements
 - Accumulated BER stop after a user defined number bits
 - JTOL templates for SATA2, SAS2, CEI, 10G Ethernet, XFP, FibreChannel
 - JTOL measurement can re-train DUT into loopback during a measurement using the DUT Control Interface.
- System View enhancements
 - Support for M8195A
 - In place editing of parameters.
- Pattern Editor enhancements
 - Bit order selection can be changed
 - Display and edit PAM-4 0,1,2,3 symbols
 - Copy/paste from pattern editor to clipboard and vice versa
 - Display pattern length
- Sequence Editor enhancements
 - Show pattern length in sequence editor
- ISI Editor improvement in 2-point mode
- Rebranding related changes
 - New response to *IDN? Query
 - New: *Keysight Technologies,M8070A,DE525000002,3.x.x.x*
 - To date: *Agilent Technologies,M8070A,DE525000002,3.x.x.x*
 - Installation folder changed to C:\Program Files\Keysight

Known limitations

- Plug-ins that have been installed for the 2.x.x.x version are not compatible with 3.x.x.x. Please download a compatible version and re-install.
- A downgrade of the M8070A system software from version 3.x.x.x to 2.x.x.x requires a manual uninstall. Please follow the downgrade procedure below.
 - Click on: Start → Control Panel → Uninstall a program (Scroll down to Keysight)
 - Right-click on ... and select Uninstall
 1. Keysight M8070A
 2. Keysight License Manger
 3. Keysight License Service
 4. Keysight InstrumentIOConfig
 5. Keysight Host Processor Platform
 - Initiate a reboot
 - Install the M8070A_Setup_2.x.x.x.exe
- Defect 458831
Using the Pattern Select dialog to configure the patterns is not working and preventing the sequence editor to download a sequence.
Workaround:
Open the Sequence Editor before using the Pattern Select dialog for the first time.
- Defect 458628
Corrupt graph in Error Ratio measurement when the error detector is stopping and re-starting during a measurement, e.g. when the CDR is losing lock.

Fixed defects

- | | |
|--------|--|
| 437384 | Immediately after sending the query ':plugin:eratio:fetch:pfr?', SCPI commands to set or query de-emphasis values return an error. |
| 448957 | JTOL measurement shows wrong maximum allowed jitter frequency. |
| 449518 | Opening measurement windows causes remote programming delays |

Release 2.6.4.6

Released Date:	16 October 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.1 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_2.6.4.6.exe

New features

Variable transition times for Data Out of M8195A.

Fixed defects

435205 Wrong jitter generated for BUJ and RJ if a shared jitter source is being turned off at one place while still being used at another place.

Release 2.5.6.10

Released Date:	26 August 2015
Operating System:	Microsoft Windows 7 (64 bit) SPI, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.1 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_2.5.6.10.exe

New features

Support for M8062A 32Gb/s Front-end for J-BERT M8020A High-Performance BERT

Release 2.5.2.4

Released Date:	06 August 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.1 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_2.5.2.4.exe

New features

- PAM-4 signal generation with M8195A Rev. 1.
Required M8195A firmware 1.3.1.1 or above.
- M8020A generic features
 - LTSSM enhancement
Test dynamic EQ according to 2.4 and 2.7.
 - Generator and Analyzer sequences can be downloaded independently
 - CTLE presets for USB 3.1 and PCIe 4
 - New MIPI ISI presets
- DUT Control Interface (requires the M8070A option 1TP or 1NP)

Fixed defects

427311	MUX mode setup recall from SCPI is incomplete
421276	Jitter not aligned between Data Out 1, Data Out 2 and Clock/Trigger Out.
415324	Sequencing: Wrong data generated with patterns that do not fit in Sequence Granularity and are unrolled.
407010	Application crashes when reading error ratio results via SCPI.

- 403630 System freezes when stopping due to instable reference clock.
- 402269 Single channel M8041A or M8051A hangs in arming loop when changing data rate by factors of 2.
- 400552 System freezes when a pattern sync or sequence break overlaps with re-arming events.
- 397109 M8195A module in frame causes M8070A software and M8195A software to crash.
- 396357 Documentation on pattern/settings sharing between systems is not clear.
- 395181 USB connection to M9505A chassis becomes unresponsive, M8070A software hangs.
- 394686 Exception message when storing setting while a measurement is running.
- 394685 Jump to Sync in pattern sequence has no effect ton SYS OUT A/B and TRIG OUT.
- 394683 128b/13xb coding expected data generation: bypass byte0 and reset dc balancing not generating correct expected data.
- 396348 Pattern export does export wrong data for patterns > 32kbyte.
- 394342 Pattern Capture remains in stopped state after parameter conflicts occurred.

Release 2.1.50.2

Released Date:	21 May 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.1 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_2.1.50.2.exe

New features

Selectable transition times for Data Out of M8041A and M8051A.

Fixed defects

- 386921 Factory settings cannot be loaded when a M8051A is present.
- 387505 Sequence trigger pulse width could only be set in block 1.
- 387506 Sequencing: PON sequence sends incorrect bits depending on payload length.
- 387746 8b10b pattern: can't achieve SER 0 for expected pattern that is not unique at offset 0.
- 385829 Output Timing Measurement: Graph not matching the numeric results.
- 383549 Output Level Measurement: Produces wrong result when ED cannot set the requested threshold.
- 383555 Output Level Measurement: Threshold sweep range not as entered by the user.
- 383548 Output Level Measurement: Threshold range not checked against ED capabilities.

Known limitations

- 383575 Output Timing Measurement: Incomplete results for jitter separation when measuring on a group of Error Detectors.
Work around: Measure the channels individually.
- 394342 Pattern Capture remains in stopped state after parameter conflicts occurred.
Symptom: Pattern capture reports stopped state without presenting data even in immediate mode.
Workaround:
- Either toggle SSC state or change the system frequency.
- Start Pattern Capture again.

Release 2.0.0.0

Released Date:	27 March 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 17.1 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_2.0.0.0.exe

New features

- Built-in ISI (Inter Symbol Interference)
- Compare and Capture
- Output level measurement (Q-factor)
- ISI S Parameter View
- Pattern Editor: Copy/Paste, Export, Coding Conversion
- Auto alignment accessible from status indicator panel.
- Changed the content of the tooltips in the parameter editor.
The displayed Value, Minimum and Maximum are the current setting dependent valid values and neither datasheet nor absolute value ranges.

New Factory Settings

- PCIe3/PCIe3_modified_compliance_pattern_lane0_SRIS
- PCIe3/PCIe3_RX_Cal
- SAS/SAS_12G_Cal
- SAS/SAS_12G_JTOL
- USB3.0/USB_3_0_Cal

- USB3.1/USB_3_1_Cal

Updated Factory Settings

- USB3.0/GenericPowerUp
- USB3.1/USB_3_1_power_on_loopback_training

Fixed defects

- | | |
|--------|---|
| 358545 | Save/recall settings not working when user name does have a space. |
| 377940 | SER = 0 without input signal connected. |
| 376282 | Programming guide error for :PLUG:OTIM:FETC:DATA? |
| 376292 | Clk/2 jitter is not documented and location is not intuitive. |
| 376248 | CDR sequence control graphic is not intuitive and does not update when the change is made. |
| 376056 | System view graphics do not updated when the change is made. |
| 376286 | Jitter Tolerance Measurement: Need wider max setting on binary search exit criteria. |
| 382342 | M8000 test result of PCIe Gen2 RX Jitter Tolerance (by N5990) is abnormal. |
| 376240 | 'replicate' option in the pattern generator is not clear enough. |
| 376287 | Jitter Tolerance Measurement: RJ amplitude included in HF jitter total even when disabled. |
| 376222 | Documentation for :data:seq:bre command wrong. |
| 376201 | HF jitter range falsely stated (in GUI).
Jitter budget calculation for SSC and rSSC fixed. |

Known limitations

- | | |
|--------|---|
| 383549 | Output Level Measurement produces wrong results when the measurement range conflicts with capabilities of the error detector.
Work around: Ensure that the entered threshold sweep range does not conflict with the error detector capabilities. |
| 383555 | Output Level Measurement: Threshold sweep range is not behaving as expected. The measurement is running from "Optimum Sample Threshold" + "Sample Threshold Low Level" to "Sample Threshold High Level". |

Work around: Enter "Sample Threshold Low Level" as ("Desired Measurement Low Level" - "Optimum Sample Threshold").

383575

Output Timing Measurement: Incomplete results for jitter separation when measuring on a group of Error Detectors.

Work around: Measure the channels individually.

Release 1.5.9.6

Released Date:	24 February 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.5.9.6.exe

New features

- Maintenance release to support latest hardware revisions.
- Support for M8085A options DT1, DN1 and DD1.

Fixed defects

358952	USB driver(s) removed when installing V1.5.x.x M8070A SW.
360333	Tool-tip on some GUI element is giving wrong information.
359951	User is unable to run symbol rate's SCPI with suffix, need to provide complete digit of input value for SCPI.
360074	User is unable to run sample rate's SCPI with suffix, need to provide complete digit of input value for SCPI.
369627	Factory Default Settings: Sync Loss Threshold not sensible. Fixed the following settings: - PCIe3/PCIe3_mod_compliance_lane0_ASIC - USB3.0/GenericPowerUp

Known limitations

354552	When using the M8061A a low transition density of the pattern can lead to an alignment failure between the M8041A and M8061A modules. ("Error ID: 16123057 Description: Failed to align the connection from M1.DataOut1
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to M2.DataIn1. Check there is a cable connected and that the complement output of M1.DataOut1 is properly terminated.").

Workaround:

- Select a PRBS pattern and force an input alignment by changing the data rate.
- Change the pattern back after the alignment succeeded.

Release 1.5.7.4

Released Date:	15 December 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.5.7.4.exe

Fixed defects

- 356986 M8061A integration - null reference exception when query BER via SCPI.
- 356775 Sync loss with a pattern having 4e+9 symbols in bit mode with block length as 90910300.
- 359630 User is unable to enter “+” and “\” symbols by keyboard in SCPI editor’s input field.
- 355337 Error is thrown when rename and new folder operation is done in a sequence.
- 343272 Output timing issue when injecting PJ1 to the M8061A.
- 355749 Pattern may get corrupted, when user closes the Save Pattern while GUI is performing the save pattern operation.
- 358328 M8061A: N4877A loop bandwidth out of sync. with loop bandwidth displayed in M8070A.
- 338421 Behavior of Documents/Agilent/M8070A directory in M8070A installation is not clearly documented.
- 353468 M8070A software hangs in start-up, HF jitter source FIFO problems in log file
- 354976 No sync with 10101 pattern and other patterns that have length 5 bits. This happens for data-rates above 8.1Gb/s.
- 356319 :INP:ALIG:EYE:RES:DEL? doesn't return enough digits of resolution.

- 358069 Unexpected auto-correction of jitter amplitude when changing data rate.
- 355348 Bit rate not visible in status bar for option G08.
- 360417 M8061A: exception when issuing a SCPI command while auto-sync is executing.
- 360420 HF jitter spectrum and therefore jitter amplitudes incorrect on M8051A when controlling via PCIe.
- 357921 Can't change bit rate if jitter injection amplitude is too high.
- 361634 Jitter Tolerance Measurement: Not reaching 1ui when SSC is present.
- 361787 HF jitter amplitudes too small for data rates below 1Gb/s.

Known limitations

- 354552 When using the M8061A a low transition density of the pattern can lead to an alignment failure between the M8041A and M8061A modules.
("Error ID: 16123057 Description: Failed to align the connection from M1.DataOut1 to M2.DataIn1. Check there is a cable connected and that the complement output of M1.DataOut1 is properly terminated.").

Workaround:

- Select a PRBS pattern and force an input alignment by changing the data rate.
- Change the pattern back after the alignment succeeded.

Release 1.5.2.2

Released Date:	30 October 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.5.2.2.exe

New features

- Support for the M8061A module.
- Compliant interactive link training including de-emphasis negotiation for PCIe3 on channel one.
- Pattern Memory extended to 2G/bit per channel.
- 128b/132b coding and SKPOS handling for USB 3.1.

Known limitations

- After changing to mux mode on the M8061A remotely wait for an additional 5 seconds after the system reports 'running state' before executing further commands.
- Defect 354552
When using the M8061A a low transition density of the pattern can lead to an alignment failure between the M8041A and M8061A modules.
("Error ID: 16123057 Description: Failed to align the connection from M1.DataOut1 to M2.DataIn1. Check there is a cable connected and that the complement output of M1.DataOut1 is properly terminated.").

Workaround:

- Select a PRBS pattern and force an input alignment by changing the data rate.
- Change the pattern back after the alignment succeeded.

Release 1.0.12.12

Released Date:	25 September 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.12.12.exe

Fixed defects

350887 Data Output Glitches when generating squelch signal.

Release 1.0.10.10

Released Date:	20 August 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.10.10.exe

New features

The M8070A software supports jitter profile alignment capability on M8051 Data Module.

Release 1.0.9.8

Released Date:	11 August 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.9.8.exe

New features

The M8070A software supports an add-on plug-in that generates C-PHY signals so as to test the DUTs that are compatible to this new standard.

Release 1.0.8.6

Released Date:	31 July 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.8.6.exe

Fixed defects

- License handling for C-Phy.
- USB factory setting improved and verified with real device.
- M8051A HF Jitter sources supported.
- DMI amplitude change adjust amplitude range correctly.

Release 1.0.6.4

Released Date:	23 July 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.6.4.exe

Fixed defects

336454 Fixed issue supporting 1 channel configuration and option UED.

Release 1.0.4.2

Released Date:	10 July 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.4.2.exe

Fixed defects

- 331013 SCPI commands ...:TCEN and ...:ACEN lock up.
Plug-in loading fails if version does not match.
Overload Indicator does not work.
- 330359 Arbitrary SSC causes exception error message.
- 330573 Factory Patterns & Settings updated.

Release 1.0.0.0

Released Date:	27 June 2015
Operating System:	Microsoft Windows 7 (64 bit) SP1, Microsoft Windows 8 (64 bit) Microsoft Windows 8.1 (64 bit)
Controller requirements:	Embedded PC: Choose M8020A-BUI for a pre-installed embedded controller M9536A including pre-installation of M8070A software and module licenses. Otherwise: M9536A 1-slot AXIe embedded controller, choose options for Windows 7 or 8, 8 or 16 GB RAM, USB External PC: USB connection recommended between external PC and AXIe chassis. Minimum of 8 GB RAM recommended. For PCIe connectivity please refer to list of tested PCs for AXIe Technical Note, pub no. 5990-7632EN
Display resolution:	Minimum requirement 1024 x 768
Software pre-requisites:	Keysight IO Library rev. 16.3 or above AXIe Chassis Firmware (Embedded System Module (ESM) from Agilent Technologies) greater than or equal version 1.3.41
File Name:	M8070A_Setup_1.0.0.0.exe

Initial Release

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