Keysight M8070ADVB Advanced Measurement Package

The functionalities of the M8070B system software can be enhanced by this package. This package requires M8070B SW 11.0 or later.

Software licensing

The M8070B baseline software is free-of-charge and doesn't require any license. In order to use the Advanced Measurement Package features a valid M8070ADVB license is required. For more details on the required license refer to "License Information" section in the user guide for this package described in Related Document.

Related Document

For detailed information on this package and its functionalities, refer to the following document after installing the package.

- "AdvancedMeasurementPackageUserGuide.pdf"

This document can be found at the following location after you install the package:
`C:\Program Files\Keysight\M8070B\Plugins\M8070ADVB\doc`
The M8070B documents can be located by clicking *Start* > *All Programs* > *Keysight M8070B* > *Keysight M8070B Documentation*. Alternatively, you can also visit www.keysight.com/find/M8070B to find the latest versions of M8070B documents.

KEYSIGHT

Installation Steps

To install the Keysight M8070ADVB package, perform the following steps:

- Start the M8070B software. To do so, go to *Start Menu* > *All Programs* > *Keysight M8070B*.
- Click Utilities -> Plugin Manager menu.
- Click on the *Install Plug-in* from *File* button. A *File Open* dialog is displayed.
- Locate the *M8070ADVB.M8KP* to install and click *OK*. On the successful installation of M8070ADVB package, a message is displayed.
- Install the required licenses via the Keysight License Manager (if not done before). To know about the details of required licenses, refer to the user guide mentioned above.
- Restart the M8070B software. You should be able to use additional features thru various menus like "Measurements", "Utilities" etc. To know more about how to use the features of this package, refer to the user guide mentioned above.

Release 1.12.60.2

Released Date:	April 15, 2024
M8070B Required Minimum Release:	S11.0.x
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Same as M8070B System Software
Display resolution:	Same as M8070B System Software
Software pre-requisites:	Same as M8070B System Software
File Name:	M8070ADVB_1.12.60.2.m8kp

New Features and Enhancements

- Add new SCPI to return complete measurement data in Parameter Sweep, Output Timing and Output Level measurements.

Release 1.11.80.6

Released Date:	December 04, 2023
M8070B Required Minimum Release:	S10.5.x
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Same as M8070B System Software
Display resolution:	Same as M8070B System Software
Software pre-requisites:	Same as M8070B System Software
File Name:	M8070ADVB_1.11.80.6.m8kp

New Features and Enhancements

Support for UXR-B Real time scopes as error detector.

Release 1.10.70.4

Released Date:	July 19, 2023
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 10, 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:	M8070B SW version 10.0.110.4 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.10.70.4.m8kp

Fixed defects

M8K-4696: M8070B crashing while inserting errors during JTOL measurement.

Release 1.10.40.2

Released Date:	June 16, 2023
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 10, 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:	M8070B SW version 10.0.70.2 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.10.40.2.m8kp

Enhancements

- Export measurement tab results in .csv format.

- Support 200G/lane for Real time scope as Error Detector.

- Auto De-emphasis support with UXR Senior scope.

Fixed Defects

- M8K-4326: M8070B channel bandwidth limit feature cannot be used when N7005A is installed with real time scope as error detector.

Release 1.9.210.8

Released Date:	Feb 14, 2023
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 10, 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:	M8070B SW version 9.1.50.2 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.9.210.8.m8kp

Enhancements

- Support for hardware acceleration when Real time scope used as error detector.

Release 1.9.10.2

Released Date:	Jul 29, 2022
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 10, 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:	M8070B SW version 9.1.50.2 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.9.10.2.m8kp

Enhancements

Support for Real time scope as error detector with M8042A module.

Release 1.8.160.2

Released Date:	May 24, 2022
Operating System:	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 10, 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:	M8070B SW version 9.0.350.2 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.8.160.2.m8kp

New Feature

- PAM6/PAM8 support for real time scope as error detector.

- Support for all measurements for M8042A module.

Enhancements

BER measurement increased up to 120GBd with 80GHz UXR bandwidth.

Release 1.6.180.2

Released Date:	October 29, 2021
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 7 or 10, 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:	M8070B SW version 8.5.250.6 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.6.180.2.m8kp

Enhancements

- Licensing: Auto checkout of floating license in deprecated. User must use borrow license feature of KLM6 instead.

Release 1.5.160.18

Released Date:	May 13, 2021
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 7 or 10, 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:	M8070B SW version 8.0.200.18 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.5.160.18.m8kp

Features

- RED (UXR > 40 GHz)
  - Support for N7005A O/E: Provided a support for UXR real-time scope optical probe (N7005A) to measure BER from an optical signal.
  - Control DFE equalizer from M8070B: can be combined with FFE and CTLE equalizer.

Enhancements

- Parameters sweep measurement: Added support for optical Threshold (Watt) measurement.

Release 1.4.540.4

Released Date:	February 10, 2021
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 7 or 10, 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:	M8070B SW version 7.5.700.8 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.4.540.4.m8kp

Fixed Defects

M8K-78   Eye Diagram Measurement: inverted crossover in eye diagram.

M8K-119 Eye Diagram Measurement: Not producing a graph and results when error detector is set to inverted.

M8K-127 Parameter sweep measurement: Unable to run measurement when "PJ Amplitude" is configured in different SI unit.

Release 1.3.200.4

Released Date:	April 09, 2020
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU3 or M8040A-BU3 for a pre-installed embedded controller M9537A including pre-installation of M8070B software and module licenses. Otherwise: M9537A 1-slot AXIe embedded controller, choose options for Windows 7 or 10, 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:	M8070B SW version 7.0.600.4 or higher
	Keysight IO Library rev. 18.0.22209.2 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.3.200.4.m8kp

Enhancements

- Adoption of J-TOL measurement to support M8046A below 5 GBd.

Release 1.2.800.2

Released Date:	October 14, 2019
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU1 or M8040A-BU1 for a pre-installed embedded controller M9536A/M9537A including pre-installation of M8070A software and module licenses. Otherwise: M9536A/M9537A 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:	M8070B SW version 6.7 or higher
	Keysight IO Library rev. 17.2.20605 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB_1.2.800.2.m8kp

Enhancements

- Auto-Deemphasis - This optimizes the de-emphasis settings at the end of the cable to get the best eye performance from the instrument.

Fixed Defects

M8K-114   DC coupled signals not supported on UXR.

Release 1.1.550.2

Released Date:	July 18, 2019
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU1 or M8040A-BU1 for a pre-installed embedded controller M9536A/M9537A including pre-installation of M8070A software and module licenses. Otherwise: M9536A/M9537A 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:	M8070B SW version 6.0 or higher
	Keysight IO Library rev. 17.2.20605 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB.m8kp

Enhancements

- Context menu option on measurements graph to save image with custom size and color scheme options.

Fixed Defects

572321   Parameter Sweep measurement doesn't enable Jitter state while sweeping High Frequency jitter amplitude

563027   In Parameter Sweep measurement graph fixed scaling to show low BER values less than 1e-12

Release 1.0.70.0

Released Date:	March 07, 2019
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU1 or M8040A-BU1 for a pre-installed embedded controller M9536A/M9537A including pre-installation of M8070A software and module licenses. Otherwise: M9536A/M9537A 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:	M8070B SW version 6.0 or higher
	Keysight IO Library rev. 17.2.20605 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB.m8kp

Features

- Measurements
  - o Output timing measurement
  - o Output level measurement
  - o Eye diagram measurement
  - o Jitter tolerance measurement
  - o Parameter sweep measurement
- SCPI Utilities
  - o SCPI Editor
  - o SCPI Recorder

- Scripting
  - DUT Control Interface
  - Script Editor
- External clock recovery for M8046A
  - Add support of N1076B and N1078A as external clock recovery
- Real-time oscilloscope as error detector
  - Add support for UXR0334A
  - New parameters
    - NRZ and PAM4 thresholds
    - Global bandwidth limit
    - Channel bandwidth limit and filter type

Known Defects

560971   After UXR0334A has been powered-up or Infiniium got re-started, the oscilloscope is reporting an "Data out of range" error on the first startup of M8070B. The Infiniium version that is showing this behavior is 10.00.3804 and 10.00.3902 This error message can be ignored.

Release 1.0.59.0

Released Date:	December 17, 2018
Operating System:	Microsoft Windows 7 (64 bit) SP1,
	Microsoft Windows 8 (64 bit)
	Microsoft Windows 8.1 (64 bit)
	Microsoft Windows 10 (64 bit) Version 1607 (Anniversary Update) or newer
Controller requirements:	Embedded PC: Choose M8020A-BU1 or M8040A-BU1 for a pre-installed embedded controller M9536A/M9537A including pre-installation of M8070A software and module licenses. Otherwise: M9536A/M9537A 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:	M8070B SW version 6.0 or higher
	Keysight IO Library rev. 17.2.20605 or above
	AXIe Chassis Firmware (Embedded System Module (ESM) from Keysight Technologies) greater than or equal to version 1.3.42
File Name:	M8070ADVB.m8kp

Known Defects

560971   After UXR0334A has been powered-up or Infiniium got re-started, the oscilloscope is reporting an "Data out of range" error on the first startup of M8070B. The Infiniium version that is showing this behavior is 10.00.3804 and 10.00.3902 This error message can be ignored.