Keysight M9018A PXIe Chassis

Chassis Manager Firmware Update

Utility Guide

KEYSIGHT TECHNOLOGIES

Notices

Manual Part Number

M9018-90013

Edition

Second Edition, January 2016

Published in

United States

Published by

Keysight Technologies, Inc.
900 S. Taft Ave.
Loveland, CO 80537 USA

Trademarks

PICMG®, Compact PCI® are registered trademarks of the PCI Industrial Computer Manufacturers Group.

AdvancedTCA® and ATCA are registered trademarks of the PCI Industrial Computer Manufacturers Group.

PCI-SIG®, PCI Express®, and PCIe® are registered trademarks of PCI-SIG.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

Declaration of Conformity

Declarations of Conformity for this product and for other Keysight products may be downloaded from the Web. Go to http://keysight.com/go/conformity. You can then search by product number to find the latest Declaration of Conformity.

U.S. Government Rights

The Software is "commercial computer software," as defined by Federal Acquisition Regulation ("FAR") 2.101. Pursuant to FAR 12.212 and 27.405-3 and Department of Defense FAR Supplement ("DFARS") 227.7202, the U.S. government acquires commercial computer software under the same terms by which the software is customarily provided to the public. Accordingly, Keysight provides the Software to U.S. government customers under its standard commercial license, which is embodied in its End User License Agreement (EULA), a copy of which can be found at http://www.keysight.com/find/sweula. The license set forth in the EULA represents the exclusive authority by which the U.S. government may use, modify, distribute, or disclose the Software. The EULA and the license set forth therein, does not require or permit, among other things, that Keysight: (1) Furnish technical information related to commercial computer software or commercial computer software documentation that is not customarily provided to the public; or (2) Relinquish to, or otherwise provide, the government rights in excess of these rights customarily provided to the public to use, modify, reproduce, release, perform, display, or disclose commercial computer software or commercial computer software documentation. No additional government requirements beyond those set forth in the EULA shall apply, except to the extent that those terms, rights, or licenses are explicitly required from all providers of commercial computer software pursuant to the FAR and the DFARS and are set forth specifically in writing elsewhere in the EULA. Keysight shall be under no obligation to update, revise or otherwise modify the Software. With respect to any technical data as defined by FAR 2.101, pursuant to FAR 12.211 and 27.404.2 and DFARS 227.7102, the U.S. government acquires no greater than Limited Rights as defined in FAR 27.401 or DFAR 227.7103-5 (c), as applicable in any technical data.

Warranty

THE MATERIAL CONTAINED IN THIS DOCUMENT IS PROVIDED "AS IS," AND IS SUBJECT TO BEING CHANGED, WITHOUT NOTICE, IN FUTURE EDITIONS. FURTHER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, KEYSIGHT DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH REGARD TO THIS MANUAL AND ANY INFORMATION CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KEYSIGHT SHALL NOT BE LIABLE FOR ERRORS OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, USE, OR PERFORMANCE OF THIS DOCUMENT OR OF ANY INFORMATION CONTAINED HEREIN. SHOULD KEYSIGHT AND THE USER HAVE A SEPARATE WRITTEN AGREEMENT WITH WARRANTY TERMS COVERING THE MATERIAL IN THIS DOCUMENT THAT CONFLICT WITH THESE TERMS, THE WARRANTY TERMS IN THE SEPARATE AGREEMENT SHALL CONTROL.

Keysight Technologies does not warrant third-party system-level (combination of chassis, controllers, modules, etc.) performance, safety, or regulatory compliance unless specifically stated.

Safety Information

CAUTION

A CAUTION denotes a hazard. It calls attention to an operating procedure or practice that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING denotes a hazard. It calls attention to an operating procedure or practice, that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Safety Information

The following general safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings or operating instructions in the product manuals violates safety standards of design, manufacture, and intended use of the instrument. Keysight Technologies assumes no liability for the customer's failure to comply with these requirements.

General

Do not use this product in any manner not specified by the manufacturer. The protective features of this product must not be impaired if it is used in a manner specified in the operation instructions.

Before Applying Power

Verify that all safety precautions are taken. Make all connections to the unit before applying power. Note the external markings described under "Safety Symbols".

Ground the Instrument

Keysight chassis' are provided with a grounding-type power plug. The instrument chassis and cover must be connected to an electrical ground to minimize shock hazard. The ground pin must be firmly connected to an electrical ground (safety ground) terminal at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

Do Not Operate in an Explosive Atmosphere

Do not operate the module/chassis in the presence of flammable gases or fumes.

Do Not Operate Near Flammable Liquids

Do not operate the module/chassis in the presence of flammable liquids or near containers of such liquids.

Cleaning

Clean the outside of the Keysight module/chassis with a soft, lint-free, slightly dampened cloth. Do not use detergent or chemical solvents.

Do Not Remove Instrument Cover

Only qualified, service-trained personnel who are aware of the hazards involved should remove instrument covers. Always disconnect the power cable and any external circuits before removing the instrument cover.

Keep away from live circuits

Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers and shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.

DO NOT operate damaged equipment

Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to an Keysight Technologies Sales and Service Office for service and repair to ensure the safety features are maintained.

DO NOT block the primary disconnect

The primary disconnect device is the appliance connector/power cord when a chassis used by itself, but when installed into a rack or system the disconnect may be impaired and must be considered part of the installation.

Do Not Modify the Instrument

Do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Keysight Sales and Service Office to ensure that safety features are maintained.

In Case of Damage

Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel

CAUTION

Do NOT block vents and fan exhaust: To ensure adequate cooling and ventilation, leave a gap of at least 50mm (2") around vent holes on both sides of the chassis.

Do NOT operate with empty slots: To ensure proper cooling and avoid damaging equipment, fill each empty slot with an AXIe filler panel module.

Do NOT stack free-standing chassis: Stacked chassis should be rack-mounted.

All modules are grounded through the chassis: During installation, tighten each module's retaining screws to secure the module to the chassis and to make the ground connection.

WARNING

Operator is responsible to maintain safe operating conditions. To ensure safe operating conditions, modules should not be operated beyond the full temperature range specified in the Environmental and physical specification. Exceeding safe operating conditions can result in shorter lifespan, improper module performance and user safety issues. When the modules are in use and operation within the specified full temperature range is not maintained, module surface temperatures may exceed safe handling conditions which can cause discomfort or burns if touched. In the event of a module exceeding the full temperature range, always allow the module to cool before touching or removing modules from the chassis.

Safety Symbols

CAUTION

A CAUTION denotes a hazard. It calls attention to an operating procedure or practice, that, if not correctly performed or adhered to could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING denotes a hazard. It calls attention to an operating procedure or practice, that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Products display the following symbols:

Warning, risk of electric shock

Refer to manual for additional safety information.

Earth Ground.

Chassis Ground.

Alternating Current (AC).

Standby Power. Unit is not completely disconnected from AC mains when switch is in standby.

Antistatic precautions should be taken.

CAT I
CAT II
CAT III
CAT IV

IEC Measurement Category I, II, III, or IV

For localized Safety Warnings, Refer to Keysight Safety document (p/n 9320-6792).

The CSA mark is a registered trademark of the Canadian Standards Association and indicates compliance to the standards laid out by them. Refer to the product Declaration of Conformity for details.

Notice for ⌊uropean Community: This product complies with the relevant European legal Directives: EMC Directive (2004/108/EC) and Low Voltage Directive (2006/95/EC).

The Regulatory Compliance Mark (RCM) mark is a registered trademark. This signifies compliance with the Australia EMC Framework regulations under the terms of the Radio Communication Act of 1992.

ICES/NMB-001

ICES/NMB-001 indicates that this ISM device complies with the Canadian ICES-001.

This symbol represents the time period during which no hazardous or toxic substance elements are expected to leak or deteriorate during normal use. Forty years is the expected useful life of this product.

South Korean Class A EMC Declaration. this equipment is Class A suitable for professional use and is for use in electromagnetic environments outside of the home.

A 급 기기 (업무용 방송통신기자재)
이 기기는 업무용 (A 급) 전자파적합기
기로서 판 매자 또는 사용자는 이 점을 주
의하시기 바라 며 , 가정외의 지역에서
사용하는 것을 목적으 로 합니다.

Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC

This product complies with the WEEE Directive (2002/96/EC) marking requirement. The affixed product label (see below) indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category: With reference to the equipment types in the WEEE directive Annex 1, this product is classified as a “Monitoring and Control instrumentation” product.

Do not dispose in domestic household waste.

To return unwanted products, contact your local Keysight office for more information.

Contents

1 M9018A Chassis Manager Firmware Update Utility

This document describes the process to update the M9018A Chassis Manager Firmware. Specifically, it describes updating from Hardware Revision 1.01 to Hardware Revision revision 1.07. Revision 1.07 corrects one significant issue:

The M9018A Hardware Revision, version 1.01, can fail to lock the backplane 10 MHz reference clock to either an external 10 MHz input or to an external 10 MHz reference clock generated (such as from an M9300A frequency reference module). This impacts the time alignment performance when synchronizing multiple M9391A Vector Signal Analyzers or M9381A Vector Signal Generators, or any application which relies on the use of the backplane 10 MHz reference for synchronization or frequency locking.

NOTE Either a remote controller PC or an embedded controller such as the M9036A/M9037A controller may be used as the host PC to update the Chassis Manager. The host PC must be connected to the M9018A being updated.

Verify Current M9018A Chassis Manager and IVI Driver Version

1. On the host PC, start the M9018A Soft Front Panel (SFP).
2. In the SFP, click **Help > About**. Check the Hardware Revision number in the **About** window to make sure it's 1.01. If it is 1.07 or greater, you do not need to update the Hardware Revision. See Figure 1 below.
3. Also, check the Driver Revision in the **About** window to make sure it's 1.5.80.1 or greater. If it is not 1.5.80.1, change the chassis IVI driver to version 1.5.80.1, before proceeding. Refer to the M9018A product website for the chassis driver download (www.keysight.com/find/M9018A). See Figure 1.

   To update the IVI driver, go to the product website (www.keysight.com/find/M9018A), select **Visit Technical Support**. Select the **Driver, Firmware & Software** tab. Select the **M9018A 18 Slot PXIe Chassis Drivers** link. Follow the instructions to update the M9018A chassis IVI Driver to the latest version.

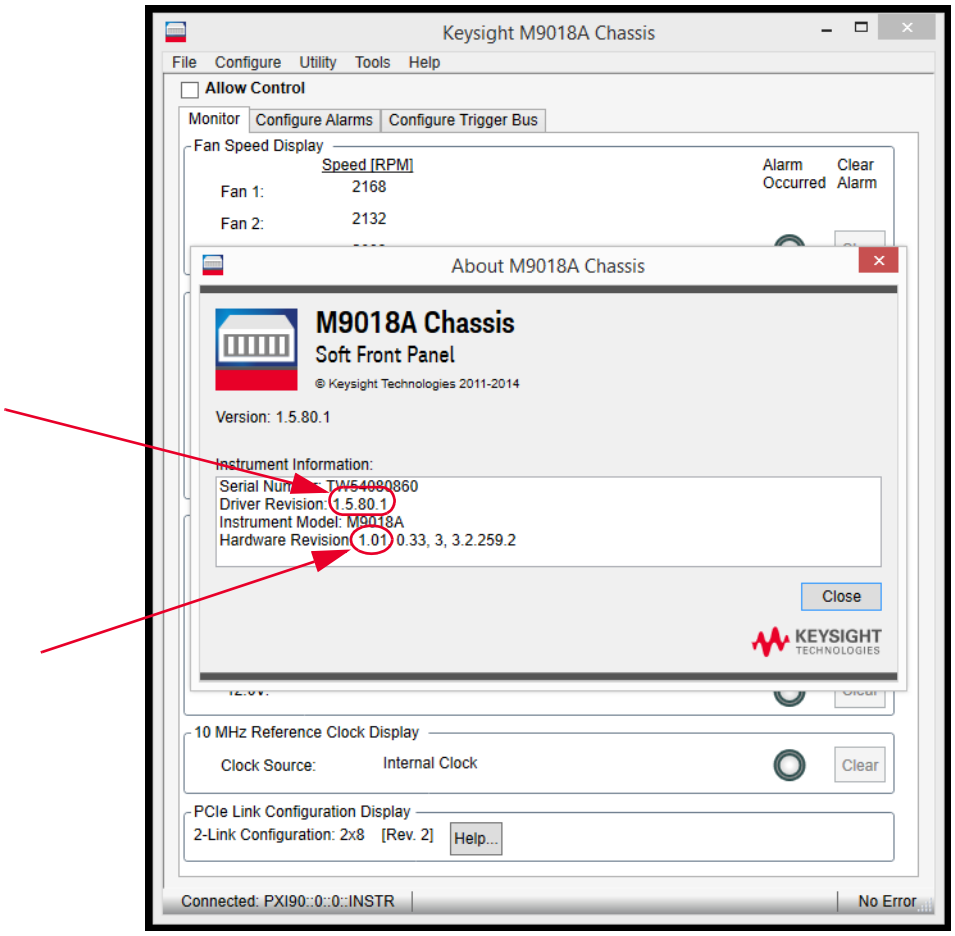

Figure 1 M9018A Hardware Revision Number from SFP Help About

Update the M9018A Chassis Manager

1 On the host PC, navigate to the following link:
www.keysight.com/find/M9018A
Select the **Visit Technical Support** link then select the **Driver, Firmware & Software** tab.

2 Download the "**M9018A_Update.zip**" file:

3 Unzip the "*M9018A_Update.zip*" file to any folder on the host PC. This creates a subfolder named **M9018A_Update**.

4 If you are using an external host controller, cycle power (or power-up) the M9018A being updated.

NOTE The pictures in this document are screen captures taken from a remote controller PC running Windows 8.1 Update 1. If you are using an embedded controller or a different OS, your pictures will look different.

5 Open the **Keysight Connection Expert** and record or copy the complete **Chassis Address** of the M9018A. See Figure 2 below.

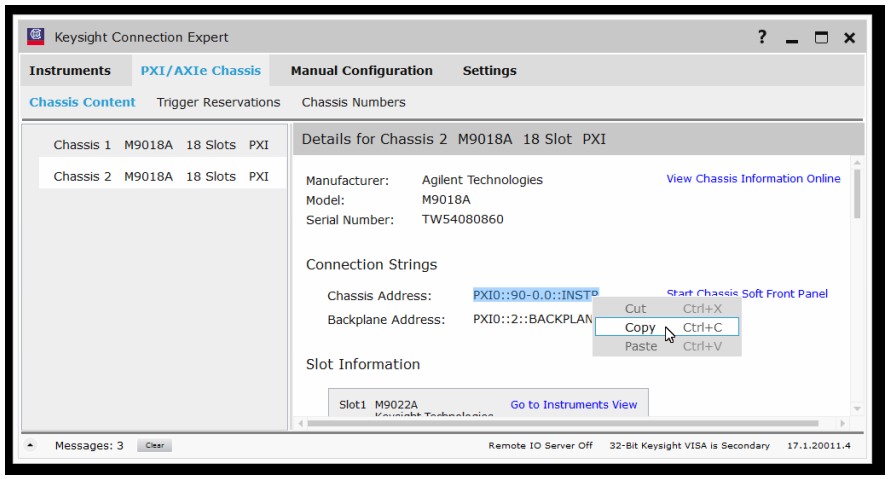

Figure 2 Keysight Connection Window, Locate Bus Number

6 On the host PC, navigate to the folder where you unzipped the **M9018A_Update** file (step 3 above).

7 Double click the *M9018A Chassis Manager Firmware Update Utility.exe* file to run it.

8 At the **M9018A Chassis Manager Firmware Update Utility** screen, enter or paste the **Chassis Address** in the **Chassis Address** field**.** See Figure 3 below.

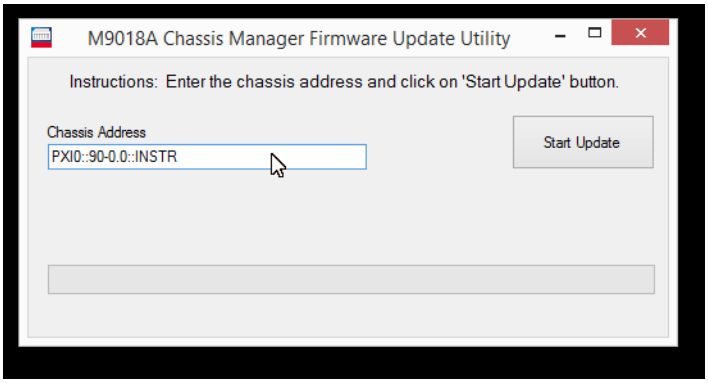

Figure 3 M9018A Chassis Manager Update Utility Screen

9 Click the "**Start Update**" button.

10 Click the **Yes** button to proceed with the firmware installation.

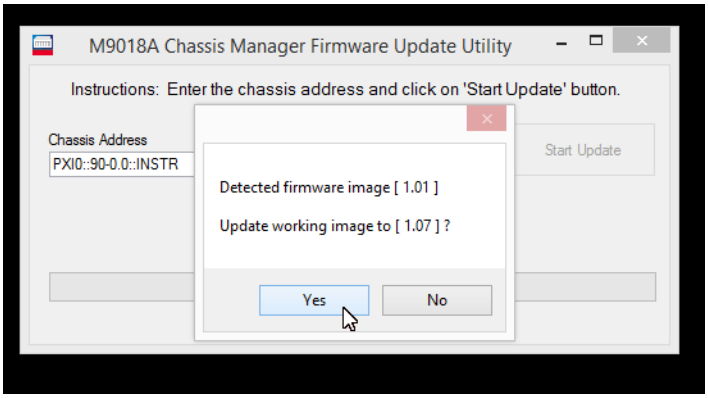

Figure 4 Review and Confirm Dialogue to Start Programming

11 It should take approximately 10 seconds to finish the update. It will display a **SUCCESS** message as shown in Figure 5 below. You may now exit the window.

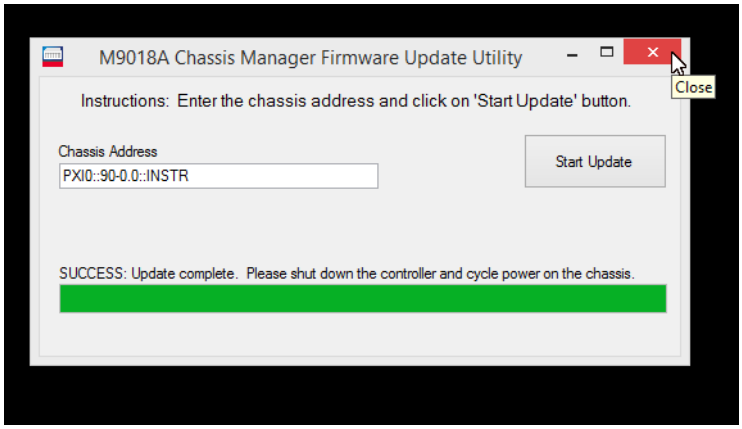

Figure 5 Chassis Firmware Installation Success Message

12 Shutdown the PC, power down the chassis, and unplug the power cord of the chassis. You must shut down the host PC, not just restart it.

13 Wait for 30 seconds, plug in the power cord, power up the chassis. If you are using an external PC host controller, power it up now.

14 On the host PC, start the M9018A Soft Front Panel (SFP). Navigate to **Help > About.** Verify that the Hardware Revision is now 1.07. See Figure 6 below.

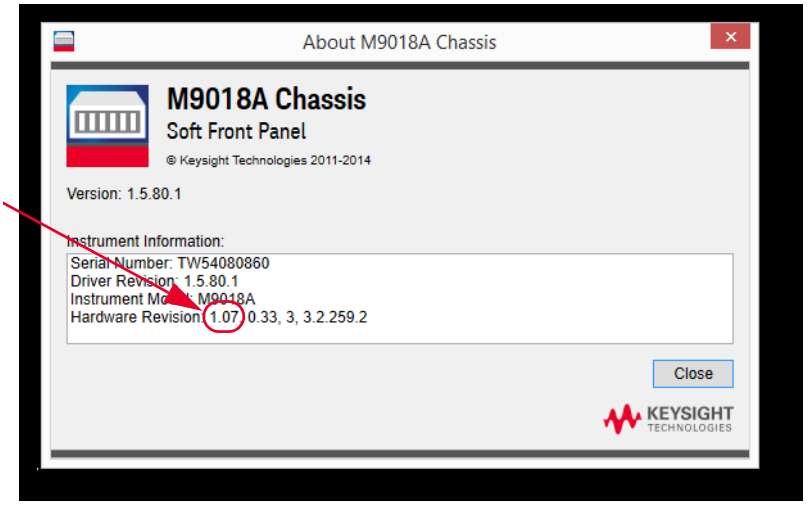

Figure 6 Correct Updated Firmware Revision

15 In the SFP, after checking the “Allow Control” check box, run the chassis self-test by navigating to **Utility >Self Test...**

16 The chassis update is now complete.

If the Firmware Update Failed:

It’s unlikely for the firmware update to fail. However, upon failure the Chassis Manager has built in protection.

- A failed firmware update does not permanently disable the chassis as there is a read-only firmware image that allows the chassis to boot. It supports later attempts to update a new firmware image into the chassis.
- Retry the firmware update procedure. You do not need to cycle power on the chassis or reboot the PC to try this – simply click the **Start Update** button again. If that isn’t successful, then try powering down the PC and chassis and follow these instructions from the beginning.
- If you still get a failure, then contact Keysight technical support.

Edition 2 January 2016
Published in USA

M9018-90013
www.keysight.com