



mA-3011
AXIe Embedded Host Module
Operation Guide



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Operation Guide

Rev. C0



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Contents

Chapter 1 mA-3011 Overview

About the mA-3011	1-2
Key Features	1-2
Hardware	1-3
Firmware	1-3
Software	1-3

Chapter 2 Controls and Connectors

Controls and Connectors	2-2
PCIe Slot (1)	2-2
Audio I/O Connectors (2).....	2-2
Gigabit Ethernet Connector (3).....	2-3
USB Connectors (4)	2-3
DisplayPort Connector (5)	2-3

Chapter 3 Setup and Installation

Upon Receipt.....	3-2
Unpack the Device	3-2
Verify Contents	3-2
Inspect the Device	3-2
Module Installation	3-3
Verify Module Operation	3-3
Installing the Software	3-5

Chapter 4 Operation and Control

mA-3011 Operating System4-2

Module Power On/Off Procedure4-2

 Power On Procedure4-2

 Power Down Procedure4-2

BIOS Setup4-3

Accessing mA-3011 Module Information4-3

 Recommended Browsers4-3

 mA-3011 Web Browser UI4-3

 Chassis Web Browser UI4-3

mA-3011 Network Configuration4-4

 Network Connection Options4-4

 Network Settings4-4

 mA-3011 Default IP Address4-4

 Locate mA-3011 IP Address4-5

Chapter 5 mA-3011 Web Browser UI

Introduction5-2

Recommended Browsers5-2

Open the mA-3011 Web UI5-2

 mA-3011 Web UI Components5-3

Web UI Pages5-4

 Home Page5-4

 CPUC Networking Page5-5

Chapter 6 Care and Maintenance

Maintaining the Device6-2

 Storing the Device6-2

 Visual Inspections6-2

 External cleaning6-3

 Firmware/Software Upgrades6-3

Module Removal/Installation Procedures6-6

 Removing the Module6-6

Shipping the mA-30116-9

 Return Authorization (RA)6-9

 Tagging the Device6-9

 Shipping Containers6-9

 Freight Costs6-9

 Packing Procedure6-10

Appendix A Specifications

Unit SpecificationsA-2
Environmental SpecificationsA-2
Electrical SpecificationsA-2
Safety and Compliance StandardsA-3

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Figures

- Figure 1-1 mA-3011 Embedded Host Module 1-2
- Figure 1-2 mA-3011 Embedded Host Module - Dual Configuration 1-2
- Figure 2-1 mA-3011 Front Panel Connectors 2-2
- Figure 2-2 mA-3011 Front Panel Connectors (Dual Configuration) 2-2
- Figure 2-3 Solid State Drive Access Slots (Dual Configuration) 2-4
- Figure 3-1 Example mA-3011 Operating System Display 3-3
- Figure 3-2 mA-3011 and Chassis Connection Diagram 3-4
- Figure 4-1 CPUC Networking Page 4-5
- Figure 5-1 mA-3011 Web Browser UI - Home Page 5-2
- Figure 5-2 mA-3011 Web UI Home Page 5-4
- Figure 5-3 CPUC Networking Page 5-5
- Figure 5-4 Scan for Chassis Page 5-6
- Figure 6-1 Auto-Run Dialog Box 6-4
- Figure 6-2 VIAVI Software Upgrade Tool Window 6-5
- Figure 6-3 Securing Latch - Locked Position 6-8
- Figure 6-4 Securing Latch - Unlocked Position 6-8
- Figure 6-5 Securing Latch - Unlocked and Unlatched 6-8

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Tables

Table A-1	Physical Specifications	A-2
Table A-2	Operating and Storage Environment	A-2
Table A-3	Power Supply	A-2
Table A-4	Safety Standards	A-3
Table A-5	EMC Compliance Standards	A-3

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About this Guide

This prefix explains how to use this manual. Topics discussed include the following:

- Purpose and Scope ii
- Intended Audience ii
- Terminology ii
- Related Information ii
- Contact Information ii
- Safety and Compliance Information iii
- Safety Hazards iv
- Equipment Usage vi
- Electrostatic Discharge (ESD) vi
- Case/Cover Removal vi
- Ventilation Requirements vii
- Electromagnetic Interference (EMI) viii

Purpose and Scope

This document contains safety information and instructions for installing and operating the mA-3011 AXIe Embedded Host Module. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for Chassis installation and operating instructions.

Intended Audience

This manual is intended for personnel who are familiar with AXIe systems and associated equipment and terminology.

Terminology

The terms mA-3011, device and module are used in this document to refer to the mA-3011 AXIe Embedded Host Module.

Related Information

This document and other Configurable Modular Platform (CMP) publications can be found on the VIAVI website at <https://www.viavisolutions.com/en-us/products/modular-axie>.

The following publication is referenced in this document:

- mA-1302/mA-1305 AXIe Chassis Operation Manual, #141171

Contact Information

Contact Customer Service for technical support or with any questions regarding this or any other VIAVI products.

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Safety and Compliance Information

Conventions

The following symbols and markings are used throughout documentation and on the Chassis.

Table 1 Safety Conventions






	This symbol indicates a note that includes important supplemental information or tips related to the main text.
	This symbol represents a general hazard. It may be associated with either a DANGER, WARNING, CAUTION or ALERT message. Refer to accompanying information and/or documentation.
	This symbol indicates a toxic hazard. Item should only be handled by Qualified Service Personnel. Dispose of item in accordance with local regulations.
	This symbol indicates an item is sensitive to Electrostatic Discharge (ESD). An item identified as ESD sensitive should only be handled by Qualified Service Personnel.
	This symbol indicates the item meets the requirements of the applicable European Directives.

Table 2 Safety Definitions

Term	Definition
CAUTION	Identifies conditions or activities that, if ignored, can result in equipment or property damage, e.g., Fire.
Mise en Garde	Identifiez les conditions ou les activités qui, si ignorées, peuvent entraîner des dommages à l'équipement ou aux biens, p. ex. un incendie.
WARNING	Identifies conditions or activities that, if ignored, can result in personal injury or death.
Avertissement	Identifiez les conditions ou les activités qui, si ignorées, peuvent entraîner des blessures personnelles voire mortelles.

Safety Hazards

Toxic Hazards



WARNING

Some of the components used in this Device may include resins and other materials which give off toxic fumes if incinerated. Dispose of such items appropriately.

Avertissement

Certains des composants utilisés dans cet appareil peuvent comprendre des résines et d'autres matériaux qui produisent des émanations toxiques lorsqu'ils sont incinérés. Éliminez adéquatement de tels éléments.

Beryllia



Beryllia (beryllium oxide) is used in the construction of some of the components in this equipment.

This material, when in the form of fine dust or vapor and inhaled into the lungs, can cause a respiratory disease. In its solid form, as used here, it can be handled safely, however, avoid handling conditions which promote dust formation by surface abrasion.

Use care when removing and disposing of these components. Do not put them in the general industrial or domestic waste or dispatch them by post. They should be separately and securely packed and clearly identified to show the nature of the hazard and then disposed of in a safe manner by an authorized toxic waste contractor.

Beryllium Copper



CAUTION

Some mechanical components within this instrument are manufactured from beryllium copper. Beryllium copper represents no risk in normal use. The material should not be machined, welded or subjected to any process where heat is involved.

Beryllium copper must NOT be disposed of by incineration. Beryllium copper must be disposed of as "special waste" per local regulations.

Lithium



A Lithium battery is used in this equipment. Lithium is a toxic substance so the battery should in no circumstances be crushed, incinerated or disposed of in normal waste. Do not attempt to recharge this type of battery. Do not short circuit or force discharge since this might cause the battery to vent, overheat or explode.



CAUTION

This device contains a Lithium Battery and may require special packaging and external labeling when shipping. Contact Customer Service for packaging and labeling instructions.

Mise en Garde

Cet appareil contient une batterie au lithium et peut nécessiter un conditionnement spécial et un étiquetage externe lors de l'expédition. Communiquez avec le service à la clientèle pour les instructions d'emballage et d'étiquetage.

Electrical Hazards

Grounding the Module

The Chassis is provided with a protective grounding lead that conforms with IEC Safety Class I. The supply lead must always be connected to the power supply via a grounded contact in order to maintain the grounding protection. The Chassis must be properly grounded to prevent damage to the device from electrostatic discharge (ESD).



WARNING

Improper grounding of equipment can result in electrical shock. To ensure proper grounding, this Device should only be connected to a grounded AC Power Supply.

Avertissement

La mise à la terre inadéquate de l'équipement peut entraîner un choc électrique. Pour s'assurer d'une mise à la terre adéquate, cet appareil doit seulement être branché à une alimentation électrique CA mise à la terre.

Equipment Usage

This Device is designed and tested to comply with the requirements of 'IEC/EN 61010-1, 3rd Edition Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use' for Class I portable equipment and is for use in a pollution degree 2 environment.



WARNING

Operating this Device in a manner not specified in accompanying documentation may impair the safety protection built into the Device.

Avertissement

Utiliser cet appareil de manière non spécifiée dans la documentation d'accompagnement peut nuire au dispositif de protection de sécurité intégré dans l'appareil.

Electrostatic Discharge (ESD)



CAUTION

Modules are ESD sensitive and should only be installed, removed and/or serviced by Qualified Service Personnel.

Mise en Garde

Les modules sont sensibles aux DES et ils doivent seulement être installés, enlevés ou entretenus par du personnel de service qualifié.

Case/Cover Removal



CAUTION

This Device does not contain user serviceable parts. Servicing should only be performed by Qualified Service Personnel.

Mise en Garde

Cet appareil ne contient pas de pièces pouvant être entretenues par l'utilisateur. L'entretien doit seulement être effectué par du personnel de service qualifié.

Ventilation Requirements

The Chassis is cooled by the unit's internal fans which pull air across the modules from right to left. Failure to provide proper ventilation may result in damage to the Chassis and any modules installed in the Chassis. Observe the following precautions when operating the Chassis:

**CAUTION**

Do not operate the Chassis with empty slots. Install Filler modules in empty slots to ensure proper airflow through the Chassis.

Do not obstruct air flow to the air vents.

Do not place the Chassis on or close to other heat-generating equipment.

Mise en Garde

N'utilisez pas le châssis avec des fentes vides. Installez des modules de remplissage dans les fentes vides afin d'assurer un écoulement d'air adéquat dans le châssis.

N'obstruez pas l'écoulement d'air vers les événements.

Ne placez pas le châssis sur ou près de tout autre équipement générant de la chaleur.

Electromagnetic Interference (EMI)

This product complies with Part 15 of the FCC Rules for a Class A device. Operation is subject to the following two conditions: (1) this product may not cause harmful interferences, and (2) this product must accept any interferences received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this product does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Use properly shielded and grounded cables and connectors in order to meet FCC emission limits.



CAUTION

Signal generators can be a source of Electromagnetic Interference (EMI) to communication receivers. Some transmitted signals can cause disruption and interference to communication services out to a distance of several miles. Users of this equipment should scrutinize any operation that results in radiation of a signal (directly or indirectly) and should take necessary precautions to avoid potential communication interference problems.

Mise en Garde

Les générateurs de signaux peuvent constituer une source d'interférences électromagnétiques (IME) pour les récepteurs radio. Certains signaux émis peuvent provoquer des interférences et des interruptions des communications sur une distance de plusieurs kilomètres. Les utilisateurs de cet équipement doivent examiner soigneusement tout fonctionnement provoquant le rayonnement d'un signal (direct ou indirect) et ils doivent prendre les dispositions nécessaires afin d'éviter des problèmes potentiels d'interférences sur les communications.

mA-3011 Overview

This chapter provides a general description of the mA-3011. Topics discussed in this chapter include the following:

- About the mA-3011 1-2
 - Key Features 1-2
 - Hardware 1-3
 - Firmware 1-3
 - Software 1-3

About the mA-3011

The mA-3011 AXIe Embedded Host Module provides a compact and integrated solution for AXIe-based deployments by eliminating the need for an external host processor for module control. The mA-3011 is a single form-factor module that supports AXIe-1 Revision 3.0 Specifications for Wide PCI Express® Fabric Extensions and Gen3 PCIe data rates.

The mA-3011 provides storage for operating systems and applications via a user-accessible solid-state drive for security, expandability, and increased reliability. The standard mA-3011 configuration provides a single high-performance Intel i7 quad-core processor; configuration options include dual high-performance Intel i7 processors.

Figure 1-1 mA-3011 Embedded Host Module



Figure 1-2 mA-3011 Embedded Host Module - Dual Configuration



Standard mA-3011 configuration provides 8 GB of DDR3-1600 RAM and a 128 GB SATA-III solid-state drive; configuration options support 16 GB of DDR3-1600 RAM and a 256 GB SATA-III solid-state drive.

Key Features

The following are key features of the mA-3011 AXIe Embedded Host Module:

- Single and Dual 2.4 GHz Quad Core i7 configurations
- Removable solid-state hard drive
- Upgradeable RAM and SSD
- Integrated PCIe peripheral slot
- DisplayPort, USB, Gigabit Ethernet, and HD Audio connections

Refer to the mA-3011 AXIe Embedded Host Module product data sheet for a detailed description of the module.

Hardware

The module's Intel i7 4700EQ chipset provides powerful quad-core processing. The mA-3011 utilizes Hyper-Threading Technology to support simultaneous execution of up to eight threads. The mA-3011 contains a CPU Carrier Module that hosts a high-performance, multi-core processor module packaged in the COM Express (COMe) form factor. The CPU Carrier Module contains an embedded micro controller which supports Intelligent Platform Management Controller (IPMC) stack functions.

Front Panel I/O connections include four USB 3.0 SuperSpeed connections a DisplayPort Connector, Audio I/O Connectors and a Gigabit Ethernet (GbE) Connector. The USB and DisplayPort connections are routed directly from the COM Express module to the Front Panel. The Front Panel GbE connection is provided by an L2 packet switch, which also bridges the Backplane Ethernet to the COM Express module. The Audio I/O connectors are routed to a high definition audio codec via analog scaling and filter functions provided on the CPU Carrier Module.

mA-3011 external interfaces include a RJ45 GbE connector, four USB 3.0 SS connectors, high-definition audio microphone and speaker jacks, and DisplayPort connection driven by the embedded Intel HD Graphics 4600 accelerator capable of resolutions up to 3840 x 2160. The mA-3011 also provides the capability to install a standard form-factor 3/4 length x16 PCIe card to expand system processing and I/O functionality.

Firmware

The mA-3011 contains a programmable micro-controller that interfaces to the ShMC (Shelf Management Controller) as an IPMC (Intelligent Platform Management Controller). The IPMC performs the following functions:

- Manages power states, cooling requirements, and backplane interface requirements for the mA-3011 via the IPMI (Intelligent Platform Management Interface) stack.
- Manages the power on/off control of the COMe module to prevent file system corruption and to notify the ShMC when it is safe to remove chassis power.
- Notifies the ShMC that the mA-3011 is a host device via E-Keying records, and thus requires a root complex port on the backplane PCIe fabric.

Software

The mA-3011 provides general purpose processing capability in an AXIe format which supports standard operating systems applicable to x86-64 architecture (Microsoft Windows® 7, Linux, VxWorks, etc). Installed VIAVI drivers allow for the orderly startup, shutdown, reboot, and thermal management of the mA-3011 via the standard AXIe IPMI.

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Controls and Connectors

This chapter describes the mA-3011 controls and connectors. Content includes the following:

- Controls and Connectors 2-2
 - PCIe Slot (1) 2-2
 - Audio I/O Connectors (2) 2-2
 - Gigabit Ethernet Connector (3) 2-3
 - USB Connectors (4) 2-3
 - DisplayPort Connector (5) 2-3
 - Solid State Drive (SSD) Slots 2-4

Controls and Connectors

Figure 2-1 mA-3011 Front Panel Connectors

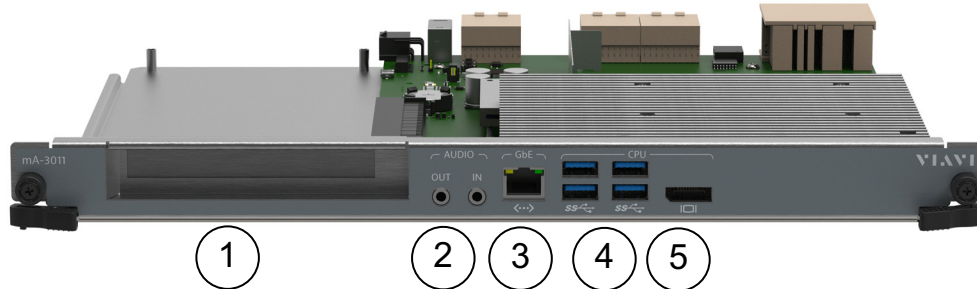


Figure 2-2 mA-3011 Front Panel Connectors (Dual Configuration)



PCIe Slot (1)

The PCIe Slot is a standard 3/4 length auxiliary PCIe slot that supports optional PCIe devices. The PCIe Slot is configured to allow PCIe card I/O Connectors to be accessible from the mA-3011 front panel.

Audio I/O Connectors (2)

Audio Input

The Audio Input Connector is a 3.5 mm input jack that provides for single-ended L/R stereo input with a 100 kOhm resistor to ground. Audio Input circuitry provides ESD protection and a unity gain stage buffer to the stereo L/R signals.

Audio Output

The Audio Output Connector is a 3.5 mm output jack that provides single-ended L/R stereo output. Audio Output circuitry provides DC coupled stereo output and gain stage buffering that compensates for signal loss during filtering.

Gigabit Ethernet Connector (3)

- ◀•••▶ The RJ45 Gigabit Ethernet (GbE) Connector provides 10/100/10000 Base-T Ethernet connectivity between the COM Express Module and the shelf base fabric. The GbE Connectors should be used to connect peripheral equipment to the 3011 Module; the Chassis's Ethernet connector should be used to establish a wired network connection.

USB Connectors (4)

- SS↔ The 3011's USB Connectors are Type-A, USB 3.0 ports which provide connections for peripheral equipment and devices (i.e., USB keyboard, USB Mouse, USB adapters).

DisplayPort Connector (5)



The Display Port Connector is a high resolution, digital interface connector that supports high-definition video and audio.



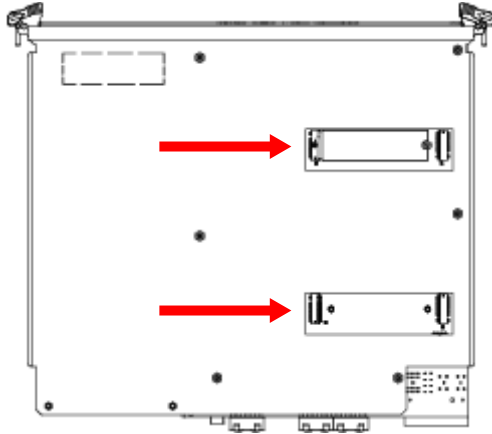
CAUTION

Do not place tension on a cable that is attached to the DisplayPort Connector; doing so may damage the connector.

Solid State Drive (SSD) Slots

The mA-3011 supports either one or two Solid State Drives which provide additional storage for operating system and application data. The Solid State Drives can be removed as a means of securing proprietary or export controlled information.

Figure 2-3 Solid State Drive Access Slots (Dual Configuration)



CAUTION

Modules are ESD sensitive and should only be installed, removed and/or serviced by Qualified Service Personnel.

Mise en Garde

Les modules sont sensibles aux DES et ils doivent seulement être installés, enlevés ou entretenus par du personnel de service qualifié.

Setup and Installation

This chapter describes how to install the mA-3011. The topics discussed in this chapter are as follows:

- Upon Receipt 3-2
 - Unpack the Device 3-2
 - Verify Contents 3-2
 - Inspect the Device 3-2
 - Module Installation 3-3
 - Verify Module Operation 3-3
 - Setup Module as Host Controller 3-4
- Installing the Software 3-5

**NOTE**

Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for Chassis setup and operating instructions.

Upon Receipt

This section identifies tasks that should be performed when the module is received from the factory.

Unpack the Device

Specially designed packing material protects the device during shipping. Avoid damaging the shipping container and packing material when unpacking the device; if necessary the shipping container and packing material can be reused to ship the device.



CAUTION

This device is ESD sensitive and should only be unpacked by qualified personnel.

Mise en Garde

Cet appareil est sensible aux DES et il doit seulement être déballé par un personnel qualifié.

How to Unpack the Module

- 1 Cut and remove sealing tape on top of shipping container.
- 2 Open shipping container. Remove foam insert and module from shipping container.
- 3 Remove module from between foam inserts.
- 4 Remove module from ESD protective packaging.
- 5 Store packing material and shipping container for possible future use.



NOTE

Refer to Packing Procedure for information and instructions for shipping the module.

Verify Contents

Refer to packing list to verify shipment is complete. Report any discrepancies to VIAVI Customer Service.

Inspect the Device

Inspect the device for possible damage incurred during shipment. Report any damage to VIAVI Customer Service.

Module Installation

The mA-3011 Embedded Host Module is designed for installation in AXIe Chassis that meet AXIe-1 Revision 2.0, Base Architecture Specification. See section “[Module Installation Procedure](#)” on [page 6-7](#) for module installation instructions.

Verify Module Operation

The following procedure is intended to verify basic module operation. This procedure does not verify that the module is operating within product specifications.

Operation Verification Procedure

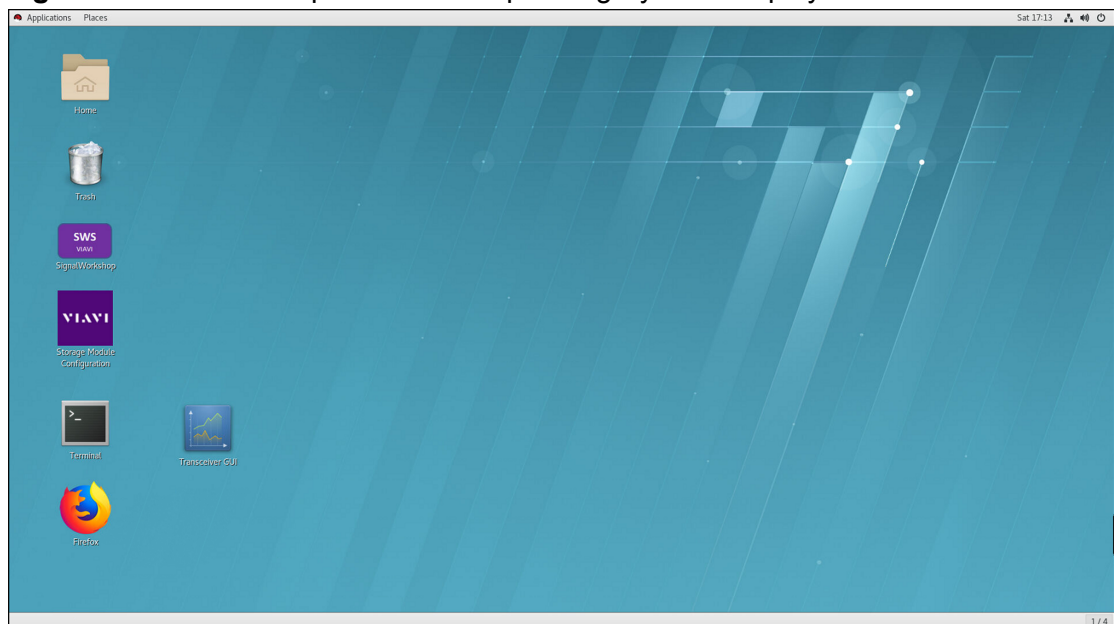
- 1 Complete the Module Installation Procedure (see “[Module Installation Procedure](#)” on [page 6-7](#)).
- 2 Set up the mA-3011 as a host controller (see “[Setup Module as Host Controller](#)” on [page 3-4](#)).
- 3 Verify the mA-3011 Operating System (OS) is displayed on the monitor.



NOTE

The contents and appearance of the mA-3011's Operating System varies depending on the operating system and software that has been installed on the module. Figure 3-1 shows an example of an mA-3011 with Red Hat version of Linux installed.

Figure 3-1 Example mA-3011 Operating System Display



- 4 Verify you are able to navigate and access OS directories.

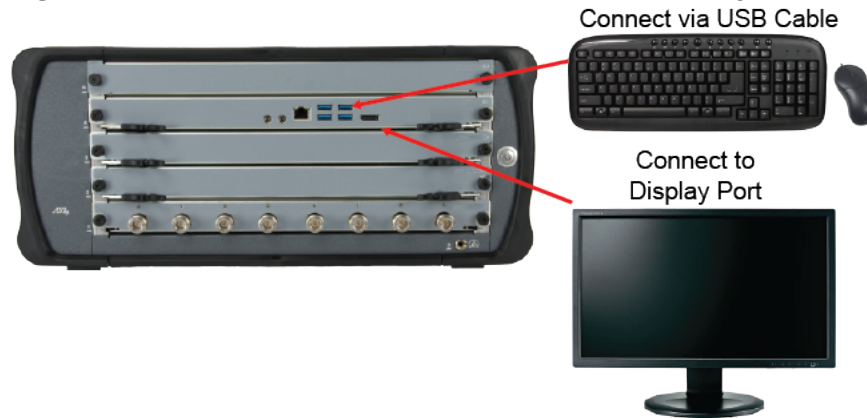
Setup Module as Host Controller

To configure the mA-3011 as a Host Controller:

How to Setup as Host Controller

- 1 Complete Module Installation Procedure (“[Module Installation](#)” on page 3-3).
- 2 Complete Chassis installation (refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual).
- 3 Connect an external monitor to the mA-3011 Display Port Connector.
- 4 Connect a USB Keyboard and USB Mouse to the mA-3011 USB Connectors.

Figure 3-2 mA-3011 and Chassis Connection Diagram



- 5 Power on external monitor.
- 6 Power on Chassis. Wait while the module's operating system is initiated.
- 7 When the system is ready for use, the monitor updates to display the Host Module's operating system.

The contents and appearance of the mA-3011's Operating System varies depending on the software that has been installed on the module as well as the user settings. Figure 3-1 shows an example of how the mA-3011 OS screen may appear.

The method used to configure and operate the Chassis depends on the software applications installed in the host controller. See “[Operation and Control](#)” on page 4-1 for information about system operation.

Installing the Software

The mA-3011 module is shipped from the factory with the operating system installed in the module. The version of the operating system that is installed in the module at time of shipment has been tested and verified to operate in the mA-3011 module and AXIe Chassis. VIAVI does not recommend updating the module's operating system unless the update is posted on the CMP product web page.

Contact VIAVI Customer Service for the latest version of software, firmware and/or drivers.

Regular checks should be performed to ensure the following:

- mA-3011 contains the most current firmware
- AXIe Chassis contains the most current firmware



NOTE

Refer to the section titled [“Firmware/Software Upgrades”](#) on page 6-3 for information about how to update mA-3011 firmware.

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Operation and Control

This chapter describes the functionality of the instrument. Topics discussed in this chapter are as follows:

- mA-3011 Operating System 4-2
- Module Power On/Off Procedure 4-2
 - Power On Procedure 4-2
 - Power Down Procedure 4-2
- BIOS Setup 4-3
- Accessing mA-3011 Module Information 4-3
 - Recommended Browsers 4-3
 - mA-3011 Web Browser UI 4-3
 - Chassis Web Browser UI 4-3
- mA-3011 Network Configuration 4-4
 - Network Connection Options 4-4
 - Network Settings 4-4
 - mA-3011 Default IP Address 4-4
 - Locate mA-3011 IP Address 4-5
 - mA-3011 Network Mode 4-6

mA-3011 Operating System

The mA-3011 Module is shipped from the factory with the operating system installed in the module. When used as a host controller, the mA-3011 operates much like a standard computer.

Refer to the section titled “[Setup Module as Host Controller](#)” on page 3-4 for additional information.

Contact VIAVI Customer Service with questions regarding supported operating systems.



NOTE

The module ships from the factory with the operating system's hibernate mode disabled. **DO NOT ACTIVATE HIBERNATE MODE:** this will cause problems with the Chassis's PCIe enumeration process.

Module Power On/Off Procedure

Power On Procedure

The module is powered on during the Chassis's power up process. When the Chassis is powered on, power is routed from the AC power supply to the module via the module's connection to the Chassis Backplane. To ensure proper module identification and enumeration, do not change external connections or interrupt the Chassis's power up process. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for the Chassis power up procedure.

Power Down Procedure

The module is powered down during the Chassis's power down procedure. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for proper power down procedure.



CAUTION

Do not power down the module by disconnecting the Chassis from the AC Power Supply. Failure to properly power down the module may result in lost data and/or damage to the module's operating system.

Mise en Garde

Ne mettez pas le module hors tension en débranchant le châssis de l'alimentation électrique CA. Une mise hors tension inadéquate du module peut entraîner des pertes de données ou endommager le système d'exploitation du module.

BIOS Setup

The mA-3011 BIOS settings have been set to values which allow the mA-3011 to operate at optimal performance levels. Users should not change BIOS settings unless instructed to do so by VIAVI Customer Service. Making changes to mA-3011 BIOS settings may place the mA-3011, Chassis and other System components in an inoperable or unresponsive state. VIAVI assumes no responsibility for warranty repairs related to damages and or performance issues on devices on which BIOS settings have been changed by the end user.

Accessing mA-3011 Module Information

Module information and operational status can be accessed using the mA-3011 Web UI, the Chassis Web UI, or external application tools such as National Instrument's LabVIEW™.

Recommended Browsers

Recommended browsers for viewing CMP AXIe Web Browser User Interfaces:

- Google Chrome Version 53.0.2785.116 m (64-bit) or later
- Firefox Version 48.0.1 or later
- Internet Explorer 11 or later

mA-3011 Web Browser UI

The mA-3011 Web Browser User Interface (Web UI) is a basic interface that displays module information, module operational status and provides user's with the ability to update the module's operating system.

Accessing the mA-3011 Web Browser UI requires the user to identify the mA-3011's IP Address. The module's IP is displayed on the Chassis Web Browser UI. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for information about accessing Chassis module information.

Chassis Web Browser UI

The Chassis Web Browser UI provides access to mA-3011 information and readings. When the mA-3011 is installed in a CMP AXIe Chassis, the Chassis Web Browser UI also provides users with the ability to update the module's operating system. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for instructions to access the Chassis Web Browser UI.

mA-3011 Network Configuration

Network Connection Options



NOTE

To ensure proper sequencing, connect network cables to the Chassis and mA-3011 before powering on the Chassis. AXIe Chassis identify installed modules and network connections during the start up process; if network connections are changed after the Chassis has been powered on the Chassis will be unable to locate and identify the network connections. If network connections need to be changed, power down the Chassis before reconfiguring the network connections.

The recommended LAN connections are as follows:

- Chassis Rear Panel Ethernet Connector: Use to establish a wired network connection (refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual).
- mA-3011 GbE Connector: Use to connect Chassis to peripheral equipment

Network Settings

This section contains instructions to connect to the mA-3011 via a network connection.



DEFAULT STATIC IP NOTICE

The module ships from the factory with an assigned Static IP Address. Do not connect the module to your local area network (LAN) without contacting your IT department to determine if the module's default IP Address is already in use. If the module's default IP Address is already in use by a device on the network, connecting the module to the network will cause a network conflict.

It is recommended that the module be reconfigured to use a Static IP address assigned by your IT department before connecting the device to a LAN.

mA-3011 Default IP Address

The mA-3011's IP Address is needed to access the module using external user interface tools and software applications. In the event the module's IP Address has been changed, see the section below ("Locate mA-3011 IP Address")

The mA-3011 default IP Address is: 10.105.8.34



NOTE - DUAL SYSTEMS

When a Dual mA-3011 modules is received from the factory, the default IP address of the second CPU processor is 10.105.8.33.

Locate mA-3011 IP Address

In the event the mA-3011's IP Address has been changed, the mA-3011's IP Address can be identified using the following procedure:



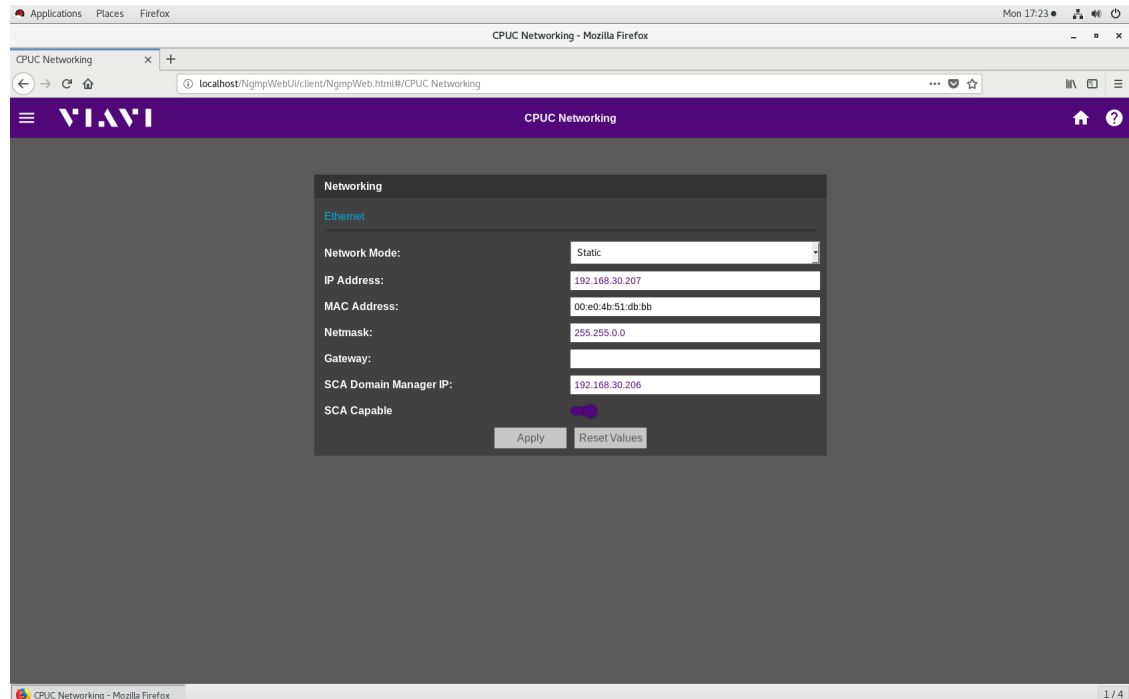
NOTE

The mA-1302/mA-1305 AXIe Chassis Web Browser UI can be used to identify the IP Address of other modules that are installed in the CMP Chassis. Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for information and instructions.

To Identify mA-3011 IP Address:

- 1 Power on the AXIe Chassis.
- 2 Open a web browser window.
- 3 Enter "localhost" in the web browser's URL field.
- 4 The mA-3011 Embedded Host Module Web Browser UI will be displayed.
 - The Chassis IP Address is available on this web browser page.
- 5 Open the Main Menu on the mA-3011 Web Browser UI and select CPUC Networking (see "CPUC Networking Page" on page 5-5) from the menu.

Figure 4-1 CPUC Networking Page



- 6 Record the mA-3011 IP Address from the CPUC Networking page.

mA-3011 Network Mode

The procedures in this section describe how to configure the mA-3011 network settings using the Web UI.

The mA-3011 network settings can also be configured using the Chassis Web UI. Refer to the mA-1302/mA-1305 AXIe Operation Manual for instructions to configure the mA-3011 network mode of operation using the Chassis Web UI.

NOTE

When the mA-3011 Network Mode is changed, the current Web Browser UI connection will be lost. A new Web Browser connection will need to be established with the updated mA-3011 IP Address.

Configure Network Using Web UI

The procedures in this section require the mA-3011's IP Address. If you do not know the mA-3011's IP Address, see [“Locate mA-3011 IP Address” on page 4-5](#).

Set Module to Use a Static IP Address

- 1 Power on the CMP System.
- 2 Open a web browser window.
- 3 Enter the mA-3011 IP address in the browser window URL field.
- 4 Navigate to the mA-3011 Networking page (see [“CPUC Networking Page” on page 5-5](#)).
- 5 Select the module instrument slot and set the module Network Mode to **Static**.
 - Module Network Mode menu: Slots section of the Network Settings Table
- 6 Enter desired IP address for the mA-3011.
- 7 Select the Apply button.
- 8 At user prompt, select the Apply and Reply button.

NOTE

The system will initiate an auto reboot sequence that takes approximately 10 to 15 seconds. If the system does not auto reboot within one minute, press the Power On/Standby button and refer to the following:

- If the Power On/Standby button turns green, the system has initiated the reboot sequence. Wait while the system completes the power up process.
- If the Power On/Standby button turns yellow, the system failed to initiate the power on sequence. Press the Power On/Standby button again to initiate the power on sequence and wait while the systems completes the power up process.

Set Module to Use DHCP IP Address



NOTE

When DHCP Configuration is initiated, the mA-3011 IP Address updates and the Web Browser UI connection will be lost. Refer to section [“Locate mA-3011 IP Address” on page 4-5](#).

- 1 Power on the CMP System.
- 2 Open a web browser window.
- 3 Enter the mA-3011 IP address in the browser window URL field.
- 4 Navigate to the mA-3011 Networking page (see [“CPUC Networking Page” on page 5-5](#)).
- 5 Select the module instrument slot and set the module Network Mode to **DHCP**.
 - Module Network Mode menu: Slots section of the Network Settings Table
- 6 Select DHCP Mode.
- 7 Select the Apply button. At user prompt, select the Apply and Reply button.



NOTE

The system will initiate an auto reboot sequence that takes approximately 10 to 15 seconds. If the system does not auto reboot within one minute, press the Power On/Standby button and refer to the following:

- If the Power On/Standby button turns green, the system has initiated the reboot sequence. Wait while the system completes the power up process.
- If the Power On/Standby button turns yellow, the system failed to initiate the power on sequence. Press the Power On/Standby button again to initiate the power on sequence and wait while the systems completes the power up process.

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mA-3011 Web Browser UI

This chapter describes the mA-3011 Web browser User Interface (Web UI) tool. Topics described in this chapter are as follows:

- [Introduction](#) 5-2
- [Recommended Browsers](#) 5-2
- [Open the mA-3011 Web UI](#) 5-2
- [Web UI Pages](#) 5-4

Introduction

The Web Browser User Interface, referred to as the mA-3011 Web UI, is a basic interface that displays module information and operational status. The mA-3011 Web UI also provides user's with the ability to update the module's operating system and configure network settings.

Recommended Browsers

Recommended browsers for viewing CMP AXIe Web Browser User Interfaces:

- Google Chrome Version 53.0.2785.116 m (64-bit) or later
- Firefox Version 48.0.1 or later
- Internet Explorer 11 or later

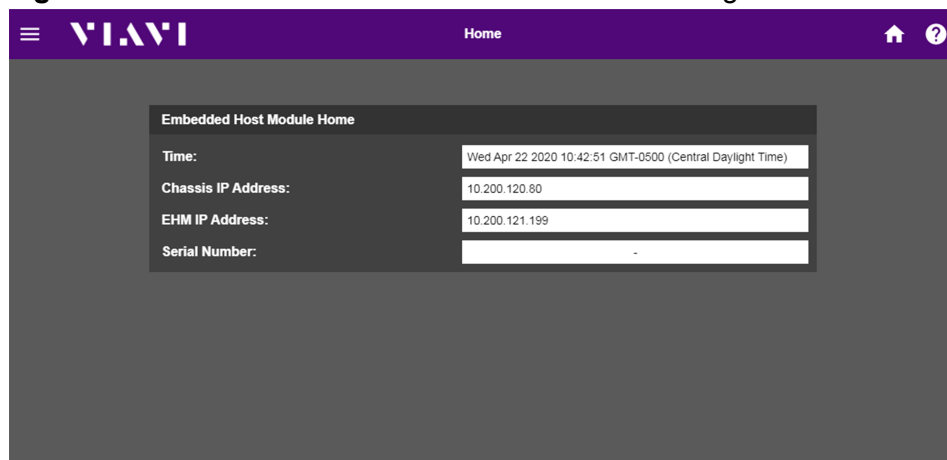
Open the mA-3011 Web UI

The mA-3011's IP Address is required to open a mA-3011 Web UI session. Refer to the section titled "[mA-3011 Default IP Address](#)" on [page 4-4](#) if needed.

How to Open the mA-3011 Web UI

- 1 Open a web browser window (refer to section titled "[Recommended Browsers](#)" on [page 5-2](#)).
- 2 Enter the module's IP address in the web browser's URL field.
- 3 The mA-3011 Web UI opens as shown in Figure 5-1.

Figure 5-1 mA-3011 Web Browser UI - Home Page



mA-3011 Web UI Components



Main Menu Button

The Main Menu is used to access module information and configuration pages.



Home Button

Pressing the Home Button returns to the mA-3011 Web UI Home Page.



Help Button

Pressing the Help Button displays information for accessing mA-3011 User Documentation.

Web UI Pages

This section describes the pages found in the mA-3011 Web Browser UI.

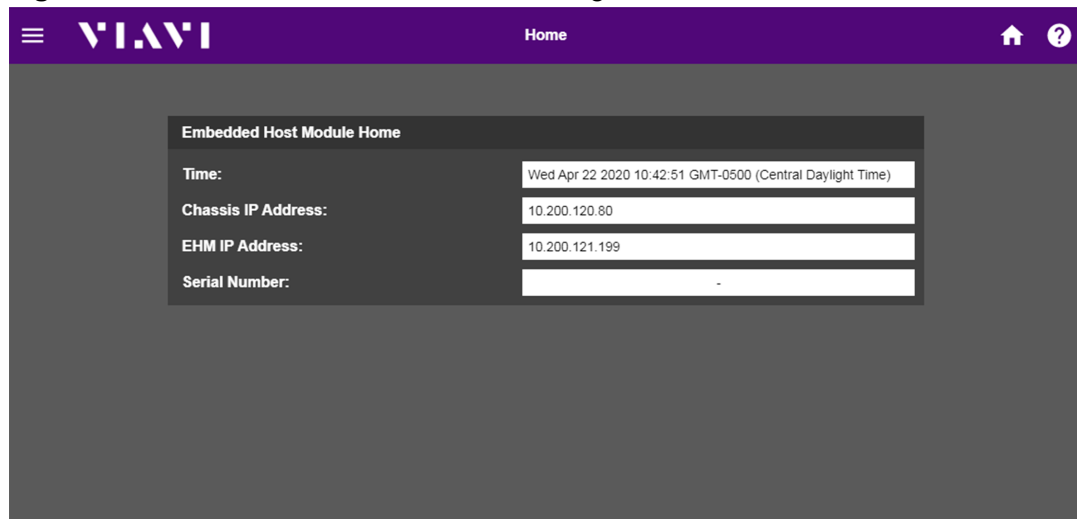


The Web UI pages are accessed from the Main Menu Button that is located in the upper left corner of the Web UI window.

Home Page

The mA-3011 Web UI Home Page displays the mA-3011 IP Address as well as the AXIe Chassis in which the module is installed.

Figure 5-2 mA-3011 Web UI Home Page



NOTE

When the procedure defined in the section titled [“Locate mA-3011 IP Address”](#) on [page 4-5](#) is used to locate the mA-3011 IP Address, the mA-3011 IP Address field will display “localhost”.

CPUC Networking Page

The CPUC Networking Page is used to configure the module's network connection. Refer to “mA-3011 Network Configuration” on page 4-4 for information about how to configure the mA-3011 for network use.

Figure 5-3 CPUC Networking Page

The screenshot displays the CPUC Networking configuration page. At the top, there is a purple header with the VIAMI logo and the page title 'CPUC Networking'. Below the header, the 'Networking' section is expanded to show 'Ethernet' settings. The configuration fields are as follows:

Field	Value
Network Mode:	Static
IP Address:	10.200.121.199
MAC Address:	00:e0:4b:5f:43:53
Netmask:	255.255.0.0
Gateway:	10.200.1.90
SCA Domain Manager IP:	10.200.120.80

At the bottom of the configuration area, there is a checkbox for 'SCA Capable' which is checked, and two buttons: 'Apply' and 'Reset Values'.



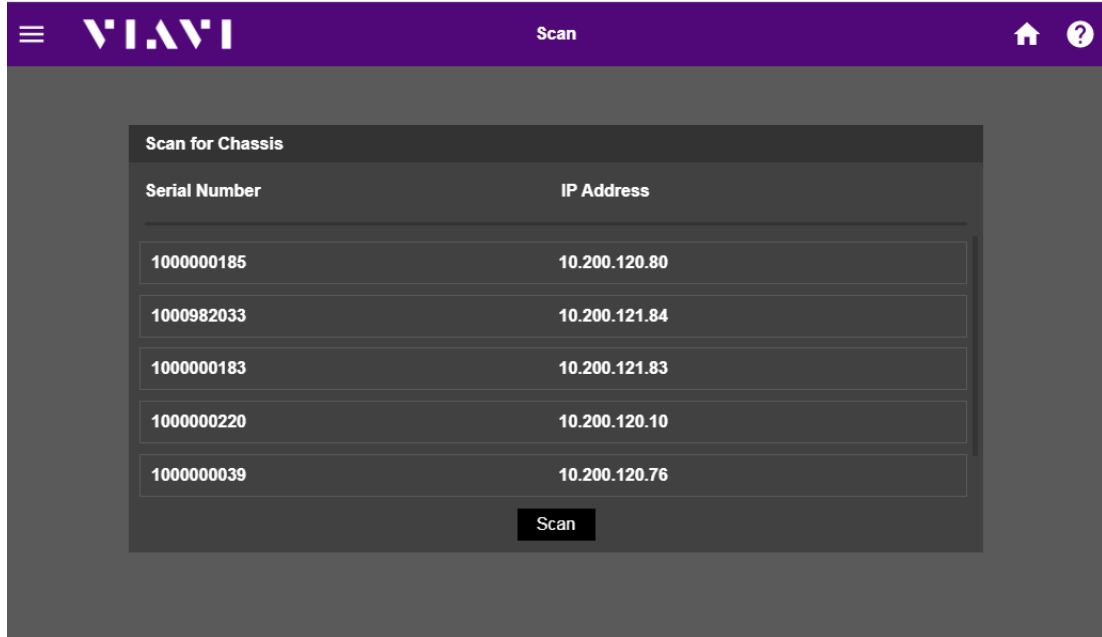
NOTE

When the mA-3011 is installed in a VIAMI CMP mA-1302/mA-1305 AXIe Chassis, the preferred method of configuring the mA-3011 network settings is to use the Chassis Web Browser User Interface (Web UI). Refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for information.

Scan (for Chassis) Page

The Scan page is used to locate any CMP Chassis that is located on the same network as the mA-3011. This function is helpful for locating the IP address of the Chassis in which the CPUC is installed.

Figure 5-4 Scan for Chassis Page



Care and Maintenance

This chapter contains instructions for the care and maintenance of the mA-3011. Content cover the following topics:

- Maintaining the Device 6-2
 - Storing the Device 6-2
 - Visual Inspections 6-2
 - External cleaning 6-3
 - Firmware/Software Upgrades 6-3
- Module Removal/Installation Procedures 6-6
 - Removing the Module 6-6
 - Module Installation Procedure 6-7
- Shipping the mA-3011 6-9
 - Return Authorization (RA) 6-9
 - Tagging the Device 6-9
 - Shipping Containers 6-9
 - Freight Costs 6-9
 - Packing Procedure 6-10

Maintaining the Device

The following procedures may be performed by the Operator. All other service must be performed by Qualified Service Personnel.



CAUTION

This Device does not contain user serviceable parts. Servicing should only be performed by Qualified Service Personnel.

Mise en Garde

Cet appareil ne contient pas de pièces pouvant être entretenues par l'utilisateur. L'entretien doit seulement être effectué par du personnel de service qualifié.

Storing the Device

Module Installed in Chassis

To prepare the Chassis and module for long-term storage:

- Disconnect all accessory cords from Front and Rear Panel Connectors.
- Cover the connectors with suitable dust cover to prevent tarnishing of connector contacts.
- Refer to Chassis specifications for proper storage environment.

Module Removed from Chassis

To prepare the module for long-term storage:

- Remove module from Chassis.
- Place module in ESD protective packaging.
- Refer to module specifications for proper storage environment.

Visual Inspections

Visual inspections should be performed periodically depending on operating environment, maintenance and use.

- Inspect connectors for dirt, dust, corrosion or rust.
- Check the presence and condition of all warning labels and markings and supplied safety information.

External cleaning

The following procedure contains routine instructions for cleaning the exterior of the module.

- Remove grease, fungus and ground-in dirt from surfaces with soft lint-free cloth dampened (not soaked) with isopropyl alcohol.
- Remove dust and dirt from connectors with soft-bristled brush.

Firmware/Software Upgrades

The mA-3011 is shipped from the factory with the operating system installed in the module. The version of the operating system installed in the mA-3011 at time of shipment has been tested and verified to operate in the mA-3011 and AXIe Chassis. VIAVI does not recommend updating the module's operating system unless the update is posted on the CMP product web page.

Regular checks should be performed to ensure all system hardware contains the most current software, drivers and or firmware.

Contact VIAVI Customer Service to check for the latest version of software, firmware and/or drivers.



NOTE

The procedures in this section describe how to use the AXIe Web Browser UI to update the mA-3011 operating system: refer to the mA-1302/mA-1305 AXIe Chassis Operation Manual for instructions for updating Chassis software.

Firmware/Software Distribution Methods

Firmware and software update distribution methods vary based on the export classification of the software as well as customer requirements. Firmware and software updates are distributed in the form of an ISO image.

- The ISO image may be distributed to customers on a USB device or CD.
- An email may be sent to the end user with a link to download the ISO image from a secure file exchange server.



NOTE

The distributed ISO image will contain the latest version of software and firmware for the CMP system.

Preliminary Procedure

If the ISO image has been received on a USB device or CD, proceed to the ["Firmware/Software Upgrade Procedure"](#) below.

If the ISO image has been downloaded from a secured file exchange server, the ISO image must be burned to a USB device or a CD.



NOTE

There are various tools and applications available to burn an ISO image to a USB device or CD/DVD. This manual does not provide instructions for using these external tools or applications. VIAVI recommends the following tool for burning ISO images to USB devices: <https://rufus.ie/>.

Firmware/Software Upgrade Procedure

To ensure the latest version of software, contact customer service.

CMP system software/firmware are updated using the VIAVI Software Upgrade Tool. The Software Upgrade tool is a software update package/application that will scan the CMP system to determine which modules have updates available.

- 1 Connect the USB Device (or USB CD-ROM device) to one of the mA-3011 front panel USB connectors.



USE OF USB to CD-ROM DEVICE

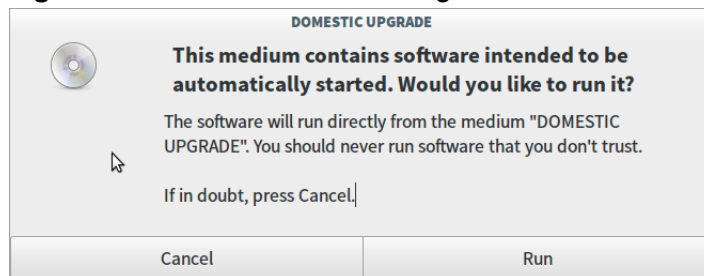
A Y-cable or dual USB connectors is required to draw enough current to power the external CD-ROM device.

Connect external CD-ROM device to mA-3011 Embedded Host module, via a Y-Cable or cable with 2 USB connectors.

If using a high-powered USB device, only use the top two mA-3011 USB connectors.

- 2 When the USB device is connected, the operating system displays a prompt. Review the user prompt message and select the Run button to proceed.

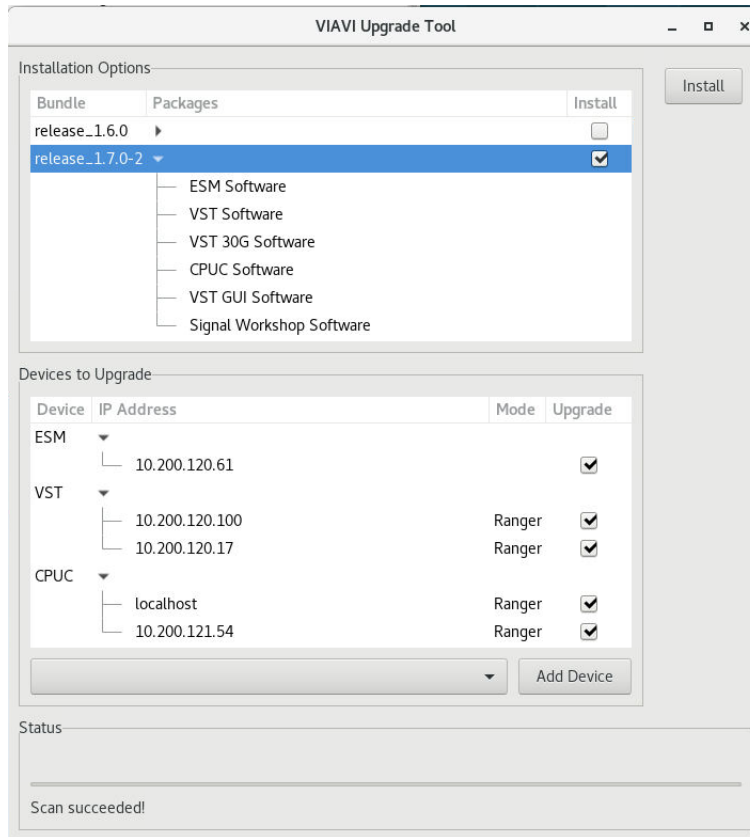
Figure 6-1 Auto-Run Dialog Box



- 3 After the upgrade is confirmed, the software upgrade tool window is displayed (Figure 6-2).

- The Installation Options section of the window shows software that is contained in the upgrade tool as well as devices that have pending upgrades.

Figure 6-2 VIAVI Software Upgrade Tool Window



- If a device is not auto-detected, select the device from the Devices to Upgrade section of the window and press the Add Device button.



NOTE

Double click on the IP Address of new device to edit the device's IP Address. When updating a Dual mA-3011, each CPU will appear as a separate device. The upgrade tool will update both CPU's. If you do not want to update one of the CPU's, de-select the Upgrade tick box.

- Select the Install button to continue.
- Wait while the system performs a series of automated processes. This will take several minutes.



NOTE

Do not interrupt the upgrade process or the upgrade will not be completed properly.

- 8 When the upgrade process is complete, the user will be prompted to power cycle the system.
- 9 Power cycle the Chassis to apply the new changes.

Module Removal/Installation Procedures

This section covers removing and installing the module. The procedures in this section are intended for Qualified Service Personnel.



CAUTION

Modules are ESD sensitive and should only be installed, removed and/or serviced by Qualified Service Personnel.

Mise en Garde

Les modules sont sensibles aux DES et ils doivent seulement être installés, enlevés ou entretenus par du personnel de service qualifié.

Removing the Module

How to Remove Module

- 1 Power down the Chassis.
- 2 Fully loosen the captive screws on each side of the module.
- 3 Grasp the module Securing Latches and pull the Latches outwards and away from the module to disconnect the module from the Backplane Connectors.
- 4 Pull until the Securing Latches are at a 90° angle with the front of the module. See [Figure 6-4 on page 6-8](#).
- 5 Grasp the module and pull to remove the module from the Chassis.

If the module is being returned to the factory for service, refer to section [“Shipping the mA-3011” on page 6-9](#) for important information.

Module Installation Procedure

The mA-3011 is designed for installation in an AXIe Chassis compliant to AXIe-1 Base Architecture Specification, Revision 3.0.



CAUTION

Modules are not "hot -swappable." The Chassis must be powered down before installing or removing modules from the Chassis.

Mise en Garde

Les modules ne peuvent pas être « changés lorsque sous tension. » Le châssis doit être mis hors tension avant d'installer ou d'enlever des modules du châssis.



CAUTION

Use care when installing modules to avoid damaging any modules already installed in the Chassis.

Mise en Garde

Faites attention lors de l'installation de modules afin d'éviter d'endommager les modules déjà installés dans le châssis.



CAUTION

Modules are ESD sensitive and should only be installed, removed and/or serviced by Qualified Service Personnel.

Mise en Garde

Les modules sont sensibles aux DES et ils doivent seulement être installés, enlevés ou entretenus par du personnel de service qualifié.

Preliminary Procedures

Verify the following before beginning installation:

- Slot does not contain foreign objects or debris.
- Chassis Backplane connector pins are not bent or damaged.

How to Install the Module

- 1 Power down the Chassis.
- 2 If the module has securing latches, position the latches at a 90° angle to the front of the module.



NOTE

The securing latch must be placed in the unlocked position - pulled out and away from the latch mechanism - or module cannot be properly inserted and seated with the Chassis backplane connectors.

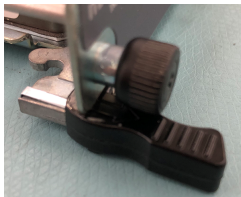
Figure 6-3 Securing Latch - Locked Position



Figure 6-4 Securing Latch - Unlocked Position



Figure 6-5 Securing Latch - Unlocked and Unlatched



- 3 Position the module on the Chassis Side Rails. Slide the module into the card cage.



NOTE

If the module does not slide smoothly along the side rails, remove the module, realign and reinsert the module.

- 4 Fully insert the module into Card Cage. Press firmly to securely connect module pins with Backplane Assembly Connectors.
- 5 Press the securing latches into the Locked Position.
- 6 Hand tighten the captive screw on each side of module. Securely tighten each captive screw to ensure module is properly grounded via the Chassis.

Shipping the mA-3011

Any device returned to factory for calibration, service or repair must be repackaged and shipped subject to the following conditions:

Return Authorization (RA)

Do not return any products to the factory without prior authorization from VIAVI Customer Service.

Tagging the Device

All items shipped to VIAVI must be tagged with:

- Owner's Identification and contact information
- Nature of service or repair needed
- Model Number and Serial Number
- Return Authorization (RA) Number

Shipping Containers

Devices must be repackaged in original shipping containers using VIAVI packing materials. If original shipping containers and materials are not available, contact VIAVI Customer Service for shipping instructions.

Freight Costs

All freight costs on non-warranty shipments are assumed by the customer. VIAVI recommends that customers obtain freight insurance with the freight carrier when shipping the Device.



NOTE

VIAVI is not responsible for the cost of repairs for damages that occur during shipment on warranty or non-warranty items.

Packing Procedure

Devices must be repackaged in original shipping containers using VIAVI packing materials. If original shipping containers and materials are not available, contact VIAVI Customer Service for shipping instructions.



NOTE

VIAVI is not responsible for the cost of repairs for damages that occur during shipment on warranty or non-warranty items.

Contact Customer Service to obtain a Return Authorization number, return address and for questions about proper packaging.

Packaging Procedure

- 1 Place module in ESD protective packaging/envelope.
- 2 Place module between foam inserts.
- 3 Place secured module in shipping container
- 4 Seal shipping container for shipment.

Specifications

This appendix contains basic safety and compliance specifications. Refer to the mA-3011 Embedded Host Module Data Sheet for complete product specifications.

Specifications in this appendix are as follows:

- [Unit Specifications](#) A-2
- [Environmental Specifications](#). A-2
- [Electrical Specifications](#) A-2
- [Safety and Compliance Standards](#) A-3

Unit Specifications

Table A-1 Physical Specifications

Parameter	Specification
Height	322.5 mm
Width	30 mm
Depth	280 mm
Weight	1.9 kg (4.5 lbs)
Form Factor	1 slot AXIe

Environmental Specifications

The following specifications have been tested in accordance with MIL-PRF-28800F:

Table A-2 Operating and Storage Environment

Parameter	Specification
Operating Temperature	0° to 50° C
Storage Temperature	-40° to 71° C
Humidity	95% at 40°C (non-condensing)
Altitude	4600M
Vibration	5 to 500 Hz
Functional Shock	30 G

Electrical Specifications

Table A-3 Power Supply

Parameter	Specification
Operating Voltage Range	48 VDC
Power Dissipation	100W

Safety and Compliance Standards

Table A-4 Safety Standards

European Low Voltage Directive 2006/95/EC

IEC/EN 61010-1, 2nd Edition

Canada: CSA C22.2 No. 61010-1-04

USA: UL Std No. 61010-1 2nd Edition

Table A-5 EMC Compliance Standards

European EMC Directive 2004/108/EC

IEC/EN 61326-1

AS/NZS CISPR 11

IECS/NNM-001

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141172 Rev. C0
April 2020
English

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