



Agilent AXle based Logic Analysis and Protocol Test Modules

Quick Start Guide



Notices

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This Guide...

describes the broad steps for a basic setup of an Agilent AXIe based instrument module in the Agilent AXIe chassis to help you verify the basic power on operation of the module(s) and chassis and establish hardware connectivity with the host computer.

NOTE

The document(s) that accompany the AXIe chassis shipment provide generic information for setting up and using the chassis.

Please follow the steps outlined in this *Quick Start Guide* to set up the hardware and software specifically in context of the instrument module.

For detailed information on various supported instrument modules and setting up the AXIe chassis and these modules, refer to the *Agilent AXIe Based Logic Analysis and Protocol Test Modules Installation Guide*. You can download this guide from www.agilent.com. On this site, specify the name of the guide in the quick search box to find this guide.



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Step 1 - Unpack the Shipment

The AXle chassis and instrument module come in separate shipments.

Unpack and verify the shipment contents to check if you have received all the items that you ordered. The shipment contents can vary depending on the options that you ordered. Therefore, the shipping list delivered with the shipment should supersede these lists.

Table 1 AXle Chassis shipment contents

Item	Description
Chassis	The 2 slot/5 slot chassis that you ordered.
Chassis Power Cord	To connect chassis to an external power source
Accessories	Any accessories that you ordered with the chassis.
Startup Guide	A printed guide that provides the basic information to get you started with your AXle chassis.



Table 2 Typical contents of an instrument module shipment

Item	Description
Module	The instrument module that you ordered. The module's model number is printed on the front panel of the module.
Accessories	The accessories will vary depending on the instrument module and the options that you ordered while purchasing the module. Accessories include standard items that are shipped with the module as well as optional items that you ordered separately. (Please check the Agilent website <a href="http://www.agilent.com/find/<module_model_number>">www.agilent.com/find/<module_model_number> for the latest list of available accessories for a module.)
Customer Letter	The letter specifying the Web location from where you can download the Agilent Logic and Protocol Analyzer software and the <i>Agilent AXIe Based Logic Analysis and Protocol Test Modules Installation Guide</i> .
Quick Start Guide	This document, <i>Agilent AXIe Based Logic Analysis and Protocol Test Modules Quick Start Guide</i> , in the printed form.

Carefully inspect the module and other items in the shipment for any damage.

If you have purchased an Agilent AXIe Embedded Controller module for use as the host computer, then you will receive this module in a separate shipment.

Table 3 Typical contents of an Agilent AXIe Embedded Controller module shipment

Item	Description
Agilent AXIe Embedded Controller module	The embedded controller module that you ordered. The module's model number is printed on the front panel of the module.
Accessories	The accessories will vary depending on the options that you ordered while purchasing the module. Accessories may include cables, connectors etc. (Please check the Agilent website <a href="http://www.agilent.com/find/<module_model_number>">www.agilent.com/find/<module_model_number> for the latest list of available accessories for a module.) Note: A keyboard, mouse, or a video monitor are not included with the embedded controller module.
CDs	<ul style="list-style-type: none"> An Automation-Ready CD with Agilent IO Libraries Suite (version 16.2 or later). An M9536A Product Information CD. This CD contains the M9536A User Guide which provides detailed information about the module, configuration, etc.
Quick Start Guide	The document, <i>Agilent M9536A AXIe Embedded Controller Startup Guide</i> , in the printed form.

Return the Damaged/Defective Item to Agilent for Repair/Replacement

If anything is missing, defective, or damaged,

- Review the warranty information shipped with your product or check the warranty information on Agilent website.
 - To check the warranty information on your module, go to www.agilent.com/find/warranty and specify the module's model number (Example- U4154A) in the Product Number field, and specify the serial number from the top of the module in the Serial No. field.

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- 2 Contact the nearest Agilent Sales Office. If you need assistance finding Agilent contact information, go to www.agilent.com/find/assist (worldwide contact information for repair and service).

Step 2- Install the Instrument / Embedded Controller Module in AXIe Chassis

The AXIe chassis has 2 or 5 slots (depending on the model of the chassis that you bought) for installing instrument modules.

Ensure that the chassis is NOT powered up or connected to a power source while installing an instrument / embedded controller module.

NOTE

The Embedded System Module (ESM) of chassis is pre-installed and already set up in the bottom most slot in the chassis. Do not remove the ESM from this slot.

To install an instrument / embedded controller module in the AXIe chassis

- 1 Remove the filler panel from the slot in which you want to install the module. AXIe chassis is shipped with filler panel modules covering the slots.



NOTE

Do not use slot 1 for installing the instrument module if you are planning to use the Agilent AXIe Embedded Controller module as the host computer. The slot 1 is used specifically for installing the Embedded Controller module.

- 2 Locate the module insertion/extraction handles at both ends of the module. Extend the ends of both handles, by

pulling them inwards towards each other. Then fully open the handles by pivoting them out towards you.



- 3 Align the module's PCA board with the guide rails on both ends of the AXIe chassis. If the module has metal plates covering the board, be sure to insert the PCA board and not the metal plates into the rails.
- 4 Push the module into the chassis slot until the leading edges of the module insertion/extraction latches rest against the front surface of the chassis. The insertion/extraction latch handles should be perpendicular to the front surface of the chassis (aligned with the direction of module insertion). Nudge the module gently inward to allow the latches to engage.
- 5 Using your thumbs, press inwards firmly on the insertion/extraction handles until the module is seated firmly in the chassis backplane. The module's front panel should lie flush with the chassis front panel.
- 6 Push the handles ends towards the edge of the chassis to tuck them away.
- 7 Tighten the retaining screws on either end of the module to ensure the ground connection.



If there are multiple modules to be set, install these in the separate slots of chassis. A module can operate as an individual module or you can cable it with other modules in the chassis to operate together as a multi-card set (single logical module).

NOTE The detailed instructions on installing/removing a module or a multi card set in the chassis are available in the *Agilent AXIe Based Logic Analysis and Protocol Test Modules Installation Guide* that you can download from www.agilent.com.

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NOTE

The detailed instructions for installing/removing an Agilent AXIe Embedded Controller module in the chassis are available in the *Agilent AXIe Embedded Controller Startup Guide* that you can download from www.agilent.com.

Step 3 - Set up the AXIe Chassis

You need not necessarily perform this step at this time while verifying the basic setup for power up and connectivity. However, you would decide on a portable or rackmounted usage of the chassis after this basic verification.

The detailed instructions are available in the *Agilent M9502A/M9505A AXIe Chassis User's Guide* (available on www.agilent.com).

Step 4 - Set up the Host Computer

NOTE

Before you perform this step, ensure that you have installed the instrument module in the required slot of AXIe chassis. Then only, the attached host computer can connect to the chassis successfully.

The host computer communicates with the ESM and instrument modules in the chassis and hosts all the software components needed to use the instrument modules.

You can choose one of the following as the host computer:

- If you are planning to use PCIe connectivity between AXIe chassis and host computer, then you can use any laptop or desktop computer from the Agilent recommended list of host computers at <http://cp.literature.agilent.com/lit-web/pdf/5990-7632EN.pdf> that are compatible with Agilent AXIe chassis.
- If you are planning to use USB connectivity between AXIe chassis and host computer, then you can use any laptop or desktop computer with USB 2.0 support as the host computer.

- the Agilent AXIe embedded controller module. This module is an AXIe based one-slot module that you must install in slot 1 of the AXIe chassis. For more information on the Agilent AXIe Embedded Controller module, refer to www.agilent.com/find/M9536A.

To set up the Agilent AXIe Embedded Controller module, install this module in slot 1 of the AXIe chassis. The procedure for installing it is the same as installing any other instrument module.

Connect the Host Computer to Chassis

You can connect the host computer to the AXIe chassis via the PCIe or USB 2.0 port available on the ESM on the chassis' front panel. The standard ESM supports only the PCIe connectivity. To get USB connectivity, you need a separate license - M950XA-U20. With this license, the ESM supports PCIe as well as USB connectivity.

At a time, you can use either PCIe or USB port of the ESM. Connecting a PCIe cable to the ESM disables the ESM's USB port for the time for which PCIe port is in use.

- If you are using a laptop as a host computer, connect the chassis to this host computer using:
 - either a PCIe x1/x4 ExpressCard Adapter and a PCIe x4 - x8 cable.
 - or a USB 2.0 cable (only if you have ESM with option U20)
- If you are using a desktop as a host computer, connect the chassis to this host computer using:
 - either a PCIe x8 Desktop Adapter and a PCIe x8 cable.
 - or a USB 2.0 cable (only if you have ESM with option U20)
- If you are using Agilent's AXIe embedded controller as the host computer, then you need not perform any steps for establishing connectivity with the chassis. PCIe and LAN connections from the embedded controller module to ESM are made directly at the chassis backplane.

NOTE

Do not power up the host computer at this stage.

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NOTE

The host computer that you attached to the chassis can connect to the chassis successfully only when you have installed the instrument module in the required slot of AXIe chassis. Refer to [“Step 2- Install the Instrument / Embedded Controller Module in AXIe Chassis”](#) on page 8 for details.

NOTE

You should not connect the AXIe chassis to multiple operating host computers at the same time. If you plan to use the Agilent AXIe Embedded Controller module as the host computer, then do not connect an external host computer to the chassis.

Step 5 - Connect the AXIe Chassis to a Power Supply

You can use an external power supply, typically AC power mains.

Step 6 - Power Up

Power up the setup components in the following sequence:

- 1 Power up the chassis.
 - a Check that the power cord is attached to the chassis and external power source.
 - b Switch the circuit breaker on at the rear of the chassis.
 - c Press the ON/STANDBY switch on the front panel of chassis.

ON/STANDBY Switch



- 2 Wait for a steady green Status light to appear on the ESM of the chassis indicating a power ready status of the chassis. After that, wait for 2 minutes for all other components and modules to start properly.
- 3 Power up the host computer.

The step to power up the host computer is not required if you are using the AXIe Embedded Controller module as the host computer. This module and other instrument modules that you have installed in your chassis get powered up through the chassis backplane.

NOTE

The host computer that you attached to the chassis can connect to the chassis successfully only when you have installed the instrument module in the required slot of AXIe chassis. Therefore, make sure that you install the instrument module in the chassis before powering up the complete setup.

Display of Network Interface Controller Installation dialog box on powering up the host computer

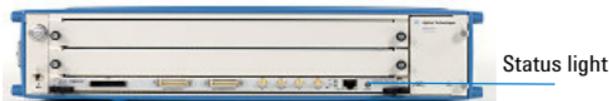
If you have Windows XP installed on your host computer and you have already installed an instrument module in the chassis, then Windows might display the Network Interface Controller dialog box on power up while trying to connect the host computer to the chassis via PCIe. This dialog box is displayed for the installation of the Intel PROWin32/ PROWin64 network driver. If an instrument module is not installed in the chassis while trying to connect the host computer to the chassis via PCIe, then Windows will ignore the PCIe connection and will not recognize the chassis and will not display any dialog box for the installation of the NIC driver.

You should cancel any windows driver install dialogs that appear for the NIC at this stage. This driver gets installed automatically as part of the Logic and Protocol Analyzer application software install. However, if while installing the Logic and Protocol Analyzer software on a host running Windows XP and not electrically connected to a powered chassis and instrument module, the host will fail to properly recognize the NIC and may fail to load the driver on the next system restart, causing the Windows device manager to once again present the driver install dialog for the NIC. If this situation occurs, exit the driver install dialog and install the NIC driver manually using the provided driver installer. Refer to ["To install the NIC driver manually"](#) on page 16 to know more.

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Step 7 - Verify the Chassis and Module Setup

If the Status light on the ESM of chassis turns steady green, then it indicates that the chassis has powered up successfully.



The chassis/module detects a failure and may require service if:

- the chassis does not power up to a steady green Status light, or powers up to a steady red light.
- the OOS LED on the front panel of the module is steady red and does not turn off indicating a power fault condition.

NOTE

Older U4301A Analyzer modules (with serial number prior to MY51090147) display a different OOS LED functionality. In these modules, the OOS LED remains turned off until the module is in a power-ready status. It remains illuminated as long as there is no power fault condition present in the module.

Contact your Agilent representative to replace or service the chassis/module.

Step 8 - Download and Install the Module Software Components

The software components needed to configure, control, and use the instrument modules are available for download on the Agilent website. Primarily, you need the Agilent Logic and Protocol Analyzer application version 5.00 or higher. However, depending on a module, you may need to install some more software components from the Agilent website.

NOTE

If you want to connect the chassis to the host computer via USB, then you need Agilent Logic and Protocol Analyzer application version 5.50 or higher to get the support for USB connectivity.

The module-wise list of software components is available in the **Installing Additional Software Packages** topic of the *Agilent AXIe Based Logic Analysis and Protocol Test Module Installation Guide* (available on www.agilent.com).

To download the most recent release of the Agilent Logic and Protocol Analyzer software, go to www.agilent.com/find/la-sw-download.

After installation, the Logic and Protocol Analyzer application may not launch or display error messages until you perform the configuration tasks outlined in step 9.

Step 9 - Configure the Software

Perform the following initial configuration tasks to start using the instrument module installed in chassis.

NOTE

You can find detailed step-by-step information about these configuration options in the *AXIe Based Logic Analysis and Protocol Test Module Installation Guide* (downloadable from www.agilent.com).

- 1 Connect the AXIe chassis to the host computer either via the PCIe/USB connection between the chassis and host, or by using both the PCIe/USB connection and connecting the chassis and host to a common network that provides DHCP services. Refer to the section “*Networking the Host Computer and AXIe Chassis*” in the *AXIe Based Logic Analysis and Protocol Test Module Installation Guide*.
- 2 The Intel NIC drivers should already have been installed with the Logic and Protocol Analyzer application installation to make PCIe connectivity with the chassis; no steps are therefore required to install these drivers. However, if while installing the Logic and Protocol Analyzer software on a

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host running Windows XP and not electrically connected to a powered chassis and instrument module, the host will fail to properly recognize the NIC and may fail to load the driver on the next system restart, causing the Windows device manager to once again present the driver install dialog for the NIC. If this situation occurs, exit the driver install dialog and install the NIC driver manually using the provided driver installer.

To install the NIC driver manually

Logic and Protocol Analyzer installation installs the NIC driver installer PROWin32.exe and PROWin64.exe at the following path for installing NIC drivers manually or troubleshooting network driver problems.

- *C:\Program Files(x86)\Agilent Technologies\Logic Analyzer\CRMNetworkDrivers\PCIe* (for 64 bit Windows OS installs)
 - *C:\Program Files\Agilent Technologies\Logic Analyzer\CRMNetworkDrivers\PCIe* (for 32 bit installs)
- a** From the appropriate path, run the driver installer (PROWin32.exe for 32 bit hosts and PROWin64.exe for 64 bit hosts) by right-clicking the installer file and selecting Run as Administrator.
 - b** Click **OK** for any User Account Control prompts.
 - c** Click **Next**.
 - d** Accept the license agreement and click **Next**.
 - e** Retain the default features selected and click **Next**.
 - f** Click **Install**.
 - g** When the InstallShield Wizard completes click **Finish**.
- 3** The Agilent Logic and Protocol Analyzer software and AXLe based instrument modules do not require the Agilent I/O libraries to be installed on the host computer. However, if the Logic and Protocol Analyzer software needs to interface with any Agilent instrument that requires these I/O libraries, it will prompt you to download and install these libraries. The latest version of these libraries can be downloaded from www.agilent.com/find/iosuite. If you are using the Agilent's AXLe Embedded Controller module as the host computer, it comes with the Agilent I/O Libraries Suite pre-installed.

- 4 The Logic and Protocol Analyzer application software installed on the host computer should automatically notify you if a chassis firmware upgrade is required. You can also manually verify and initiate an upgrade of the chassis firmware. Refer to the section *Upgrading Chassis Firmware* in the *AXIe Based Logic Analysis and Protocol Test Module Installation Guide*.

NOTE You do not need to install any module specific or chassis specific software or drivers; these are loaded as needed and controlled by the Logic and Protocol Analyzer application software.

- 5 Power down the host computer and then the AXIe chassis.
- 6 Power up the chassis.
- 7 Wait for a steady green Status light to appear on the ESM of the chassis indicating a power ready status of the chassis. After that, wait for 2 minutes for all other components and modules to start properly. Then power up the host computer.

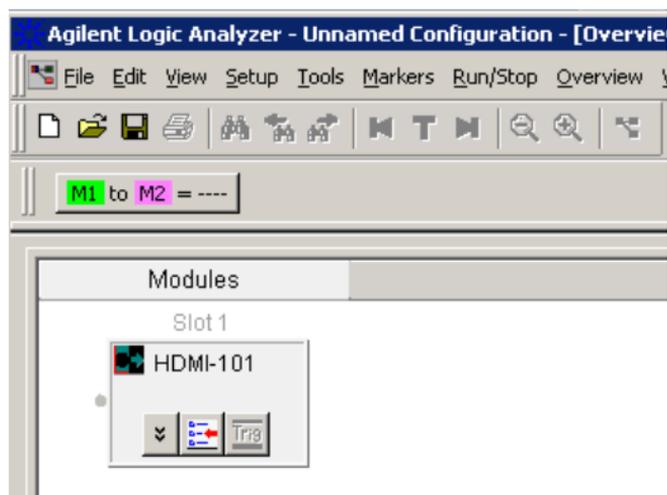
Step 10 - Verify the Software Installation

Verify that the software is installed properly by launching the Logic and Protocol Analyzer software:

- 1 Click **Start > Programs > Agilent Logic Analyzer > Agilent Logic and Protocol Analyzer** option on the Windows task bar.

The Startup screen of the Logic Analyzer should display. If the setup is installed and configured correctly, the Logic Analyzer software recognizes the instrument module installed in chassis and creates a logical module for it as displayed below.

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2 Using the AXIe Chassis and Module

Locating Electronic Manuals and Online Help

Various electronic manuals and the Logic and Protocol Analyzer online help provides information on how to configure and use the supported instrument modules.

On installing the Logic and Protocol Analyzer software, you will find these electronic manuals and online help installed at the following location.

<Logic and Protocol Analyzer Install directory>\help

You can also visit www.agilent.com\<module_model_number> to find latest versions of various manuals and data sheet of the module.

Routine Care

NOTE

Except for performing initial chassis verification or troubleshooting, do not operate the chassis with empty slots. Always insert a filler panel in empty slots. This is especially important for the slots on either side of an installed instrument module. This allows proper air flow and cooling, and provides EMI shielding for the chassis and installed components. Leaving slots empty can increase fan speed, raise ambient noise, over-heat components, and can cause the module to shut down.

CAUTION

Do not block the vent holes on the chassis. This overheats and damages their components. Leave a gap of at least 2" (50mm) around all vent holes.



2 Using the AXIe Chassis and Module

CAUTION

The enclosure surface of the module may become hot during use. If you need to remove the module, first power down the AXIe chassis, allow the module to cool, and then pull the module out of the chassis.

Turning off the Chassis and Modules

Turn off the chassis and module in the following sequence:

- 1 Turn off the host computer. If you are using the Agilent AXIe Embedded Controller module as the host computer, ensure that you shut down the controller by executing the Windows shutdown process.
- 2 Turn off the chassis by pressing the chassis ON/STANDBY switch on the front panel of chassis. Do not use the circuit breaker for routine turn off. The module(s) are turned off automatically with the chassis.

Updating Software Components

Updated versions of the Logic and Protocol Analyzer and module specific software components are available on the Agilent website.

These software components are available as .EXE files. To download a software upgrade:

- 1 Go to <http://www.agilent.com>.
- 2 Click the **Technical Support** tab.
- 3 Click **Drivers and Software**.
- 4 Type the model number of the instrument module for which software update is needed and click **Find**. Model number is located on the front panel of the module.
- 5 Click the **Driver & Software** link on the module page.
- 6 Download the required software update from the list of available updates.

Contacting Agilent Service/Support

To locate a sales or a service office near you, go to www.agilent.com/find/contactus.

Quick Troubleshooting

This section lists the basic troubleshooting steps that you might find useful while setting up the chassis and modules. For more troubleshooting information, refer to *Agilent AXIe Based Logic Analysis and Protocol Test Module Installation Guide* (available on www.agilent.com).

The chassis does not power up

If the chassis or a module does not appear to power up, check the following:

- The circuit breakers at the rear of the chassis are set to the right, which is the ON position.
- The AC power cords are connected to a working power source.
- The electrical circuits are not overloaded. Check the combined power requirements of all equipment on the same circuit.
- There are no empty slots in the chassis. Leaving slots empty can overheat the inserted modules, causing them to shut down.

A module is exceptionally hot

- Check that the vent holes on the chassis are not blocked.
- Check that a filler panel module or an instrument module is installed into empty slots on either side of an instrument module.

The host computer is not getting connected to the chassis via PCIe

- Install the instrument module in the chassis before trying to connect the host computer to the chassis via PCIe. In the absence of an installed module, an attached host computer will not be able to connect to the chassis successfully.
- While powering up or restarting the host computer, make sure that you first power up the chassis, wait for 2 minutes, and then power up the host computer. This sequence is needed for the PCIe channel in the chassis to be ready for successful PCIe connectivity between the host and chassis.

2 Using the AXIe Chassis and Module

- Windows may have failed to load the NIC drivers. This results in the display of the NIC driver install dialog. If this situation occurs, exit the NIC driver install dialog and install the NIC driver manually to achieve PCIe connectivity between the chassis and host computer. Refer to ["To install the NIC driver manually" on page 16](#) to know more.

The Agilent AXIe Embedded Controller module performs poorly and the operating system seems sluggish

This can happen if there are multiple hosts trying to communicate with the chassis at once. In such a situation, the module's embedded operating system is affected by a low-level driver resource conflict.

To resolve this, ensure that there are no external remote host computers still connected to the chassis and running.

2 Using the AXIe Chassis and Module

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