Processor Solution Information for HP 16600A/700A-Series Logic Analysis Systems

This booklet provides additional information for using your analysis probe or emulation module with an HP 16600A/700A-series logic analysis system.

This booklet answers the following questions:

- What is a processor solution?
- What are the steps for setting up the solution?
- How do I install an emulation module?
- Where can I find more information?

The Processor Solution At A Glance

New Product Names

HP has changed the names of several products. The old names may appear in the manuals or on the products themselves. The new names are used in this manual.

Old name	New name
Preprocessor	Analysis probe
Processor probe	Emulation probe or emulation module

If you ordered this...	You received this...
Analysis probe	Analysis probe board, inverse assembler
Emulation module	HP 16610A emulation module, target interface module (TIM)
Emulation migration	Target interface module
Emulation solution	Analysis probe board, inverse assembler, HP 16610A emulation module, target interface module (TIM) , HP B4620B Source Correlation Tool Set

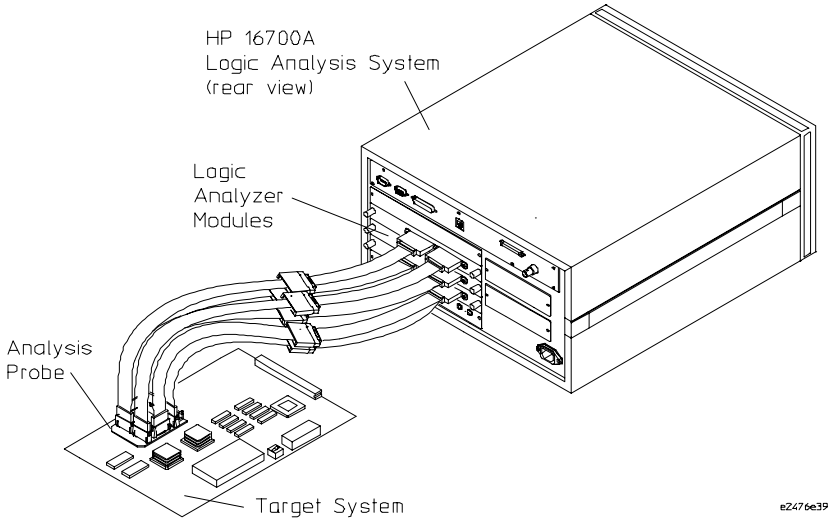
The Parts of a Solution

There are several ways to connect an HP logic analysis system to your target system. These connections use an analysis probe (or custom probing), plus an emulation module (for an emulation solution).

Analysis Probe

The analysis probe (formerly called a *preprocessor*) connects your logic analyzer to your target system for state and timing analysis. The analysis probe can be used with an HP 16600A/700A-series logic analysis system or with other HP logic analyzers.

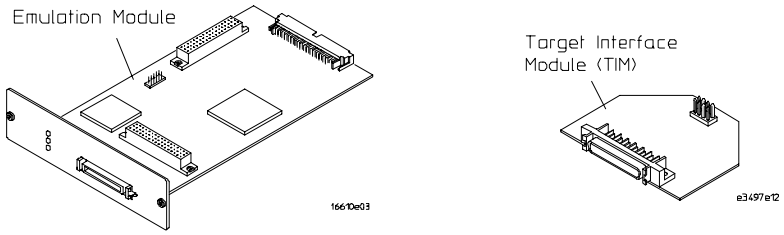
The analysis probe can be purchased alone, or as part of an emulation solution.



In some cases, if your target system has the appropriate connectors, you can connect the logic analyzer directly to the target system and use the inverse assembler without the analysis probe.

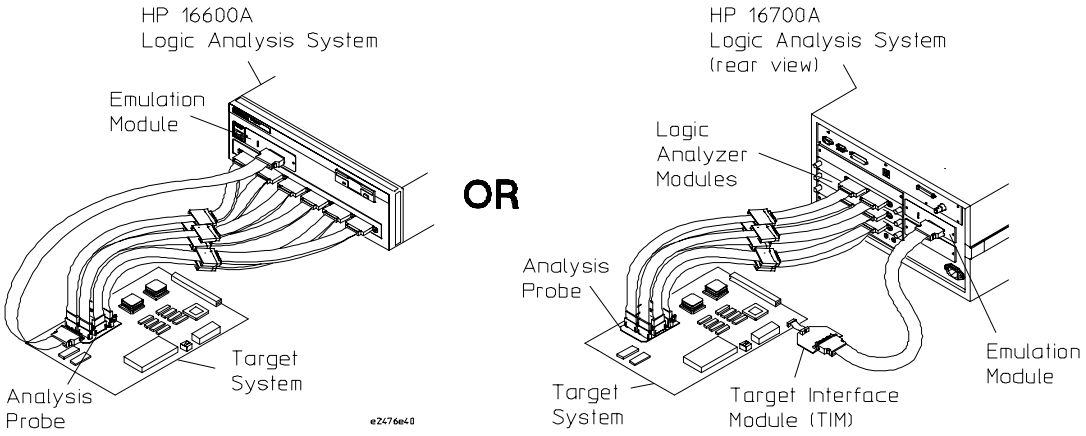
Emulation Module

The emulation module (similar to a *processor probe*) plugs into your HP 16600A/700A-series logic analysis system frame. The emulation module lets you use the target processor's built-in background debugging features, including run control and access to registers and memory. A high-level source debugger can use the emulation module to debug code running on the target system. You can connect the emulation module to the analysis probe or you can connect it to a debug port on the target system through the provided target interface module (TIM).



Emulation Solution

The emulation solution includes an analysis probe, an emulation module, cables and adapters, and the HP B4620B Source Correlation Tool Set (for analyzing high-level source code). This solution is designed to be used with an HP 16600A/700A-series logic analysis system.



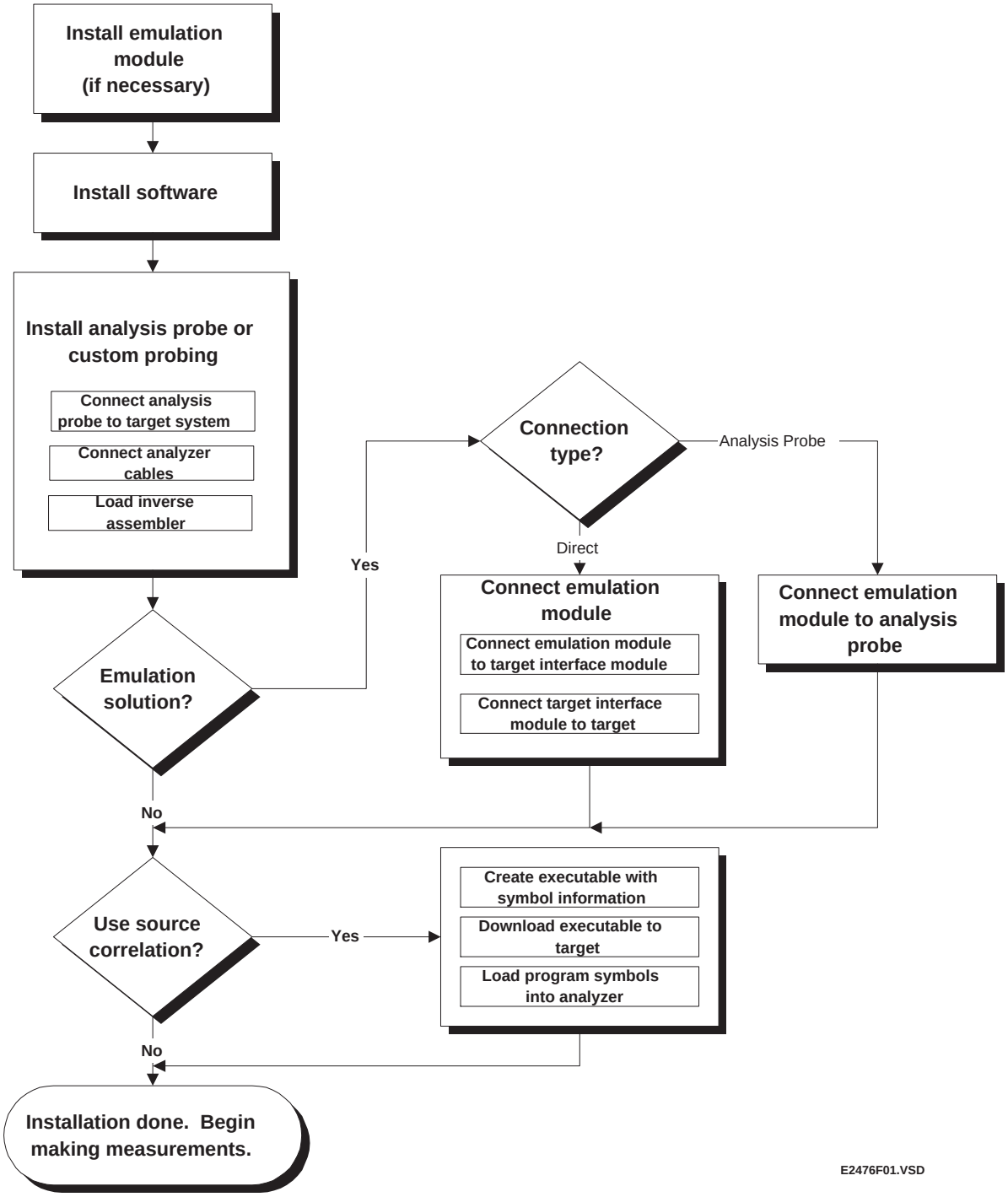
Setup Checklist

Follow these steps to connect your equipment:

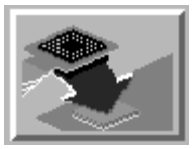
- If you need to install an emulation module in an HP 16600A/700A series logic analysis system, see page 8.
- Install the processor support package for your microprocessor.

  See the instructions on the CD-ROM jacket. The processor support package includes the files which will be used by the Setup Assisant, by the analysis probe, and by the emulation module.
- Use the Setup Assistant to help you connect and configure the analysis probe and emulation module. See page 7.

The flowchart on the following page is a summary of the steps involved in connecting and configuring your equipment.


Install emulation module (if necessary)
Install software
Install analysis probe or custom probing
Connect analysis probe to target system
Connect analyzer cables
Load inverse assembler
Emulation solution?
Yes
No
Connection type?
Analysis Probe
Direct
Connect emulation module
Connect emulation module to target interface module
Connect target interface module to target
Connect emulation module to analysis probe
Use source correlation?
Yes
No
Create executable with symbol information
Download executable to target
Load program symbols into analyzer
Installation done. Begin making measurements.
E2476F01.VSD

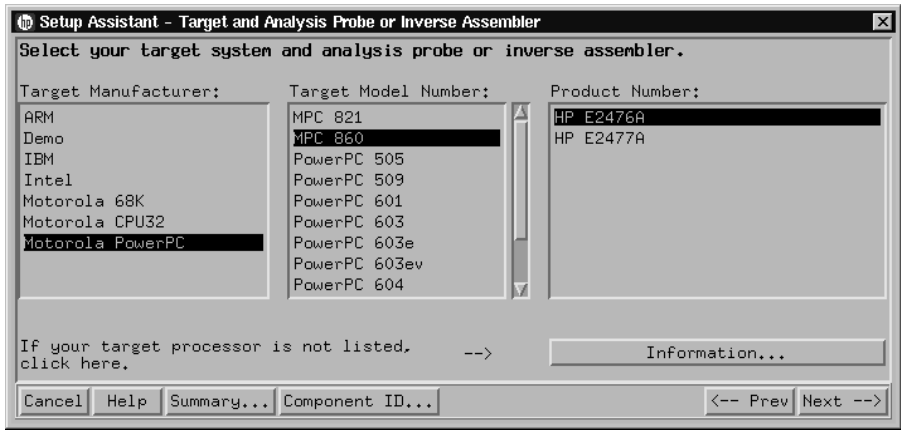
Setup Assistant



The Setup Assistant is an online tool for connecting and configuring your logic analysis system for microprocessor and bus analysis. The Setup Assistant is available on HP 16600A/700A-series logic analysis systems.

This menu-driven tool will guide you through the connection procedures for connecting the logic analyzer to an analysis probe, an emulation module, or other supported equipment. It will also guide you through connecting an analysis probe to the target system.

Start the Setup Assistant by clicking its icon in the system window.



If you ordered this product with your HP 16600A/700A-series logic analysis system, the logic analysis system has the latest software installed, including support for this product. If you received this product after you received your logic analysis system, install the PROC-SUPPORT package for your processor from the CD-ROM.

Installing an Emulation Module

If the emulation module is already installed

Your emulation module may already be installed in your logic analysis system. Use the Setup Assistant or follow the instructions on page 13 to update the emulation module firmware, which will give the emulation module a "personality" for your microprocessor.

If the emulation module is not already installed

If you need to install an emulation module yourself, follow the instructions on the pages which follow.

Connecting to the target system

Refer to the processor probe *User's Guide* for information about designing a target system to work with an emulation module and instructions for connecting the emulation module to the target system.

Specifications and characteristics

The specifications and characteristics in the processor probe *User's Guide* do not apply to an emulation module. Instead, the emulation module meets the environmental characteristics of the logic analysis system frame.

Caution

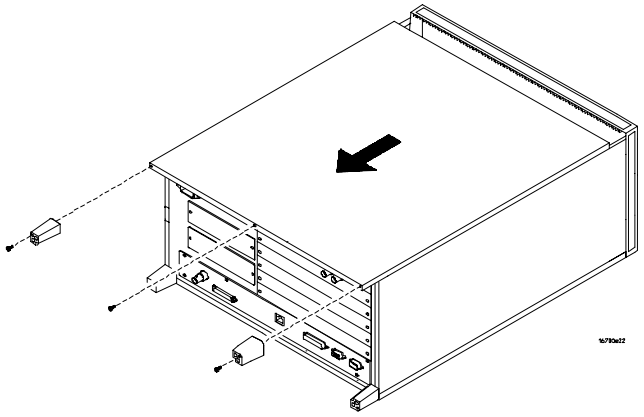
These instructions are for trained service personnel. To avoid dangerous electric shock, do not perform any service unless qualified to do so. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

Electrostatic discharge can damage electronic components. Use grounded wriststraps and mats when you handle modules.

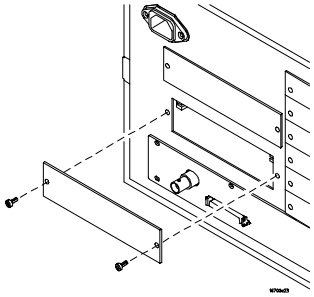
To install the emulation module in an HP 16700A-series logic analysis system or an HP 16701A expansion frame

You will need T-10 and T-15 Torx screw drivers (supplied with the module).

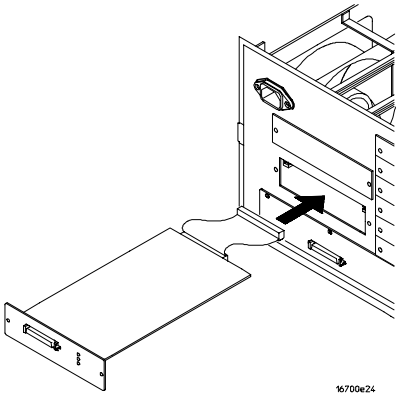
1. Turn off the logic analysis system and REMOVE THE POWER CORD.
   Remove any other cables (such as probes, mouse, or video monitor).
2. Turn the logic analysis system frame upside-down.
3. Remove the bottom cover.



4. Remove the slot cover.
   You may use either slot.

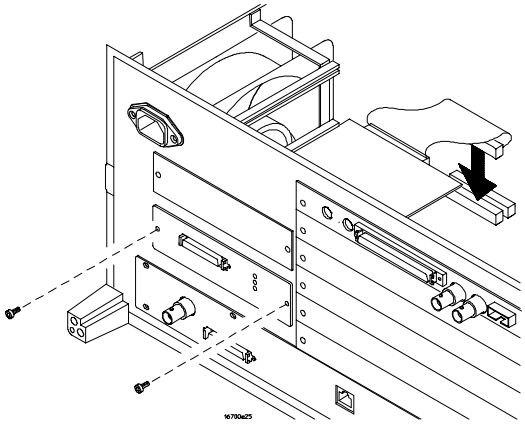


5 Install the emulation module.



6 Connect the cable and re-install the screws.

You may connect the cable to either of the two connectors. If you have two emulation modules, note that many debuggers will work only with the "first" module: the one toward the top of the frame, plugged into the connector nearest the back of the frame.



7 Reinstall the bottom cover, then turn the frame right-side-up.

8 Plug in the power cord, reconnect the other cables, and turn on the logic analysis system.

The new emulation module will be shown in the system window.

See Also

See page 13 for information on giving the emulation module a "personality" for your target processor.

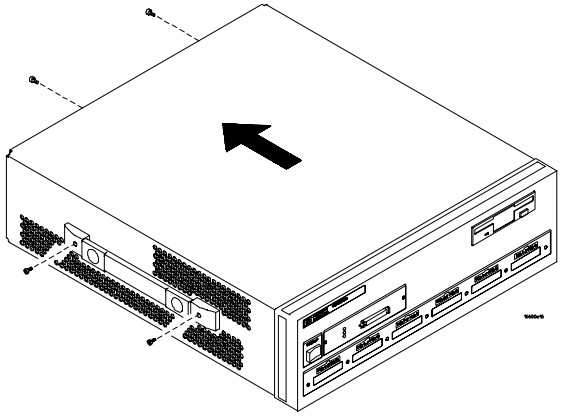
To install the emulation module in an HP 16600A-series logic analysis system

You will need T-8, T-10, and T-15 Torx screw drivers (supplied with the module).

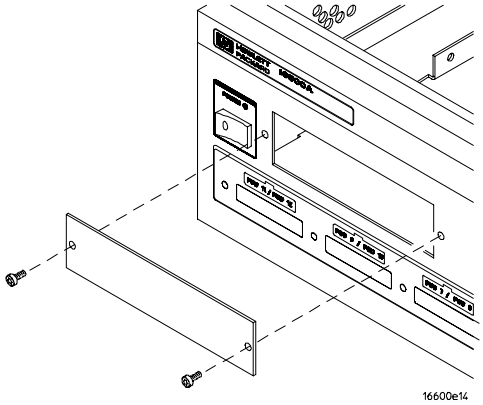
1 Turn off the logic analysis system and REMOVE THE POWER CORD.

Remove any other cables (such as probes, mouse, or video monitor).

2 Slide the cover back.

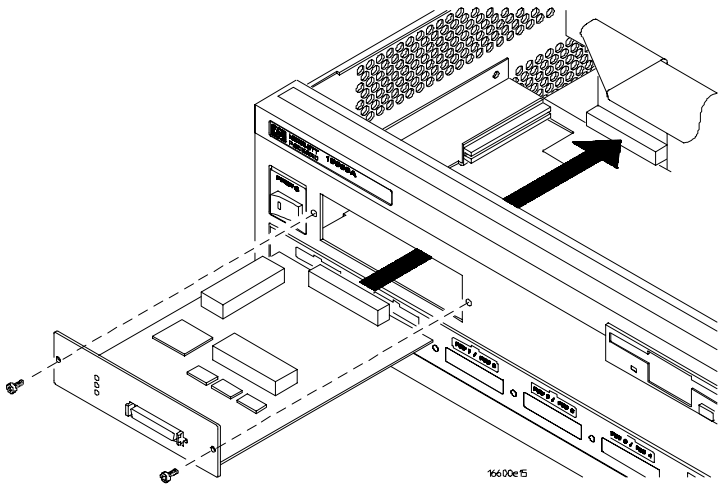


3 Remove the slot cover.



4 Install the emulation module.

5 Connect the cable and re-install the screws.



6 Reinstall the cover.

Tighten the screws snugly (2 N•m or 18 inch-pounds).

7 Plug in the power cord, reconnect the other cables, and turn on the logic analysis system.

The new emulation module will be shown in the system window.

See Also

See page 13 for information on giving the emulation module a "personality" for your target processor.

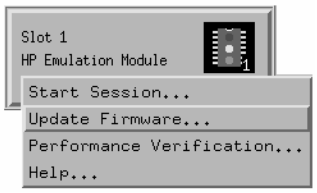
To update emulation module firmware

After you have connected the emulation module to your target system, you may need to update the firmware to give it the right "personality" for your processor. You must update the firmware if:

- The emulation module is being connected to a new analysis probe or TIM, or
- The emulation module was not shipped already installed in the logic analysis system, or
- You have an updated version of the firmware from HP.

To update the firmware:

1. End any run control sessions which may be running.
2. In the Workspace window, remove any Emulator icons from the workspace.
3. Install the firmware onto the logic analysis system's hard disk, if necessary.
4. In the system window, click the emulation module and select **Update Firmware**.



5. In the Update Firmware window, select the firmware version to load into the emulation module.
6. Click **Update Firmware**.

See Also

The software installation instructions on the jacket of the CD-ROM.

If you have an emulation probe, drag the Emulation Probe icon onto the workspace, select **Update Firmware...**, then click **Help** for more instructions.

To display current firmware version information

- In the Update Firmware window, click **Display Current Version**.

Additional Information Sources

Additional or updated information can be found in the following places:

- The *Preprocessor Interface User's Guide* for your preprocessor (now called an analysis probe).
- The *User's Guide* or *Installation/Service Guide* for your processor probe (now called an emulation probe). The information on configuring a processor probe and connecting it to the target system applies to your emulation module.
- If you have a probing adapter, the instructions for connecting the probe to your target microprocessor are in the **Probing Adapter** documentation.
- Application notes may be available from your local HP representative or on the World Wide Web at:

  http://www.hp.com/go/logicanalyzer

- The logic analysis system's **online help** for the Emulation Control Interface has additional information on using the emulation module.
- The **measurement examples** include valuable tips for making emulation and analysis measurements. You can find the measurement examples under the system help in your HP 16600A/700A logic analysis system.

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For Safety information, Warranties, and Regulatory information, see the preprocessor, processor probe, or logic analysis system manual.