

Installing the A4505A PCI Module Upgrade



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Kit Contents

Make sure that you have kit A4505A and that it contains the following items:

- PCI tray assembly
- Boot ROM for Model 743 VMEbus board computer
- IC Removal Tool
- Anti-static Strap (Disposable)

Tools Required

You'll need the following items to install the PCI Module:

- Medium flat-tipped screwdriver.
- Static-free work area.

Prerequisites

Your system must be running version 10.20 or later of the HP-UX operating system.

The PCI module upgrade does not support HIL devices. You must remove any devices connected to the HIL interface connector on the EISA tray.

NOTICE:

Before removing your HIL keyboard, use the SAM utility to make sure that the P/S2 driver is configured in the HP-UX kernel. Refer to the manual *HP-UX System Administration Tasks* (B2355-90079) for information on configuring the HP-UX kernel.

Procedure

If you need keyboard and mouse support, you need a Hewlett-Packard P/S2 compatible keyboard and mouse to connect to the P/S2 connectors on the VMEbus board computer.

Procedure

- 1 Stop any application programs, then shut down your workstation.
- 2 Turn the workstation off, and unplug the power cord(s).

WARNING:

To avoid electrical shock, make sure you unplug the power cable from the wall outlet and the system unit before proceeding any further.

CAUTION:

The internal components of your workstation are susceptible to mechanical and electrostatic shock. To prevent such damage from occurring, observe the following precautions during the installation procedure.

- Stand on a static-free mat
 - Wear a static-grounding wrist strap to ensure that any accumulated electrostatic charge discharges from your body to ground. Attach the static-grounding wrist strap by following the instructions on the package that contains the strap. Be sure to attach one end of the strap to the system chassis.
 - Handle workstation and upgrade kit components carefully to prevent damage from mechanical shock.
- 3 Using a flat-tipped screwdriver, unscrew the captive screws inside the EISA module handles five to seven turns (until each screw pops out).
 - 4 Grasp the EISA module handles and pull the EISA module out of the chassis, as shown in Figure 1.

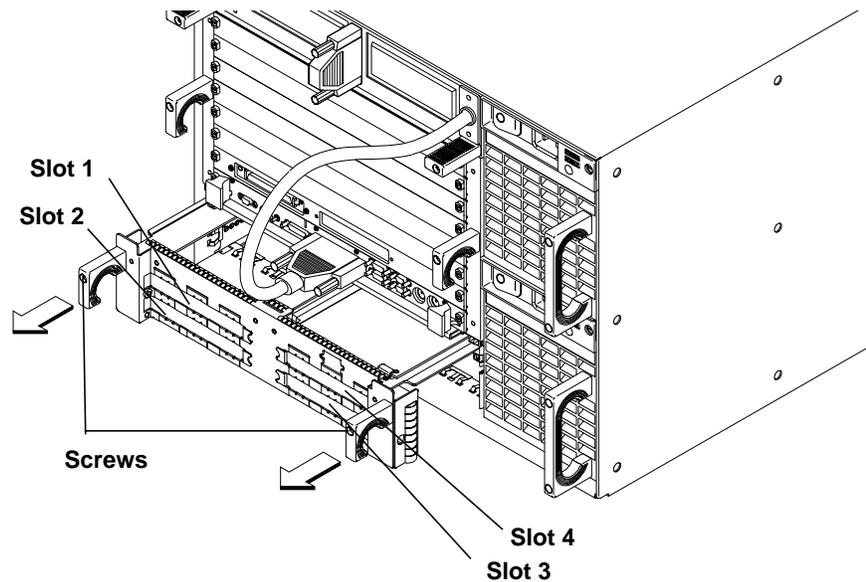


Figure 1 **Removing the EISA Module**

5 Note that the slots are numbered on the front of the tray from 1 to 4.

NOTICES:

This PCI tray only supports option cards with +5 volt bus signalling.

If your workstation application requires several accessory cards and mass storage devices, power budgeting may be required. This ensures the power needed for these internal devices does not exceed the power available in the system.

The PCI tray provides power for option cards from both a +3.3 Vdc source and a +5 Vdc source. Cards may use either or both power sources, up to 25W per slot. However, the +3.3 V dc source is limited to 39.8 W combined for slots 1 and 2, and 39.8 W combined for slots 3 and 4. For example, if the card in slot 1 draws 25 W at +3.3 V dc, only 14.8 W at +3.3 V dc is available to a card in slot 2. The limits of + 5 Vdc is 25 W per slot.

If you upgrade your system, adding more: RAM cards, mass storage devices, or VME, or PCI accessory cards, you must recompute the power budget to ensure the new configuration is within the system's capability.

Refer to your system's documentation for other power limits.

Procedure

Cards for slots 1 and 2 are installed component side up; cards for slots 3 and 4 are installed component side down.

Loosen the card retainer captive screw (see Figure 2) for the appropriate slot, and then remove the card retainer, as shown in Figure 3.

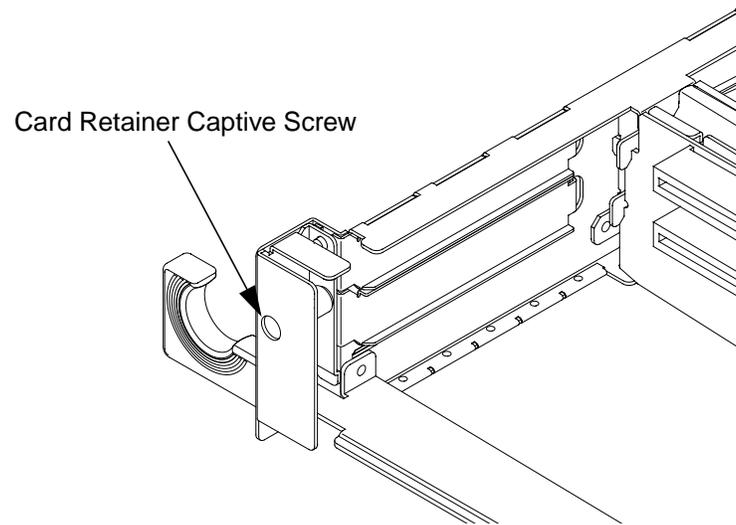


Figure 2

Card Retainer Captive Screw

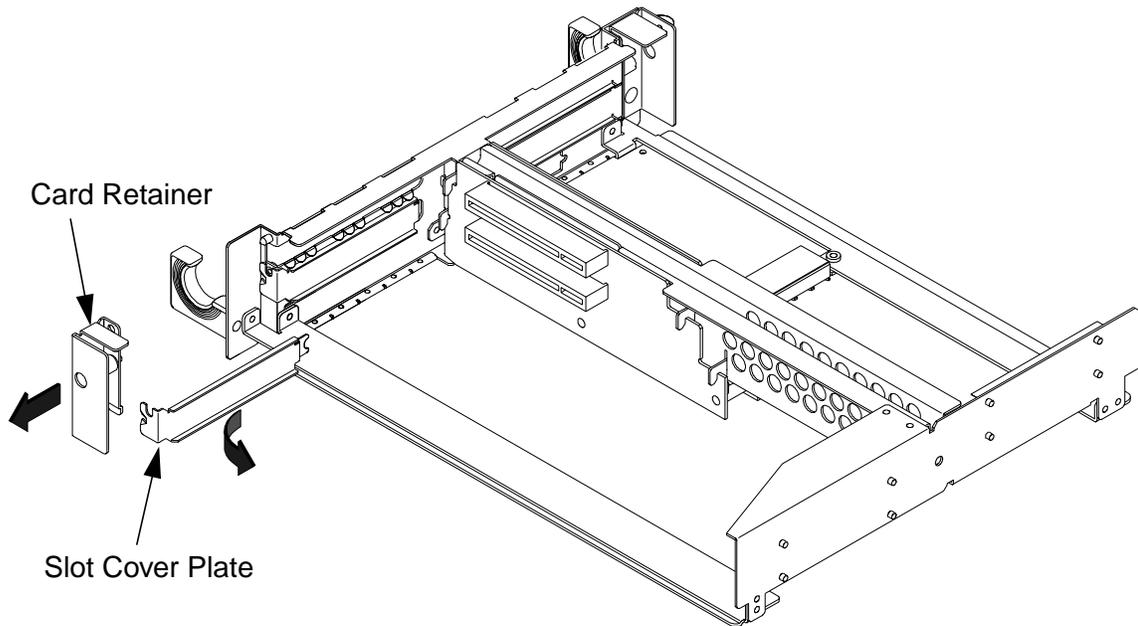


Figure 3 **Removing the Card Retainer and Slot Cover Plate**

- 6** Remove the slot cover plate by pulling it out of the PCI module, as shown in Figure 3.
- 7** Refer to your PCI card installation manual, and set any configuration switches or jumpers that may be required for your application.

Procedure

- 8 Install the PCI card in the slot, as shown in Figure 4. Make sure its connector is completely seated in the PCI backplane.

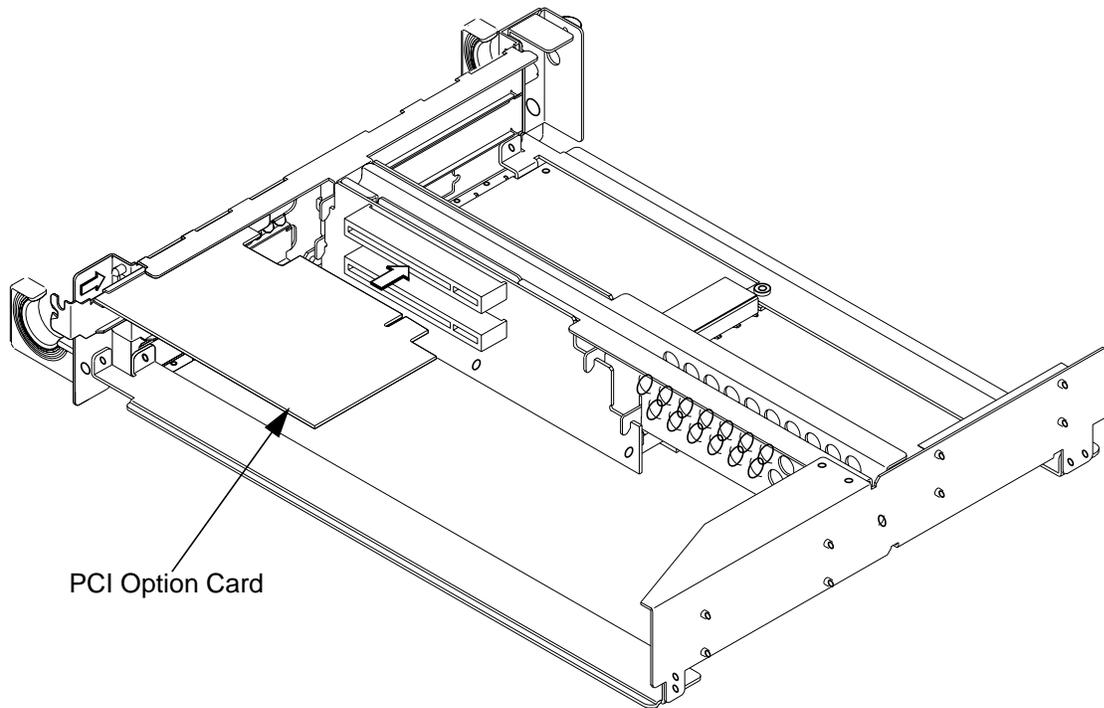


Figure 4 **Installing a PCI Option Card**

- 9 Replace the PCI card retainer, and then tighten its screw.

Procedure

- 10 Slide the PCI module into the VMEbus chassis, as shown in Figure 5, and tighten its handle screws.

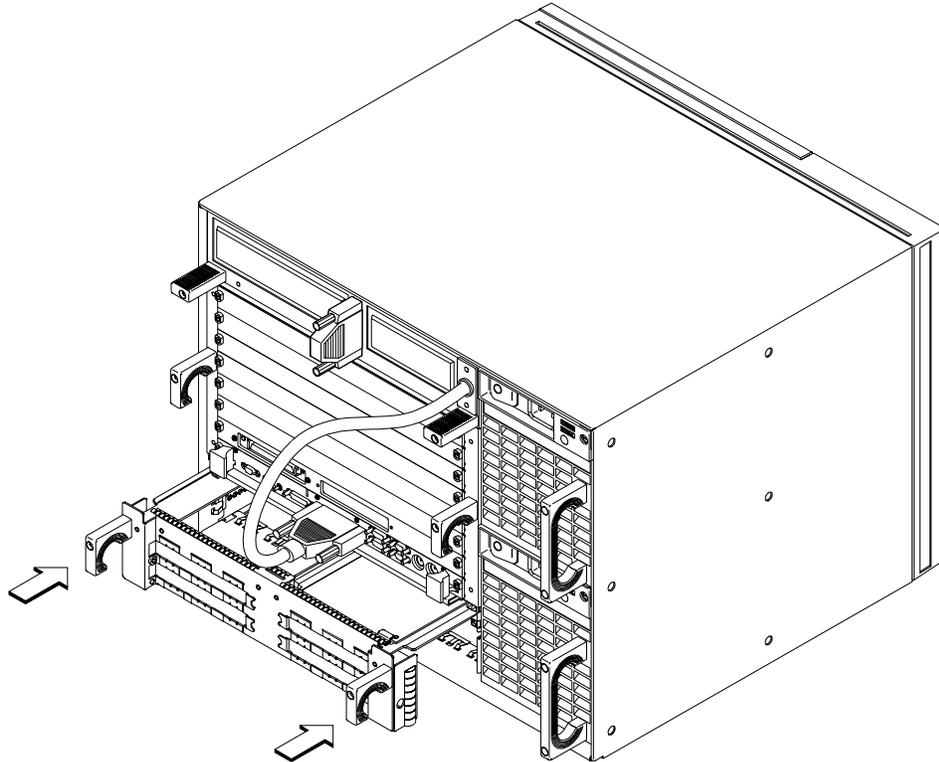


Figure 5

Installing the PCI Module into the VMEbus Chassis

Procedure

- 11 If your system has a Model 743 VMEbus board computer installed, you may need to update its firmware to make use of the PCI module. (Model 744 board computers do not require a firmware upgrade.)

A new Boot ROM is shipped with the PCI Module upgrade kit. To determine if the Boot ROM in your system needs to be replaced, you need to determine the revision number, which can be done in two ways: use the Boot Console Handler (BCH) interface as described in the *Model 743 Owner's Guide*, or you can examine the label on the Boot ROM - a revision number is printed on the label. If the revision number on the Boot ROM installed on the Model 743 is a lower number than the one included in this kit, you should replace that Boot ROM with the one in this kit. If the revision number on the Boot ROM installed on the Model 743 is equal to or greater than the one included in this kit, **DO NOT** replace the Boot ROM on the model 743.

- a Loosen the board computer's four captive screws.
- b Push the ejector handles to the outside of the board and remove the board computer from the Model 748 card cage.
- c Remove any option cards, if installed. Refer to the *Model 743 Owner's Guide* for specific instructions for you option card.

NOTE:

Before removing the Boot ROM, note its orientation. The replacement Boot ROM must be installed in the same orientation.

- d Remove the Boot ROM from its socket using the IC removal tool.
- e Align the new Boot ROM in its socket and carefully press it into the socket.

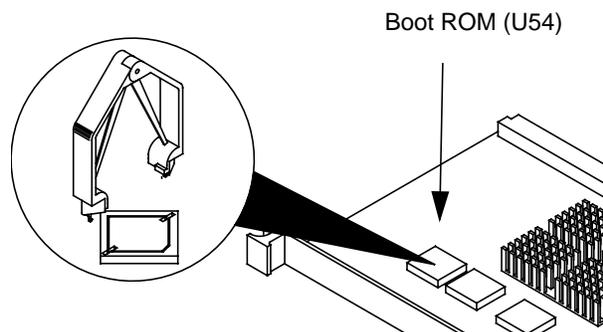


Figure 6

Model 743 Boot ROM Location

- 12 Plug in the power cord(s), and then turn on the power for the VMEbus chassis and boot the operating system.
- 13 Log in as **root** and use the **SAM** utility to configure the HP-UX kernel for PCI support.
- 14 When SAM has started, choose the Kernel Configuration -> menu.
- 15 From the Kernel Configuration menu, choose Drivers
- 16 From the Drivers menu, select GSCToPCI Driver.
- 17 Go to the Actions menu and select Create a New Kernel.
- 18 When the new kernel is built, SAM asks if you want to move the kernel into place and reboot. Choose **Yes**.

The system reboots with the PCI driver loaded.

For More Information

Refer to *Installing Peripherals* and your PCI card's installation guide for information on the PCI accessory card application, loading the software, and running it.

Procedure

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