



Removing and Installing Port Adapters

This chapter describes how to remove the DPT port adapter port adapter from supported platforms and also how to install a new or replacement port adapter. This chapter contains the following sections:

- [Installation Overview, page 3-1](#)
- [Handling Port Adapters, page 3-1](#)
- [Online Insertion and Removal, page 3-2](#)
- [Warnings and Cautions, page 3-2](#)
- [Port Adapter Slot Divider, page 3-3](#)
- [Port Adapter Removal and Installation, page 3-7](#)

Installation Overview

Each port adapter circuit board is mounted to a metal carrier and is sensitive to electrostatic discharge (ESD) damage.



Note

When a port adapter slot is not in use, a blank port adapter must fill the empty slot to allow the router or switch to conform to electromagnetic interference (EMI) emissions requirements and to allow proper airflow across the port adapters. If you plan to install a new port adapter in a slot that is not in use, you must first remove the blank port adapter.

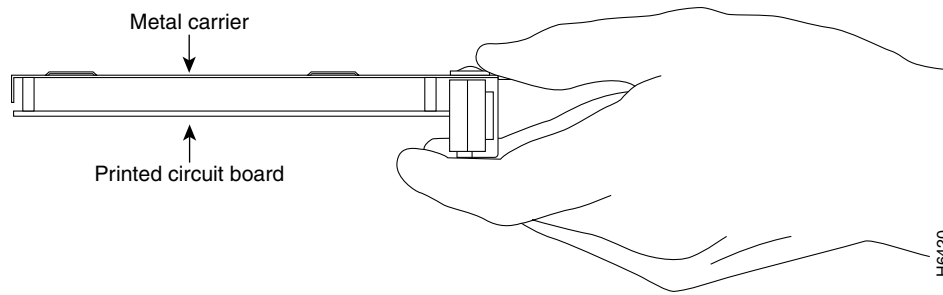
Handling Port Adapters



Caution

Always handle the port adapter by the carrier edges and handle; never touch the port adapter components or connector pins. (See [Figure 3-1](#).)

Figure 3-1 Handling a Port Adapter



Online Insertion and Removal

Several platforms support online insertion and removal (OIR) of port adapters; therefore, you do not have to power down routers when removing and replacing a DPT port adapter on Cisco 7200 series, Cisco 7200 VXR, or Cisco uBR7246 routers.

Although Cisco 7500 series routers do support OIR, VIPs do not. To remove or install a port adapter on the VIP, first remove the VIP from the chassis, and then remove or install the port adapter.


Note

As you disengage the port adapter from the router or switch, OIR administratively shuts down all active interfaces in the port adapter.


Note

Before you begin installation, read [Chapter 2, “Preparing for Installation,”](#) for a list of parts and tools required for installation.

Warnings and Cautions

Observe the following warnings and cautions when installing or removing port adapters.


Caution

Do not slide a port adapter all the way into the slot until you have connected all required cables. Trying to do so disrupts normal operation of the router or switch.


Note

If a port adapter lever or other retaining mechanism does not move to the locked position, the port adapter is not completely seated in the midplane. Carefully pull the port adapter halfway out of the slot, reinsert it, and move the port adapter lever or other mechanism to the locked position.


Caution

To prevent jamming the carrier between the upper and the lower edges of the port adapter slot, and to ensure that the edge connector at the rear of the port adapter mates with the connection at the rear of the port adapter slot, make certain that the carrier is positioned correctly, as shown in the cutaway in the following illustrations.

**Warning**

When performing the following procedures, wear a grounding wrist strap to avoid ESD damage to the card. Some platforms have an ESD connector for attaching the wrist strap. Do not directly touch the midplane or backplane with your hand or any metal tool, or you could shock yourself.

Port Adapter Slot Divider

If you are installing a DPT port adapter in a Cisco 7200 series or Cisco 7200 VXR router that has two single-width port adapters installed, you need to perform the procedure shown in the [“Cisco 7200 Series—Removing the Slot Divider” section on page 3-4](#). If you are installing a DPT port adapter in a Cisco uBR7246 router that has two single-width port adapters installed, you need to perform the procedure shown in the [“Cisco uBR7200 Series—Removing the Slot Divider” section on page 3-5](#). If you are installing a DPT port adapter in a Cisco 7500 series router with a VIP that has two single-width port adapters installed, you need to perform the procedure shown in the [“VIP—Removing the Slot Divider” section on page 3-6](#).

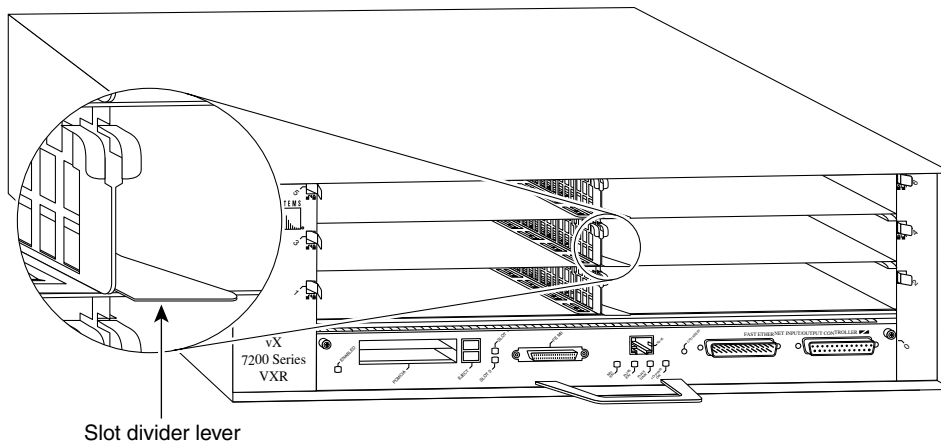
Cisco 7200 Series—Removing the Slot Divider

Step 1

Remove installed single-width port adapters from the slots on both sides of the port adapter slot divider.

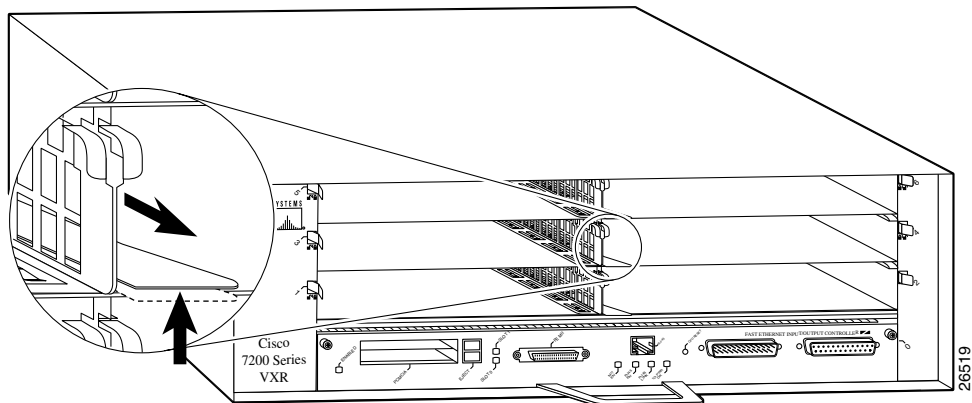
Step 2

With one hand, raise the slot divider lever to unlock the slot divider from the chassis.



Step 3

With the slot divider lever still raised, use your other hand to pull the slot divider from the chassis.



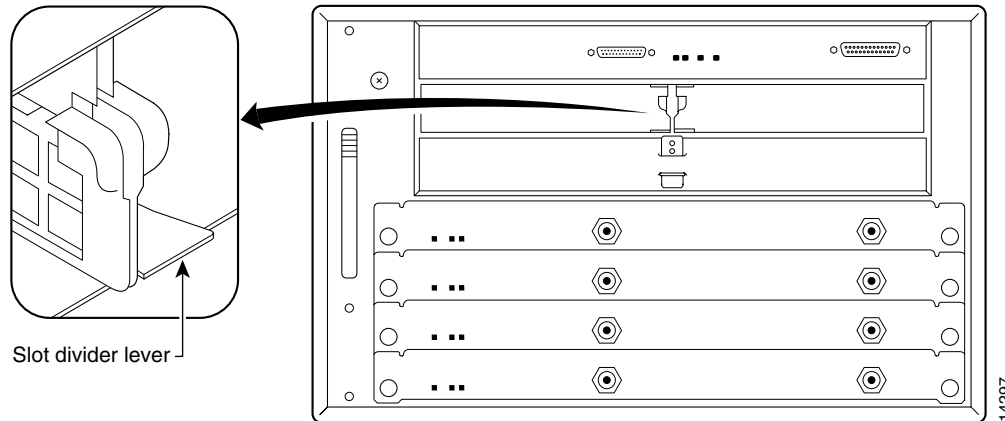
Step 4

Store the slot divider in a location where you can retrieve it for use later.

Cisco uBR7200 Series—Removing the Slot Divider

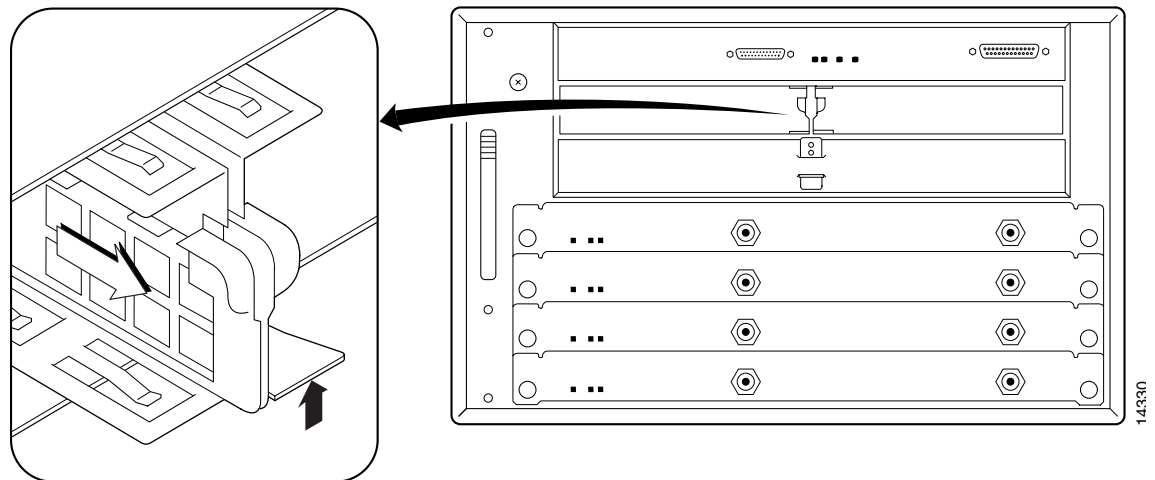
- Step 1** Remove installed single-width port adapters from the slots on both sides of the port adapter slot divider.
- Step 2** With one hand, raise the slot divider lever to unlock the slot divider from the chassis. (See [Figure 3-2](#).)

Figure 3-2 Slot Divider Lever—Cisco uBR7246 Shown



- Step 3** With the slot divider lever still raised, use your other hand to pull the slot divider from the chassis. (See [Figure 3-3](#).)

Figure 3-3 Removing the Slot Divider from the Chassis—Cisco uBR7246 Shown



- Step 4** Store the slot divider in a location where you can retrieve it for use later.

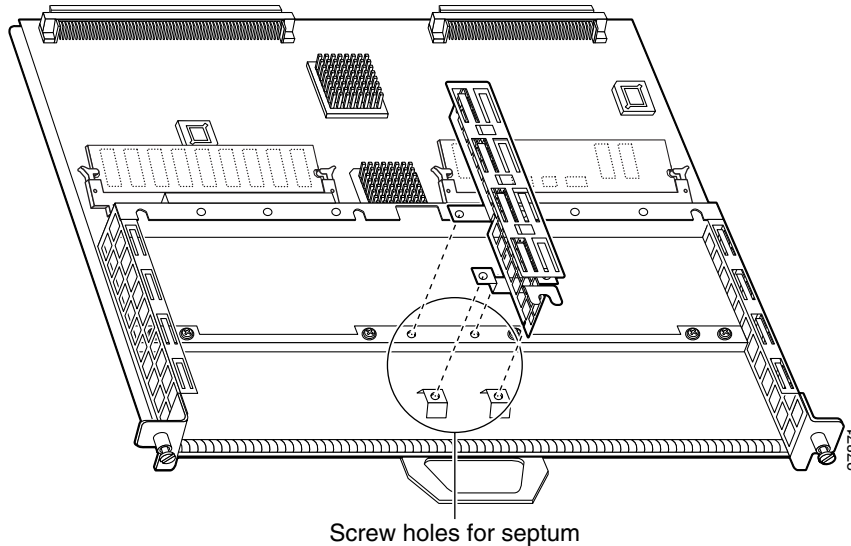


Note The port adapter slot divider is available from Cisco Systems as a spare. Use Product Number MAS-72KSLOTDIV= when ordering a spare port adapter slot divider.

VIP—Removing the Slot Divider

Dual-width port adapters occupy both slots on a VIP. Before you can install a dual-width port adapter, you must first remove the slot divider that is located between the two slots. (See [Figure 3-4](#).)

Figure 3-4 Location of VIP Slot Divider and Screws



Screw holes for septum

Use the following procedure to remove the slot divider from a VIP:

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- Step 1** Attach an ESD-preventive wrist strap between you and an unpainted chassis surface.
- Step 2** Remove the VIP from the router.
- Step 3** Place the removed VIP on an antistatic mat or foam pad.
- Step 4** Remove any installed modules or blanks from the slots on the VIP. To do this, use a number 1 Phillips screwdriver to remove the screw located at the rear of each slot.
- To locate this screw on dual-width modules, see the [“Cisco 7500 Series Routers with VIP—Removing and Installing a Port Adapter”](#) section on page 3-11.
 - Use a number 1 Phillips screwdriver to remove the four slot divider screws that secure the slot divider to the VIP motherboard. (See [Figure 3-4](#).)
- Step 5** Remove the slot divider and store it (and the screws) in a location where you can retrieve it for use later.
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Note

If you need to reinstall the slot divider, place the slot divider in position on the VIP and secure it with the four Phillips screws.

Once the slot divider is removed, refer to the [“Cisco 7500 Series Routers with VIP—Removing and Installing a Port Adapter”](#) section on page 3-11, which describes the steps required to install or remove a dual-width module.

This completes the procedure for removing a port adapter slot divider from a Cisco 7200 series, Cisco 7200 VXR, Cisco uBR7200 series, or Cisco 7500 series router with VIP.

Port Adapter Removal and Installation

In this section, the illustrations that follow give step-by-step instructions on how to remove and install port adapters. This section contains the following illustrations:

- [Cisco 7200 Series—Removing and Installing a Port Adapter, page 3-8](#)
- [Cisco uBR7200 Series—Removing a Port Adapter, page 3-9](#)
- [Cisco uBR7200 Series—Installing a Port Adapter, page 3-10](#)
- [Cisco 7500 Series Routers with VIP—Removing and Installing a Port Adapter, page 3-11](#)

Cisco 7200 Series—Removing and Installing a Port Adapter

Step 1

To remove the port adapter, place the port adapter lever in the unlocked position. (See A.) The port adapter lever remains in the unlocked position.

Step 2

Grasp the handle of the port adapter and pull the port adapter from the router, about halfway out of its slot. If you are removing a blank port adapter, pull the blank port adapter completely out of the chassis slot.

Step 3

With the port adapter halfway out of the slot, disconnect all cables from the port adapter. After disconnecting the cables, pull the port adapter from its chassis slot.

Step 4

To insert the port adapter, carefully align the port adapter carrier between the upper and the lower edges of the port adapter slot. (See B.)

Step 5

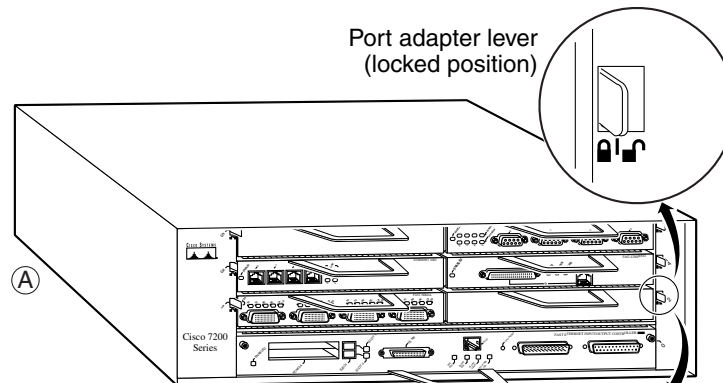
Carefully slide the new port adapter halfway into the port adapter slot. (See B.)

Step 6

With the port adapter halfway into the slot, connect all required cables to the port adapter. After connecting all required cables, carefully slide the port adapter all the way into the slot until the port adapter is seated in the router midplane.

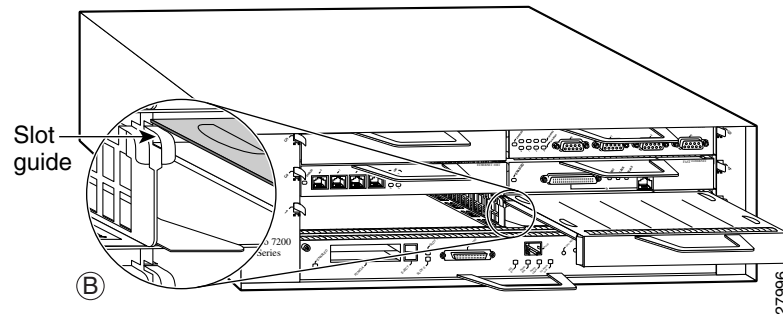
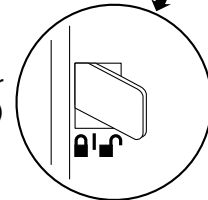
Step 7

After the port adapter is properly seated, lock the port adapter lever. (See A.)



Note: This adapter removal applies to any port or service adapter.

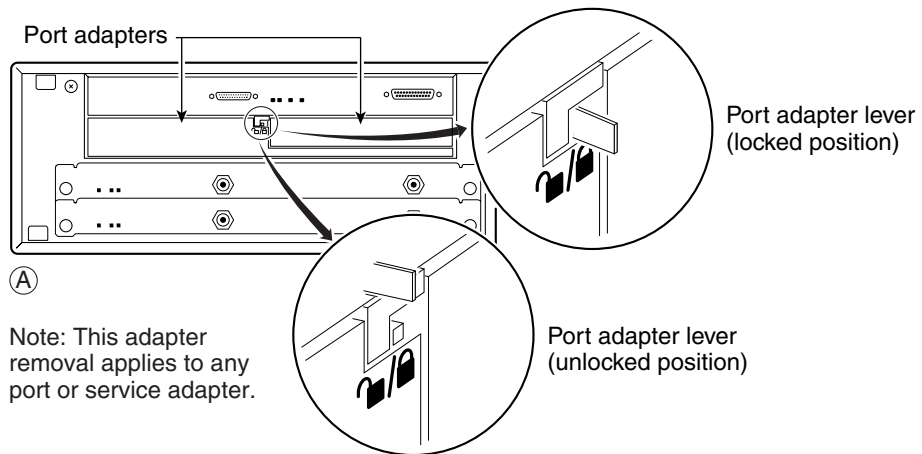
Port adapter lever (unlocked position)



Cisco uBR7200 Series—Removing a Port Adapter

Step 1

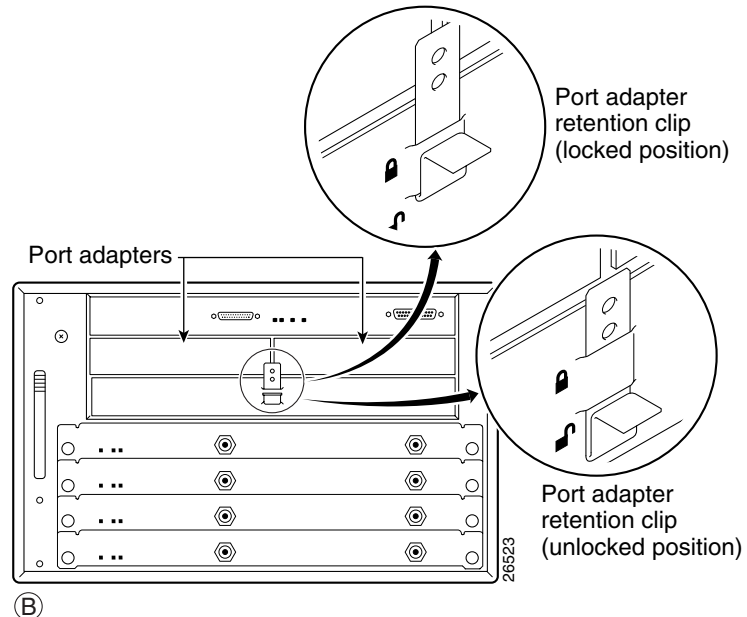
To remove the port adapter, unlock the port adapter retaining mechanism. The port adapter lever remains in the unlocked position.



Place the port adapter lever (Cisco uBR7223, see A), or the port adapter retention clip (Cisco uBR7246 and Cisco uBR7246 VXR, see B) in the unlocked position. Either mechanism remains in the unlocked position.

Step 2

Grasp the handle of the port adapter and pull the port adapter from the router, about halfway out of its slot. If you are removing a blank port adapter, pull the blank port adapter completely out of the chassis slot.



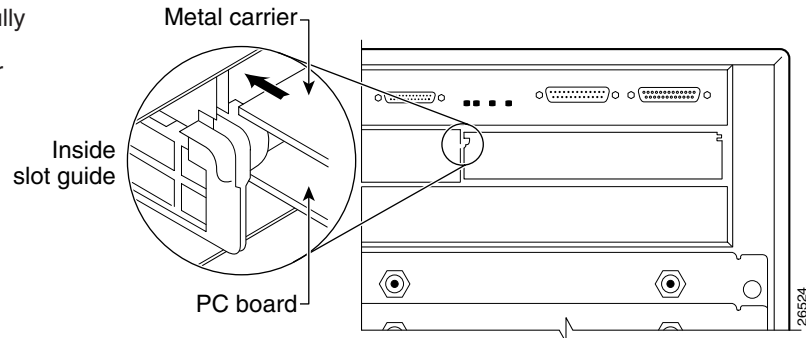
Step 3

With the port adapter halfway out of the slot, disconnect all cables from the port adapter. After disconnecting the cables, pull the port adapter from its chassis slot.

Cisco uBR7200 Series—Installing a Port Adapter

Step 1

To insert the port adapter, carefully align the port adapter carrier between the upper and the lower edges of the port adapter slot.



Step 2

Carefully slide the new port adapter halfway into the port adapter slot.

Step 3

With the port adapter halfway into the slot, connect all required cables to the port adapter. After connecting all required cables, carefully slide the port adapter all the way into the slot until the port adapter is seated in the router midplane.

Step 4

After the port adapter is properly seated, lock the port adapter lever or retention clip, depending on your system. (See illustration on preceding page.)

Cisco 7500 Series Routers with VIP—Removing and Installing a Port Adapter

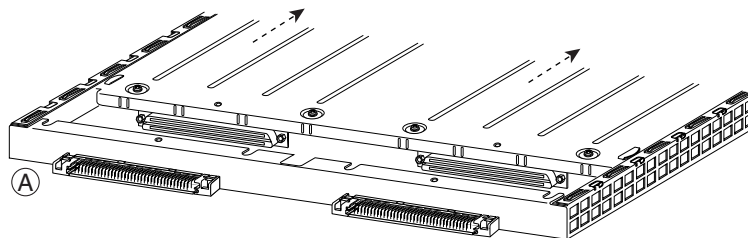
Note: You must first remove the VIP from the chassis before removing the dual-width port adapter from the VIP.

Step 1

To remove the port adapter, remove the screws that secure the port adapter to the VIP.

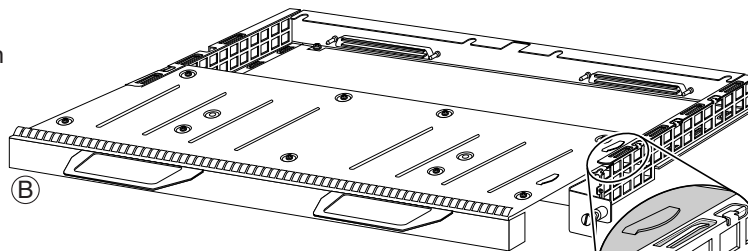
Step 2

With the screws removed, grasp the handles on the front of the port adapter and carefully pull it out of its slot, away from the edge connector at the rear of the slot. (See A.)



Step 3

To insert the port adapter, carefully align the port adapter carrier between the upper and the lower edges of the port adapter slot on the VIP. (See B.) Carefully slide the port adapter into the port adapter slot until the connectors at the rear of the port adapter are completely seated in the connectors at the rear of the port adapter slot.



Step 4

Install the screws in the rear of the port adapter slot. Do not overtighten the screws.



Step 5

Carefully slide the VIP into the interface processor slot until the connectors at the rear of the VIP are completely seated in the connectors at the rear of the interface processor slot. Use the ejector levers to seat the VIP in the interface processor slot. Tighten the captive installation screws on the VIP. (See C.)

