



Removing and Installing the SS7 Port Adapter

This chapter describes how to remove the VIP, how to remove the SS7 Port Adapter from the VIP, and also how to install a new or replacement port adapter. Before you begin installation, read [Chapter 2, “Preparing for Installation”](#) for a list of parts and tools required for installation.

This chapter contains the following sections:

- [VIP Overview, page 3-1](#)
- [Removing the VIP, page 3-2](#)
- [Online Insertion and Removal \(OIR\), page 3-2](#)
- [Removing and Installing the SS7 Port Adapter, page 3-4](#)
- [Reinstalling the VIP and Connecting the SS7 Port Adapter Cables, page 3-7](#)
- [Verifying the VIP and SS7 Port Adapter Installation, page 3-9](#)

VIP Overview

The VIP, a single motherboard, supports up to two single-width port adapters, or one dual-width port adapter. [Figure 3-1](#) shows a VIP with two installed single-width port adapters. A dual-width port adapter occupies both port adapter slots (not shown).



Note

To ensure proper airflow in the router and compliance with EMI prevention standards, a VIP with one single-width port adapter must have a blank port adapter installed in the empty port adapter slot location.



Caution

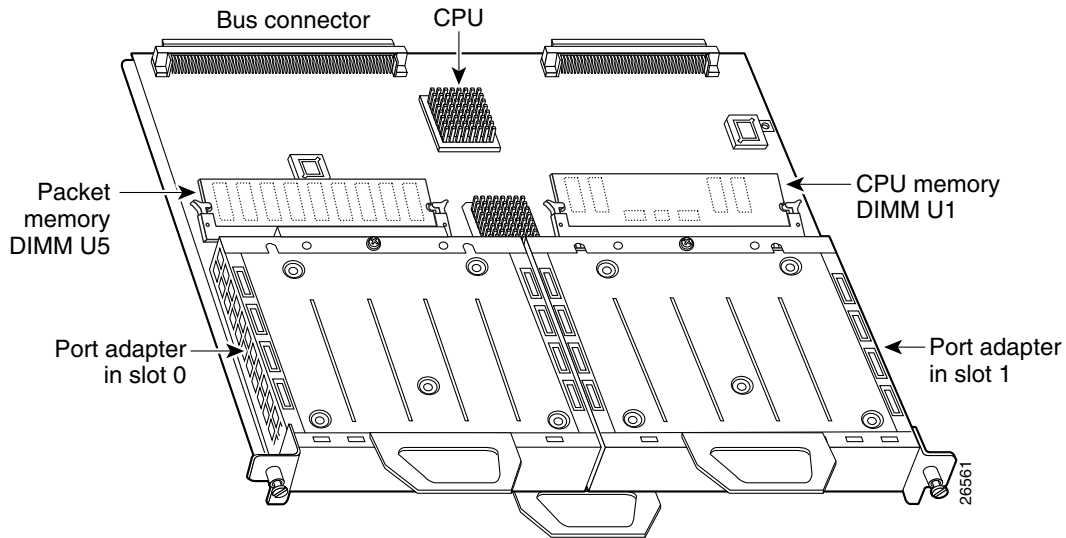
When powering off the router, wait a minimum of 30 seconds before powering it on again.



Note

A VIP without at least one installed port adapter is not supported.

Figure 3-1 VIP with Two Single-Width Port Adapters—Horizontal Orientation Shown



Removing the VIP

You must remove the VIP in order to replace the SS7 Port Adapter. This section describes the procedure for removing a VIP from the router.



Note

To help prevent dust and contaminants from entering the chassis, do not leave the interface processor slot open. If you do not plan to reinstall the VIP immediately, insert an interface processor filler in the empty slot



Caution

In Cisco 7507, Cisco 7507-MX, Cisco 7513, or Cisco 7513-MX routers with the high system availability (HSA) or high availability (HA) feature enabled, online insertion and removal of any interface processor in either CyBus might cause the standby RSP2 to reboot with a bus error or a processor memory parity error. The active RSP recovers from this event and issues a “cBus Complex Restart” message. Systems that are configured with an RSP4 or an RSP8 as the system standby are not affected and do not experience this problem. For more information on HSA or HA, refer to your RSP Installation and Configuration Guide.

Online Insertion and Removal (OIR)

Online board installation and removal refers to the capability to remove and install specific interface processors while the system is in operation. VIPs connected to the CxBus support OIR without causing system crash or error. These boards are designed to be removed from the system with no disassembly other than external interface cabling.

Within the SS7 network, alternate linksets on the ITP are configured so that a path is always available for signalling traffic flow across the linkset on the redundant VIP in the event of a network, hardware or maintenance condition.

Removing a VIP with a port adapter is typically done either because of a failed port or a problem directly with the VIP itself. The port adapter itself cannot be removed without removing the VIP. If the VIP with port adapter is to be removed for replacement, we recommend that you shut down the linkset containing any in service links before you remove the VIP. This will allow traffic to be rerouted to the alternate linkset. If removal of the affected VIP is performed while links within a linkset are active, rerouting of traffic will also occur to the alternate linkset on the redundant VIP. It is required that the 7500 system console messages report that the remaining active links and linkset become unavailable before inserting the replacement VIP.

**Note**

To perform OIR properly, wait 30 seconds between removal and reinsertion of the VIP.

It is wise to gracefully shut down the system before removing a port adapter that has active traffic moving through it. Removing a module while traffic is flowing through the ports can cause system disruption. Once the module is inserted, the ports can be brought back up.

**Note**

As you disengage the module from the router or switch, online insertion and removal (OIR) administratively shuts down all active interfaces in the module.

OIR allows you to install and replace modules while the router is operating; you do not need to notify the software or shut down the system power, although you should not run traffic through the module you are removing while it is being removed. OIR is a method that is seamless to end users on the network, maintains all routing information, and preserves sessions.

The following is a functional description of OIR for background information only; for specific procedures for installing and replacing a module in a supported platform, refer to the [“Removing and Installing the SS7 Port Adapter”](#) section on page 3-4.

Each module has a bus connector that connects it to the router. The connector has a set of tiered pins in three lengths that send specific signals to the system as they make contact with the module. The system assesses the signals it receives and the order in which it receives them to determine if a module is being removed from or introduced to the system. From these signals, the system determines whether to reinitialize a new interface or to shut down a disconnected interface.

Specifically, when you insert a module, the longest pins make contact with the module first, and the shortest pins make contact last. The system recognizes the signals and the sequence in which it receives them.

When you remove or insert a module, the pins send signals to notify the system of changes. The router then performs the following procedure:

1. Rapidly scans the system for configuration changes.
2. Initializes newly inserted port adapters or administratively shuts down any vacant interfaces.
3. Brings all previously configured interfaces on the module back to their previously installed state. Any newly inserted interface is put in the administratively shutdown state, as if it was present (but not configured) at boot time. If a similar module type is reinserted into a slot, its ports are configured and brought online up to the port count of the originally installed module of that type.

Procedure for Removing the VIP

If your router does not have the HSA or HA feature enabled, perform *only* Step 4 through Step 7 in the following procedure. If the router has the HSA or HA feature enabled with an RSP2 configured as the system standby, we recommend that you perform *all* the steps in the following procedure:

-
- Step 1** Attach an ESD-preventive wrist strap between you and an unpainted chassis surface.
 - Step 2** Remove the standby RSP2.
 - Step 3** Wait 20 to 30 seconds. This time will vary depending on the number of interfaces installed in your system.
 - Step 4** Disconnect all cables from the VIP interface ports.
 - Step 5** Use a screwdriver to loosen the captive installation screws at both ends of the board.



Caution Always use the ejector levers to remove a VIP or interface processor. Failure to do so can cause erroneous system error messages indicating a board failure.

- Step 6** Place your thumbs on the ejector levers and simultaneously pull both of the ejector levers outward to release the board from the backplane connector.
 - Use the board's handle to carefully pull it straight out of the slot, keeping your other hand under the carrier to guide it.
 - If you removed a VIP or interface processor and the interface processor slot is to remain empty, install an interface processor filler (Product Number MAS7K-BLANK=) to keep dust out of the router, maintain proper airflow inside the router, and ensure compliance with EMI approvals by providing a tight EMI-preventive seal. *Do not* leave the interface processor slot open.
- Step 7** Place the removed board on an antistatic mat or foam pad, or place it in an antistatic container if you plan to return it to the factory.



Note If you do *not* have a Cisco 7507 or Cisco 7513 with the HSA or HA features enabled and an RSP2 configured as the system standby, proceed to the section [“Removing and Installing the SS7 Port Adapter”](#); otherwise, proceed to [Step 8](#).

- Step 8** Wait 20 to 30 seconds. This time will vary depending on the number of interfaces installed in your system.
 - Step 9** Reinsert the standby RSP2.
-

This completes the procedure for removing a VIP from your Cisco 7500 series router. You are now ready to remove or install the SS7 Port Adapter. Proceed to the [“Removing and Installing the SS7 Port Adapter”](#) section on page 3-4.

Removing and Installing the SS7 Port Adapter

This section describes safe and proper handling of a port adapter and provides an illustrated procedure for removing and installing the SS7 Port Adapter.

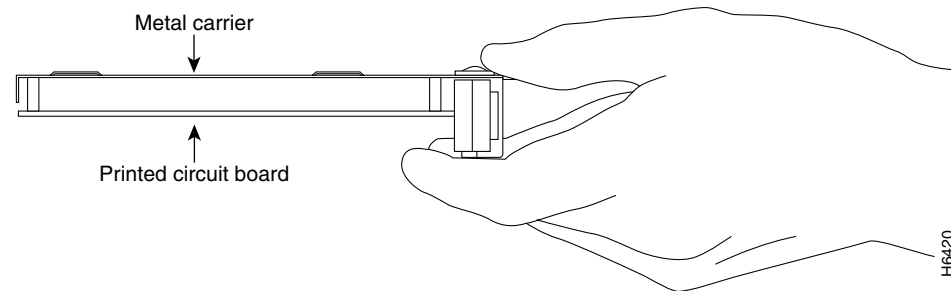
Safe and Proper Handling of the SS7 Port Adapter

The SS7 Port Adapter is a single-width port adapter that occupies one of the two port adapter slots on a VIP. When a single-width port adapter slot is not in use, a blank port adapter must fill the empty slot to allow the router to conform to electromagnetic interference (EMI) emissions requirements and to allow proper airflow through the router. If you plan to install a new single-width port adapter in a port adapter slot that is not in use, you must first remove the blank port adapter.

**Caution**

Always handle the port adapter by the carrier edges and handle; never touch the port adapter components or connector pins. (See [Figure 3-2](#).)

Figure 3-2 Handling a Port Adapter

**Caution**

To prevent system problems, do not remove port adapters from the VIP motherboard or attempt to install other port adapters on the VIP motherboard *while the system is operating*. To install or replace port adapters, first remove the VIP.

**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 backplane with your hand or any metal tool, or you could shock yourself.

After you have reviewed the preceding safety precautions, you are ready to remove or install the SS7 Port Adapter on the VIP. Proceed to the [“Illustrated Procedure for Removing and Installing the SS7 Port Adapter”](#) section on page 6.

Illustrated Procedure for Removing and Installing the SS7 Port Adapter



Note

When you reach Step 6 of this procedure, refer to the more detailed information at the beginning of the “Reinstalling the VIP” section on page 3-7.

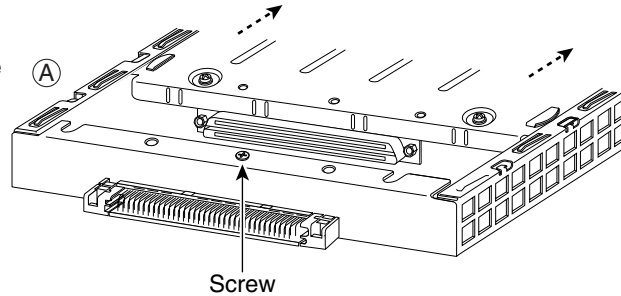
Figure 3-3 describes removing and installing a single-width port adapter such as the SS7 Port Adapter.

Figure 3-3 Removing and Installing a Single-Width Port Adapter

Note: You must first remove the VIP from the chassis before removing a port adapter from the VIP4.

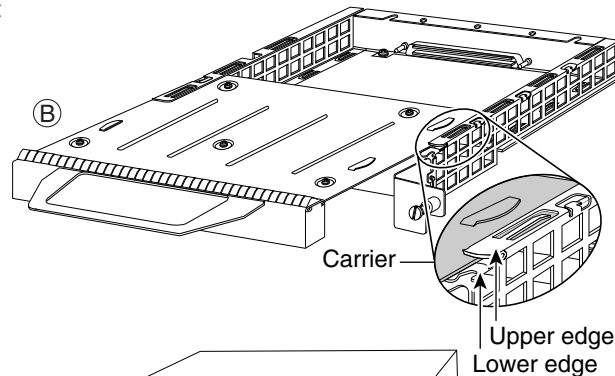
Step 1

To remove the port adapter, remove the screw that secures the port adapter (or blank port adapter). (See A.)



Step 2

With the screw removed, grasp the handle on the front of the port adapter (or blank 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

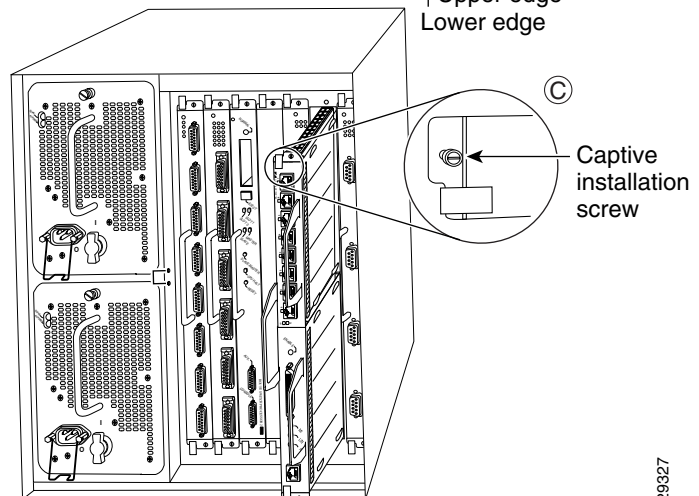
To insert the port adapter, carefully align the port adapter carrier between the upper and the lower edges of the port adapter slot. (See B.)

Step 4

Install the screw in the rear of the port adapter slot. Do not overtighten the screw. (See A.)

Step 5

Carefully slide the new port adapter into the port adapter slot until the connector on the port adapter is completely seated in the connector at the rear of the port adapter slot. (See B.)



Step 6

Reinstall the VIP motherboard in the chassis, and tighten the captive installation screw on each end of the VIP faceplate. (See C.)

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After you have installed the SS7 Port Adapter on the VIP motherboard (Step 5), you are ready to reinstall the VIP in the router chassis and connect the SS7 Port Adapter cables. Proceed to the “[Reinstalling the VIP and Connecting the SS7 Port Adapter Cables](#)” section on page 3-7.

Reinstalling the VIP and Connecting the SS7 Port Adapter Cables

This section describes the following tasks:

- [Reinstalling the VIP, page 3-7](#)
- [Connecting the SS7 Port Adapter Interface Cables, page 3-8](#)

Reinstalling the VIP

**Note**

Reinstalling the VIP in the router chassis is illustrated in the final step (Step 6) of the “[Illustrated Procedure for Removing and Installing the SS7 Port Adapter](#)” section on page 3-6. If you have already reinstalled the VIP in the router chassis, proceed to the “[Connecting the SS7 Port Adapter Interface Cables](#)” section on page 3-8.

After you have installed the SS7 Port Adapter on the VIP, you must reinstall the VIP. The VIP slides into an open interface processor slot and connects directly to the backplane. The interface processors are keyed to guide pins on the backplane, so the VIP can be installed only in an interface processor slot.

**Note**

To ensure compliance with EMI approvals by providing a tight EMI seal for the Cisco 7500 and the Cisco 7000 routers, we recommend that you first install interface processors in the interface processor slots closest to the RSP slots, and then work out to the interface processor slots furthest from the RSP slots. For more information on interface processor slots on your router, refer to the *Cisco 7500 Series Installation and Configuration Guide* or the appropriate Quick Start Guide for the Cisco 7500 series routers, or refer to *Cisco 7000 Hardware Installation and Maintenance* manual for the Cisco 7000 series routers.

**Caution**

Remove or insert only one interface processor at a time. Allow the system to complete its discovery and initialization of the interfaces before removing or inserting another interface processor. Disrupting the sequence before the system has completed verification can cause the system to detect spurious hardware failures.

Use the following procedure to install a new VIP:

-
- Step 1** Attach an ESD-preventive wrist strap between you and an unpainted chassis surface.
 - Step 2** Ensure that a console terminal is connected to the console port (on the RSP or RSP7000) and that your console is turned on, or that you have a reliable Telnet connection to the system.
 - Step 3** Hold the VIP handle with one hand and place your other hand under the carrier to support the VIP and guide it into the slot. Avoid touching the card or any connector pins.



Caution To prevent ESD damage, handle interface processors by the handles and carrier edges only.

- Step 4** Place the back of the VIP in the slot and align the notch on the carrier with the groove in the slot.
- Step 5** While keeping the VIP parallel to the backplane, carefully slide it into the slot until the back of the faceplate makes contact with the ejector levers, and then *stop*.



Caution Always use the ejector levers when installing or removing interface processors. An interface processor that is partially seated in the backplane might cause the system to hang and subsequently crash, and shoving or slamming the interface processor into the slot can damage the backplane pins and board.

- Step 6** Using your thumbs, simultaneously push both ejector levers inward until the VIP is pushed entirely into its slot.
 - Step 7** Tighten both of the captive installation screws.
-



Caution To ensure proper EMI isolation for the router, be sure to tighten the captive installation screws on each VIP immediately after you install it and *before* proceeding with the installation of each remaining VIP or other interface processor.

Connecting the SS7 Port Adapter Interface Cables

The SS7 Port Adapter uses shielded twisted-pair cables with RJ-48C connectors to connect to a PBX or to the Public Switched Telephone Network (PSTN).



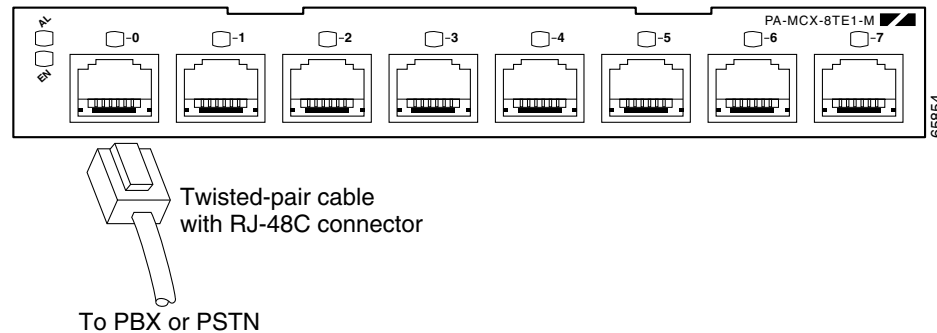
Note Shielded cables (FTP [foil twisted-pair]) with 120-ohm impedance are required to comply with CE marking requirements. These shielded cables are not available from Cisco Systems; they are available from outside commercial cable vendors.

To connect FTP cables with RJ-48C connectors to the SS7 Port Adapter, proceed as follows:

-
- Step 1** Attach the cable directly to one of the RJ-48C ports on the SS7 Port Adapter.
 - Step 2** Attach the network end of the cable to your external equipment.

Step 3 Repeat [Step 1](#) and [Step 2](#) for the other SS7 Port Adapter ports.

Figure 3-4 Connecting the SS7 Port Adapter Twisted-Pair Cable with RJ-48C Connector



Note

Port adapters have a handle attached, but this handle is not shown in [Figure 3-4](#) to allow a full view of the detail on each port adapter's faceplate.



Warning

To reduce the risk of fire, use only 26 AWG or larger telecommunication line cord.



Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity.



Warning

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-48C connectors. Use caution when connecting cables.

This completes the VIP and SS7 Port Adapter installation. You can now verify the installation. Proceed to the [“Verifying the VIP and SS7 Port Adapter Installation”](#) section on page 3-9.

Verifying the VIP and SS7 Port Adapter Installation

This section describes the procedures you can use to verify your VIP and SS7 Port Adapter installation. It includes information on the following topics:

- Observing LEDs and System Messages, page 10
- Using show Commands to Verify the VIP Status, page 12
- Using show Commands to Display Interface Information, page 13

Observing LEDs and System Messages

After you install the VIP and connect the SS7 Port Adapter cables, you can verify the installation by observing the port adapter LED states and the system messages displayed on your console terminal.

When the system has reinitialized all interfaces, the enabled LED on the VIP port adapters and on all interface processors should go on, depending on your connections and configuration. The console screen also displays a message as the system discovers each interface during its reinitialization.

SS7 Port Adapter LEDs

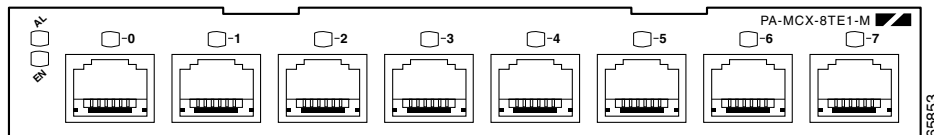


Note

The VIP has no LEDs that are visible or usable when the VIP is installed. The port adapters you install on the VIP have status and interface LEDs.

The SS7 Port Adapter has a green enabled LED, a bicolor alarm LED, and a bicolor port status LED, one for each port on the port adapter (see [Figure 3-5](#)).

Figure 3-5 LEDs on the SS7 Port Adapter



After system initialization, the enabled LED goes on to indicate that the port adapter has been enabled for operation.

The following conditions must be met before the SS7 Port Adapter is enabled:

- The SS7 Port Adapter is correctly connected and is receiving power.
- A valid system software image for the port adapter has been downloaded successfully.
- The system recognizes the SS7 Port Adapter.

If any of the above conditions are not met, or if the initialization fails for other reasons, the enabled LED does not go on.

[Table 3-1](#) lists the functions of the LEDs.

Table 3-1 SS7 Port Adapter LEDs

| LED Label | Color | State | Function |
|-----------|-------|-------|--|
| EN | Green | On | Indicates the SS7 Port Adapter is powered up. |
| | | Off | Indicates the SS7 Port Adapter is not ready or is disabled. |
| AL | Amber | On | Indicates an alarm condition exists on the remote end of one of the T1/E1 ports. |
| | | Red | On |
| | | Off | Indicates no alarms detected on any port. |

Table 3-1 SS7 Port Adapter LEDs (continued)

| LED Label | Color | State | Function |
|-------------|--------|-------|---|
| 0 through 7 | Green | On | Indicates the port is enabled and in frame. |
| | Yellow | On | Indicates the port is in loopback. |
| | | Off | Indicates that the port is not enabled, the received signal is bad, or an alarm condition exists. |

System Messages

When you remove and replace interface processors, the system provides status messages on the console screen. The messages are for information only.

The following sample display shows the events logged by the system when a VIP with an SS7 Port Adapter is removed from interface processor slot 4. The system reinitializes the remaining interface processors and marks as *down* the SS7 Port Adapter interface on the VIP that was removed from slot 4:

```
Router#
00:51:01: %OIR-6-REMCARD: Card removed from slot 4, interfaces disabled
%LINK-5-CHANGED: Interface serial 4/0/0, changed state to administratively down
```

The following sample display shows the events logged by the system when a VIP with a SS7 Port Adapter is reinserted into interface processor slot 4. The the system automatically brings up the interfaces that were up when the VIP was removed:

```
Router#
00:52:30: %OIR-6-INSCARD: Card inserted in slot 4, interfaces administratively shut down
00:52:35: %LINK-3-UPDOWN: Interface Serial4/0/0:1, changed state to up
```

When a new VIP is inserted or when a VIP is moved to a new slot, the system recognizes the new interfaces but leaves them in the *shutdown* state until you configure them and change their state to *up*.

The following sample display shows the events logged by the system as you insert a *new* VIP in interface processor slot 6:

```
Router#
01:00:00: %OIR-6-INSCARD: Card inserted in slot 6, interfaces administratively shut down
```

To verify that the VIP is installed correctly, observe the LEDs and system messages as described in the following steps. If you experience other problems that you are unable to solve, contact a service representative for assistance.

-
- Step 1** While the system reinitializes each interface, observe the console display messages and verify that the system discovers the VIP as follows:
- If you installed a new VIP, the system should recognize all new interfaces but leave them configured as *down*. (You must configure new interfaces to make them available.)
 - If you replaced a VIP, the system should recognize each interface and place it in the same state (*up* or *down*) each was in when you removed the VIP.
- Step 2** When the reinitialization is complete, verify that the enabled LED on each port adapter goes on and remains on. If it does, proceed to Step 5. If it does not, proceed to the next step.

- Step 3** If the enabled LED on a port adapter fails to go on, suspect that the VIP board connector is not fully seated in the backplane. Loosen the captive installation screws, and then firmly push both ejector levers into place until they are approximately in the same orientation as the VIP faceplate. Tighten the captive installation screws. After the system reinitializes the interfaces, the enabled LED on the port adapter should go on. If it does, proceed to Step 5. If it does not, proceed to Step 4.
- Step 4** If the enabled LED still fails to go on, remove the VIP and try installing it in another available interface processor slot.
- If the enabled LED goes on when the VIP is installed in the new interface processor slot, suspect a failed backplane port in the original interface processor slot.
 - If the enabled LED still fails to go on, but other LEDs go on to indicate activity, proceed to Step 5 to resume the installation checkout; suspect that the enabled LED on the port adapter has failed. Contact a service representative to report the problem and obtain further instructions.
 - If no LEDs go on, suspect that the VIP is faulty. Contact a service representative to report the problem and obtain further instructions.
 - If just the enabled LED still fails to go on, remove the VIP and ensure the port adapters are firmly installed in their port adapter slots. Remove and reinstall them accordingly.
- Step 5** If the VIP is new and not a replacement, you must configure all new interfaces to make them available. (This does not have to be done immediately, but new interfaces are not available until you configure them.)
- Step 6** If the VIP is a replacement, use the **show interfaces** *type interface-processor-slot-number/port-adapter-slot-number/interface-port-number* command or the **show controllers** command to verify the status of the interfaces. (See the following section, “[Using show Commands to Verify the VIP Status](#).”)
- If you replaced a VIP with a new VIP with a greater number of interfaces (for example, if you replaced a VIP with a single port adapter with a VIP with two port adapters), the system recognizes the interfaces on the previously configured port adapter but does not recognize the additional port adapter interfaces. The new interfaces remain in the shutdown state until you configure them.
- Step 7** When the interfaces are up, check the activity of each interface by observing the status LEDs, which are described in the appropriate LED section of your port adapter installation and configuration notes.
- Step 8** In general, if an interface LED fails to go on and a cable is connected to the interface port, check the cable connection and make certain it is properly seated in the connector.
-

Using show Commands to Verify the VIP Status

The following steps use **show** commands to verify that the new interfaces are configured and operating correctly.

- Step 1** Use the **show version** command to display the system hardware configuration. Ensure that the list includes the new interfaces.
- Step 2** Display all the current interface processors and their interfaces with the **show controllers** command. Verify that the new VIP appears in the correct interface processor slot.
- Step 3** Specify one of the new interfaces with the **show interfaces** *type interface-processor-slot-number/port-adapter-slot-number/interface-port-number* command and verify that the first line of the display specifies the interface with the correct slot number. Also verify that the interface and line protocol are in the correct state: up or down.

Step 4 Display the protocols configured for the entire system and specific interfaces with the **show protocols** command. If necessary, return to configuration mode to add or remove protocol routing on the system or specific interfaces.

Step 5 Display the running configuration file with the **show running-config** command. Display the configuration stored in the RSP NVRAM using the **show startup-config** command. Verify that the configuration is accurate for the system and each interface.

If the interface is down and you configured it as up, or if the displays indicate that the hardware is not functioning properly, ensure that the network interface is properly connected and terminated. If you still have problems bringing the interface up, contact a service representative for assistance.

**Note**

The outputs that appear in this document may not match the output you receive when running these commands. The outputs in this document are examples only.

Using show Commands to Display Interface Information

To display information about a specific interface, use the **show interfaces** command in the format **show interface** *type interface-processor-slot-number/port-adapter-slot-number/interface-port-number* *:channel-group-number*.

The following is an example of the **show interface serial** command:

```
Router#show interface serial 4/0/0:0
Serial4/0/0:0 is up, line protocol is up
  Hardware is cxBus T1
  MTU 290 bytes, BW 56 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation SS7 MTP2, crc 16, loopback not set
  Keepalive set (10 sec)
  Last input 00:00:46, output 00:00:46, output hang never
  Last clearing of "show interface" counters 00:32:16
  Queueing strategy: fifo
  Output queue 0/40, 0 drops; input queue 0/75, 0 drops
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    65 packets input, 714 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    67 packets output, 598 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions no alarm present
  Timeslot(s) Used:1, subrate: 56Kb/s, transmit delay is 0 flags
  Transmit queue length 109
Router#
```

To display hardware information about all of the interface processors in your router, including the VIP, use the **show controller** command.

Following is an example of the **show controller** command used with a Cisco 7500 series router:

```
Router#show controller t1 4/0/0
T1 4/0/0 is up.
  Applique type is Channelized T1
  Cablelength is long gain36 0db
  No alarms detected.
  alarm-trigger is not set
  Framing is ESF, Line Code is B8ZS, Clock Source is Internal.
  Data in current interval (0 seconds elapsed):
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
Router#
```

To display the configuration of the system hardware (the number of each interface processor type installed), the software version, the names and sources of configuration files, and the boot images, use the **show version** (or **show hardware**) command.

To determine specific hardware configuration information about a VIP installed in your system (including the amount of installed CPU and packet memory), use the **show diag slot** command.

Following example of a VIP with an SS7 Port Adapter; the VIP is installed in interface processor slot 2:

Following is an example of the **show diag slot** command that shows an SS7 Port Adapter in interface processor slot 2 of a Cisco 7513 router:

```
Router# show diag 2
Slot 2:
  PA-MCX-8TE1-M Port adapter, 8 ports
  Port adapter is analyzed
  Port adapter insertion time 00:52:22 ago
  EEPROM contents at hardware discovery:
  Hardware Revision       : 1.0
  PCB Serial Number       : SIC04412B7S
  Part Number             : 115-22681-01
  Board Revision          : 02
  RMA Test History        : 00
  RMA Number              : 0-0-0-0
  RMA History             : 00
  Deviation Number        : 0-0
  IDPROM FIELD FORMAT ERROR, index 0x29
  EEPROM format version 4
  EEPROM contents (hex):
    0x00: 04 FF 40 03 52 41 01 00 C1 8B 53 49 43 30 34 34
    0x10: 31 32 42 37 53 82 73 58 99 01 42 30 32 03 00 81
    0x20: 00 00 00 00 04 00 80 00 00 00 00 00 CB 00 00 00 00
    0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
    0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
    0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
    0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
    0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

After you have installed and verified the VIP and SS7 Port Adapter, you are ready to configure the SS7 Port Adapter.