

C I S C O S Y S T E M S

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Upgrading Boot Image with Flash Memory Cards for Cisco 2500 Series Routers

Product Numbers: Boot-Card-2500=

This document describes the procedures for upgrading the boot image using a flash memory card (PCMCIA) on your Cisco 2500 series router, model 2505 or model 2513.

This document contains the following sections:

- Preventing Electrostatic Discharge Damage
- Removing the Chassis Cover
- Upgrading the Boot Image with the Flash (PCMCIA) Card
- Closing the Chassis
- Cisco Information Online

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. It occurs when electronic components are improperly handled and can result in complete or intermittent failures.

Following are guidelines for preventing ESD damage:

- Before you open a chassis, ensure that power to the unit is off, but that the power cord is connected to the wall receptacle. Having the power cord connected ensures a ground path for any ESD voltages.
- Always use an ESD-preventive wrist or ankle strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to an unpainted surface of the chassis frame or another proper grounding point or surface. Attach it to the inside bottom of the chassis or to the rear panel (inside or outside) without making contact with any connectors or appliques.
- Avoid contact between equipment and clothing. The wrist or ankle strap only protects the equipment from ESD voltages on the body; ESD voltages on clothing can still cause damage.
- Handle printed circuit cards and appliques by the edges only; avoid touching the components, traces, or any connector pins.

- Place a removed card component side up on an antistatic surface or in a static shielding bag. If the component is being returned to the factory, immediately place it in a static shielding bag.
- Do not remove the wrist or ankle strap until the installation is complete.



Caution To avoid damaging the equipment, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohms.

Removing the Chassis Cover

Following is the procedure for opening the chassis by removing the chassis cover.

Required Tools

Following are the tools required for removing the chassis cover:

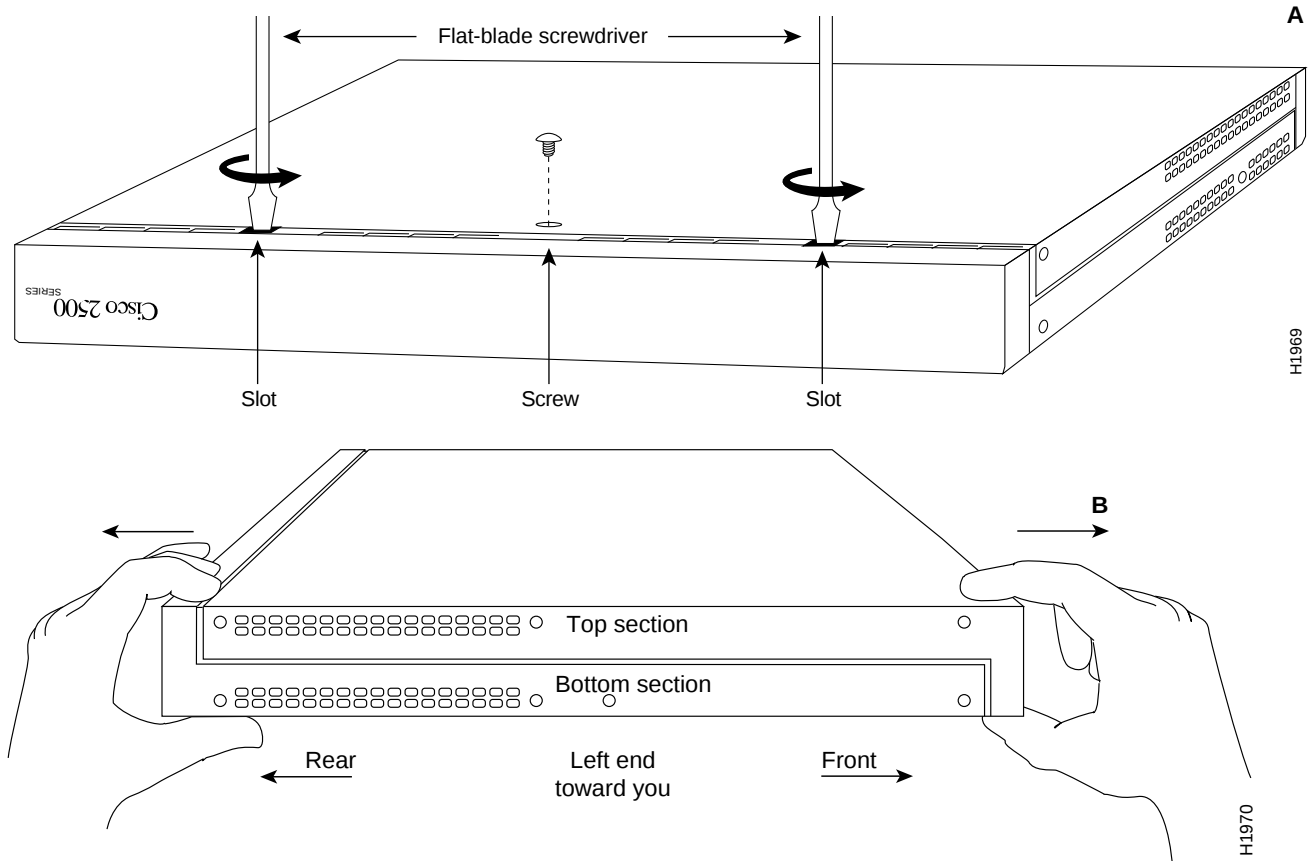
- 1/4 inch (0.625 cm) flat-blade screwdriver
- Size M 3.5 (metric) hex-head nut driver (optional)

Removing the Chassis Cover

Open the router chassis to gain access to its interior components: the system card, flash memory card connector, system code single in-line memory modules (SIMMs), and dynamic random access memory (DRAM) SIMMs. Following are the steps required to remove the chassis cover. When you open the chassis, refer to Figure 1.

- Step 1** Turn OFF the power but, to channel ESD voltages to ground, do not unplug the power cable.
- Step 2** Remove all interface cables from the rear panel of the router.
- Step 3** Turn the unit upside down so that the top of the chassis is resting on a stable surface, and the front of the chassis is toward you. (See Figure 1.)

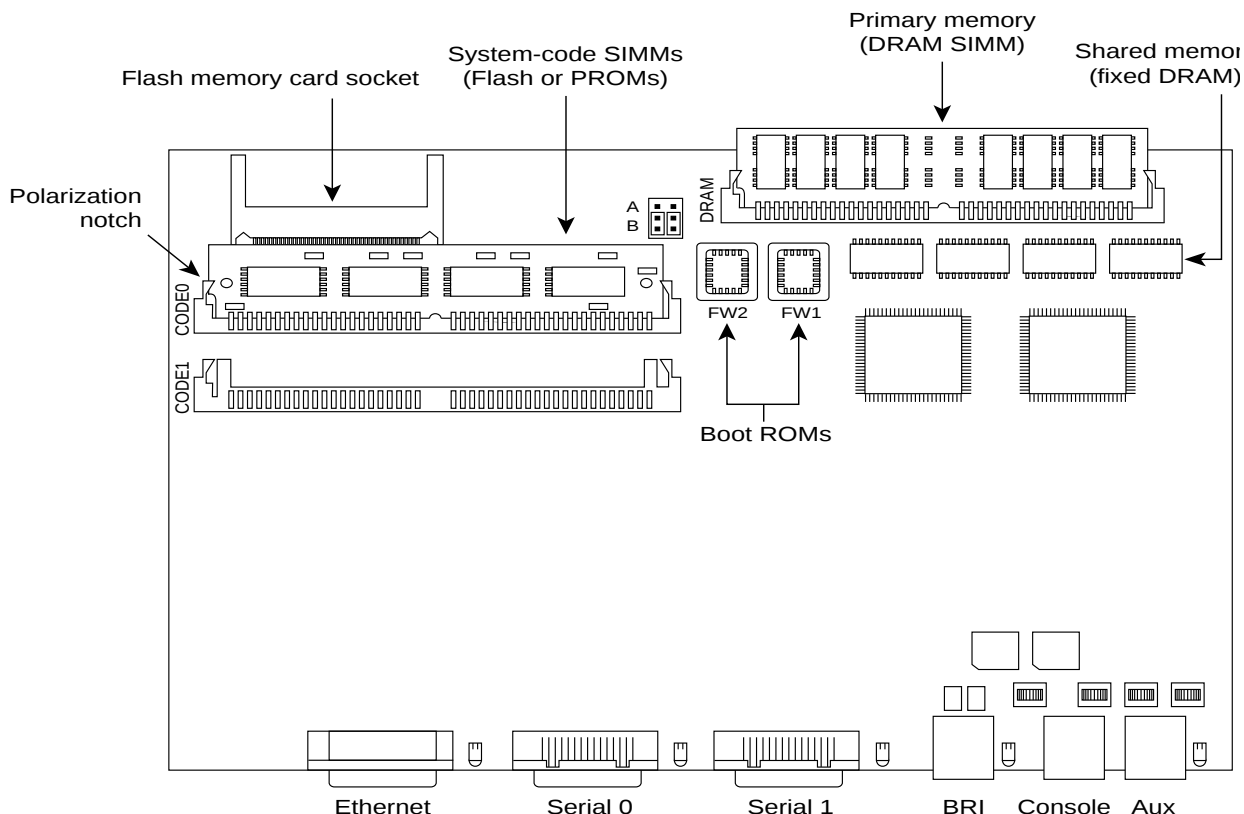
Figure 1 Chassis Cover Removal—Part A (Top) and B (Bottom)



- Step 4** Remove the single screw located on the bottom of the chassis on the chassis side closest to you. Note that the chassis consists of two sections: top and bottom.
- Step 5** If required, insert a medium flat-blade screwdriver into the slots shown in Figure 1, and gently rotate the blade so that the top and bottom sections separate slightly.
- Step 6** Holding the chassis with both hands, position it as shown in Figure 1, Part B.
- Step 7** Gently pull the top section away from the bottom section. (See Figure 1, Part B.) The fit is very snug, so it may be necessary to work the chassis sections apart at one end and then the other, working back and forth.
- Step 8** When the top section is off, set it aside.

Figure 2 shows the layout of the system card, which is attached to the bottom section of the chassis. The fan and power supply are not shown in Figure 2.

Figure 2 System Card Layout



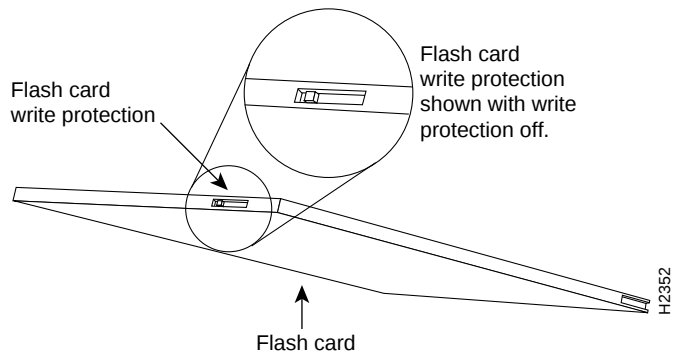
Warning To prevent shock hazard and injury, do not touch the power supply and fan assemblies. These components should be serviced by a technical service representative.

Upgrading the Boot Image with the Flash (PCMCIA) Card

The upgrade software is on a Flash memory card. Insert the flash memory card into the socket on the Cisco Model 2500 card and then turn the system ON to initiate the upgrade. The flash memory card is usable for one upgrade only.

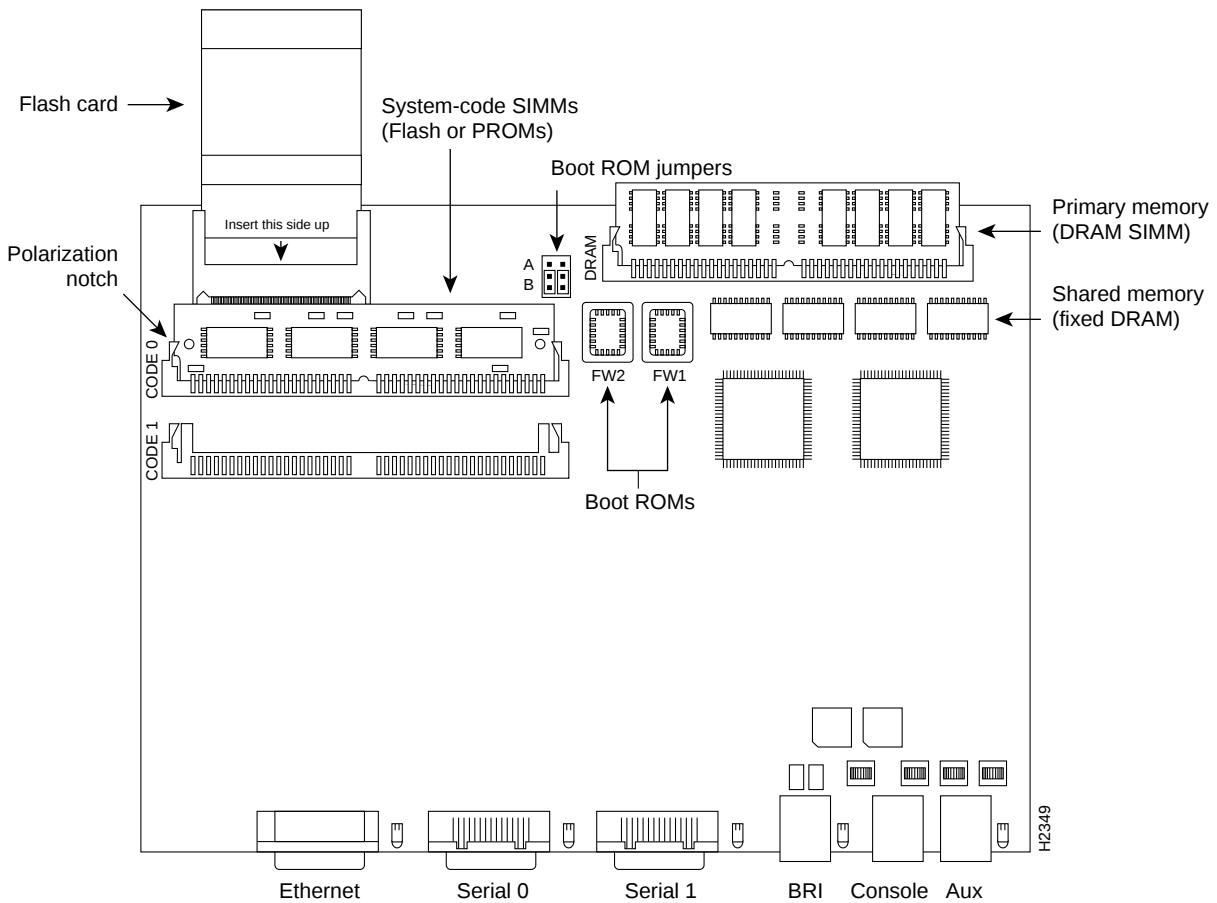
- Step 1** Turn the power switch OFF, but to channel ESD voltages to ground, do not unplug the power cord.
- Step 2** Attach an ESD-preventive wrist or ankle strap.
- Step 3** Open the chassis cover according to the procedure in the section “Removing the Chassis Cover.”
- Step 4** Turn the chassis so the system card is in the position shown in Figure 2, with the system-code SIMMs toward you.
- Step 5** Verify that the flash memory card is set with write protection off. The write protect switch is located on the top edge of the card when oriented with the printing right side up. (See Figure 3.)

Figure 3 Locating the Flash Card Write Protection Switch



Step 6 Locate the flash card socket at the left upper corner of the system card, and insert the card into the socket. (See Figure 4.)

Figure 4 Inserting the Flash Card



Note The example card layout in Figure 4 depicts a model 2503. The location of your PCMCIA flash card socket may differ slightly from that shown in the illustration depending on the model of your equipment.

Step 7 Reconnect the system console to the unit.

Step 8 Turn the power switch to the ON position. The system automatically starts the upgrade procedure. The upgrade screen will display on the system console. (See Figure 5.)

Figure 5 Example of a Flash Card Boot Image Upgrade Screen

```
Testing boot state
Exiting boot state
Testing Main Memory from 0h to C000h. data equals address
Testing Main Memory from 0h to C000h. checkerboard
Testing Main Memory from 0h to C000h. inverse checkerboard
Clearing bss
Enabling interrupts
Exiting init

<Erasing flash at 0x8040000>
Program flash location 0x81e6000
Boot flash frier is successful.
```

Step 9 When the update is complete the following message will display on the console screen:

Please turn off the system and remove the Flash Credit Card.

Step 10 Turn the power switch to OFF and then remove the flash card from the flash card socket.

Step 11 Replace the router cover using the procedure in the section “Closing the Chassis.”

Closing the Chassis

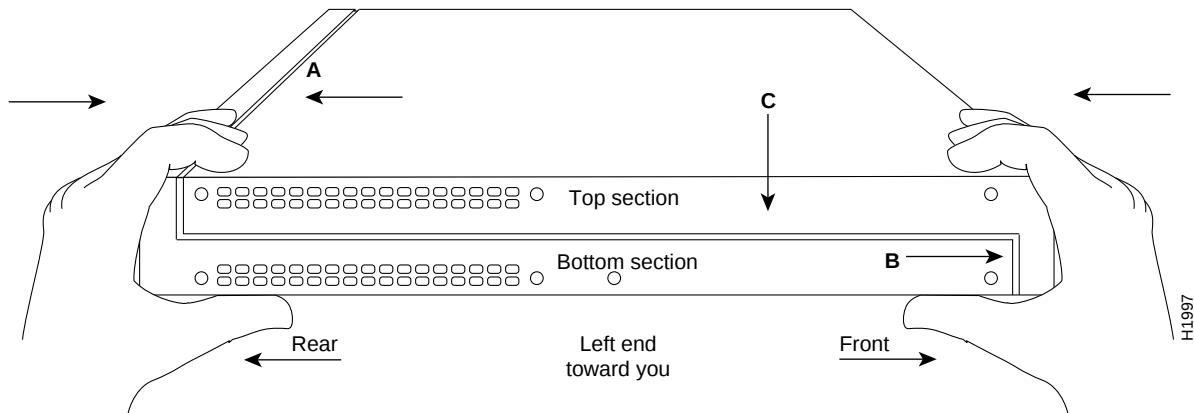
Take the following steps to replace the chassis cover:

Step 1 Position the two chassis sections as shown in Figure 6.

Step 2 Referring to Figure 6, press the two chassis sections together and ensure the following:

- The top section fits *into* the rear of the bottom section.
- The bottom section fits *into* the front of the top section.
- Each side of the top and bottom sections fits together.

Caution To fit the two sections together, may be necessary to work them together at one end and then the other, working back and forth; however, use care to prevent bending the edges of the chassis.

Figure 6 Replacing the Chassis Cover

- Step 3** When the two sections fit together snugly, turn the chassis so that the bottom is facing up, with the front panel toward you. (See Figure 1.)
- Step 4** Replace the cover screw. Tighten the screw to no more than 8 or 9 inch-pounds of torque.
- Step 5** Reinstall the chassis on the wall, in the rack, or on a desk, or a table top.
- Step 6** Replace all cables and turn ON the power to the chassis.
- Step 7** This concludes Upgrading Boot Image with Flash Memory Cards for Cisco 2500 Series Routers.

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