



CHAPTER 6

Troubleshooting the Installation

This chapter describes how to troubleshoot the installation of the Cisco 7600 Series Ethernet Services 20G (ES20) line card on the Cisco 7600 series routers. This chapter contains the following sections:

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Troubleshooting

This section describes troubleshooting the installation of the Cisco 7600 ES20 line card. Possible problems, observations and comments, and solutions are indicated for the following troubleshooting symptoms:

- Cisco 7600 ES20 line card transitions repeatedly from on to off.
- Cisco 7600 ES20 line card is deactivated.

Cisco 7600 ES20 Line Card Transitions Repeatedly From On to Off

Possible Problem	Observations and Comments	Solutions
Cisco 7600 ES20 line card is booting up; this is normal operation	Cisco 7600 ES20 line card STATUS LED alternates green, amber, or off	Wait 30 seconds until the boot process completes and the STATUS LED stays on.
Cisco 7600 ES20 line card does not go beyond the bootup stage	Cisco 7600 ES20 line card STATUS LED transitions continue and alternates green, amber, or off	Follow the recommended action for the displayed error message.
Cisco 7600 ES20 line card is not up to date	During Cisco 7600 ES20 line card initialization, the need to update the FPGA is automatically detected	Follow the system prompts to update the FPGA image. If the Cisco 7600 ES20 line card is cycling because of an FPD problem, the most likely cause is a FPD failure or that the FPD package file is not present. For more information about performing FPD upgrades, refer to the “Upgrading Field-Programmable Devices” chapter in the Cisco 7600 Series Router SIP, SSC, and SPA Software Configuration Guide .

Cisco 7600 ES20 Line Card Is Deactivated

Possible Problem	Observations and Comments	Solutions
Cisco 7600 ES20 line card is not fully seated in the chassis slot	Output of the show diag slot command STATUS LED is off	Follow this procedure: <ul style="list-style-type: none"> Remove the Cisco 7600 ES20 line card from the slot. Inspect the Cisco 7600 ES20 line card. Verify there are no bent pins or parts and that there is nothing that could prevent a good connection. Insert the Cisco 7600 ES20 line card into the chassis slot.
Cisco 7600 ES20 line card is not at the minimum hardware revision level	Error message indicating the Cisco 7600 ES20 line card is not at the minimum FPGA revision level Output of the show hw-module subslot fpd command Output of the show diag slot command STATUS LED is off	Follow the FPD upgrade process to update the FPGA. For more information about performing FPD upgrades, refer to the “Upgrading Field-Programmable Devices” chapter in the <i>Cisco 7600 Series Router SIP, SSC, and SPA Software Configuration Guide</i> from the following URL: http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/sipspasw.html
Digital Optical Monitoring (DOM) alarm conditions	No change in the LED status unless the link is down due to high receiver power.	To remove the alarm, ensure that appropriate attenuators are incrementally used. However, when the received power exceeds a lower threshold, a lower db attenuator should be used. The supported attenuators in a lab scenario are: <ul style="list-style-type: none"> 5 db 10 db 15 db 20 db

Using debug Commands

The **debug hw-module subslot** command is intended for use by Cisco Systems technical support personnel. For more information about the **debug hw-module subslot** command, see the Cisco 7600 Series Router SIP, SSC, and SPA Software Configuration Guide .



Caution

Because debugging output is assigned high priority in the CPU process, it can render the system unusable. For this reason, use **debug** commands only to troubleshoot specific problems or during troubleshooting sessions with Cisco technical support staff. Moreover, it is best to use **debug** commands during periods of lower network traffic and fewer users. Debugging during these periods decreases the likelihood that increased **debug** command processing overhead will affect system use.

For information about other **debug** commands supported on the Cisco 7600 ES20 line card and to view the explanations and recommended actions for the Cisco 7600 series router error messages, including messages related to the Cisco 7600 ES20 line card, refer to the following documents:

- Cisco IOS Release 12.2 SR Command References*

- *Cisco 7600 Series Cisco IOS System Message Guide, 12.2SR*

Packing a Cisco 7600 ES20 Line Card for Shipment

This section provides step-by-step instructions for packing a Cisco 7600 ES20 line card for shipment. Before beginning this procedure, you should have the following original Cisco Systems packaging materials:

- Static shielding bag
- Smaller inner carton
- Larger exterior carton
- Two foam packing cushions

**Caution**

The Cisco Systems original packaging is to be used for the shipment of all Cisco 7600 ES20 line cards. Failure to properly use Cisco Systems packaging can result in damage or loss of product.

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.

**Note**

These instructions assume that the Cisco 7600 ES20 line card has been removed from the router according to the recommended procedures specified in this guide.

To pack a Cisco 7600 ES20 line card for shipment, perform the following steps:

- Step 1** Insert the Cisco 7600 ES20 line card into the static shielding bag.
- Step 2** Insert the bagged Cisco 7600 ES20 line card into the smaller inner carton. Be careful to position the Cisco 7600 ES20 line card so that the bottom motherboard lip is held by the packaging cutout.
- Step 3** Close the smaller inner carton and tape the sides closed.
- Step 4** Place the sealed smaller inner carton containing the Cisco 7600 ES20 line card into the two foam packing cushions (they only fit one way).
- Step 5** Place the sealed smaller inner carton and packing cushions into the larger exterior carton, and seal the larger exterior carton with tape for shipment.

