



Troubleshooting the Installation

This chapter describes how to troubleshoot the installation of MSCs and SPAs on the Cisco 7304 router. This chapter contains the following sections:

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Troubleshooting

This section describes some general troubleshooting information for the MSCs and SPAs with an emphasis on hardware troubleshooting. Possible problems, observations and comments, and solutions are indicated for the following troubleshooting symptoms:

- MSC transitions repeatedly from on to off
- MSC is deactivated
- SPA is down and the line protocol is down

MSC Transitions Repeatedly From On to Off

Possible Problem	Observations and Comments	Solutions
MSC is booting up; this is normal operation	MSC STATUS LED alternates from off to yellow to green	Wait 30 seconds until the boot process completes and the STATUS LED stays on.

MSC Transitions Repeatedly From On to Off

Possible Problem	Observations and Comments	Solutions
MSC does not go beyond the bootup stage	MSC STATUS LED transitions continue and alternates green, yellow, or off Error message on the 7304 console	Look up the error message in the “Error Messages” section on page 7-4 . Follow the recommended action for the displayed error message.
The SPA FPD Image is incompatible with the running Cisco IOS Release	MSC STATUS LED is green SPA STATUS LED is off %FPD-MGMT system messages appear on the console indicating the FPD is incompatible and either the upgrade attempt failed or no messages appear indicating an FPD upgrade was attempted	Enter the show hw-module subslot fpd command to verify if an FPD incompatibility exists. If an incompatibility exists, an FPD image package file needs to be downloaded from the Software Center on Cisco.com and an FPD upgrade needs to be performed. For information on performing this upgrade, see the “Upgrading Field-Programmable Devices” section of the Cisco 7304 Router Modular Services Card and Shared Port Adapter Software Configuration Guide .

MSC Is Deactivated

Possible Problem	Observations and Comments	Solutions
No SPA is installed in the MSC	Error message indicating no SPA is detected Output of the show diag slot command SPA STATUS LED is off	If a SPA is not supposed to be installed in the router slot, this is not a problem. If you would like a SPA in the slot, install a SPA supported on the MSC and ensure the SPA is properly seated in the MSC.
SPA is not fully seated in the MSC	Output of the show diag slot command MSC STATUS LED is green MSC OIR LED is off SPA STATUS LED is off	Follow this procedure: <ul style="list-style-type: none"> Remove the MSC from the router. Remove the SPA from the MSC. Inspect the MSC and the SPA. Verify there are no bent pins or parts and that there is nothing lodged in the two devices that could prevent a good connection. Insert the SPA in the MSC by sliding the SPA all the way in the MSC until the SPA is firmly seated in the SPA interface connector. When fully seated in the MSC, the SPA might be slightly behind the MSC faceplate. Insert the MSC into the router.

MSC Is Deactivated

Possible Problem	Observations and Comments	Solutions
SPA is not supported on the MSC	Error message indicating the SPA is not supported Output of the show diag slot command MSC STATUS LED is green MSC OIR LED is off SPA STATUS LED is off	Install a SPA supported on the MSC.
SPA is not at the minimum hardware revision level	Error message indicating the SPA is not at the minimum hardware revision level required Output of the show diag slot command MSC STATUS LED is on MSC OIR LED is off SPA STATUS LED is off	Upgrade the SPA to the minimum hardware revision level required.

SPA Is Down and the Line Protocol Is Down

Possible Problem	Observations and Comments	Solutions
SPA is not at the minimum hardware revision level	Error message indicating the SPA is not at the minimum hardware revision level required Output of the show diag slot command MSC STATUS LED is on MSC OIR LED is off SPA STATUS LED is off	Upgrade the SPA to the minimum hardware revision required.
MSC FPGA is not up to date	During MSC initialization, the need to update the FPGA is automatically detected	Follow the system prompts to update the FPGA image. Manually upgrade the FPGA using the upgrade fpga all command.
SPA is misconfigured		Refer to the configuration section of the specific SPA installation and configuration guide, or use the Cisco IOS software configuration documentation listed in the “Related Documentation” section on page -viii.

SFP Issues for Gigabit Ethernet SPA

Possible Problem	Observations and Comments	Solutions
SFP is not recognized	<p>A %SPA_ETHER-3-SFP_SEC_FAIL message appears on the console</p> <p>The interface line protocol as shown in the show interfaces command output is down</p>	<p>Ensure that the SFP you are using is supported by the Gigabit Ethernet SPA. The list of supported SPAs can be viewed in the “SFP Connections” section in Chapter 2 of this document. The Gigabit Ethernet SPAs for the Cisco 7304 router only support Cisco SFPs.</p>

Error Messages

To view the explanations and recommended actions for Cisco 7304 error messages, including messages related to Cisco 7304 MSCs and SPAs, see the following document:

- [System Error Messages for Cisco IOS Release 12.2 S](#) (for error messages in Cisco IOS Release 12.2 S)

Other Troubleshooting Resources

For additional troubleshooting documentation, see the following documents:

- The “[Troubleshooting](#)” section of the [Cisco 7304 Router Modular Services Cards and Shared Port Adapter Software Configuration Guide](#)

Packing a SPA for Shipment

This section provides step-by-step instructions for packing a Cisco 7304 MSC-100 for shipment. Before beginning this procedure, you should have the following original Cisco Systems packaging materials:

- Static shielding bag
- Two foam pads
- Rectangular-shaped foam collar
- Carton

In addition to the above materials, you will also need carton-sealing tape.


Caution

The Cisco Systems original packaging is to be used for the shipment of all MSCs. 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 7304 MSC-100 has been removed from the router according to the recommended procedures specified in this guide.

To pack a Cisco 7304 MSC-100 for shipment, perform the following steps:

- Step 1** Insert the Cisco 7304 MSC-100 into the static shielding bag.
 - Step 2** Insert the bagged Cisco 7304 MSC-100 between the foam pads and inside the rectangular-shaped foam collar.
 - Step 3** Place the assembled packing components into the carton and tape the lower front edge of the carton closed.
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