



Preface

This preface explains the objectives, intended audience, and organization of *Cisco CRS Carrier Routing System 4-Slot Line Card Chassis Installation Guide* and describes the conventions that convey instructions and other information.

The preface contains the following sections:

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Objective

This installation guide describes how to install components into and remove them from a Cisco CRS 4-slot line card chassis. This installation guide does not provide background information and basic theory-of-operation for anyone wanting to understand the Cisco CRS Carrier Routing System.

Audience

This guide is intended for Cisco CRS 4-slot line card chassis installers and Cisco installation partners who are responsible for installing the line card chassis components. The chassis installers are expected to have installed networking hardware in the past. No additional knowledge of routing or the Cisco IOS XR software is assumed.

Document Organization

This guide contains the following chapters and appendixes:

- [Chapter 1, “Overview,”](#) provides an introduction to the various line card chassis systems and components. This chapter also provides the recommended sequence of tasks for installing all the major components of the Cisco CRS 4-slot line card chassis.
- [Chapter 2, “Installing and Removing Power Components,”](#) details how to bring power to and install power components in the line card chassis, including the AC and DC power shelves power supplies, and alarm module.
- [Chapter 3, “Installing and Removing Air Circulation Components,”](#) describes how to install the fan trays and air filters.
- [Chapter 4, “Installing and Removing SFCs, RPs, MSCs, FPs, LSPs, PLIMs, and Associated Components,”](#) provides instructions on how to install various cards, including PLIMs, switch fabric cards, and modular services cards.
- [Chapter 5, “Installing and Removing the Doors and Grille,”](#) documents how to install and remove the optional exterior components, the front doors and grille.
- [Appendix A, “Cisco CRS 4-Slot Line Card Chassis System Specifications,”](#) lists the technical specifications for the Cisco CRS 4-slot line card chassis.

Document Conventions

This guide uses the convention where the symbol ^ represents the key labeled *Control*. For example, the key combination ^z means hold down the **Control** key while you press the **z** key.

Command descriptions use these conventions:

- Examples that contain system prompts denote interactive sessions, indicating the commands that you should enter at the prompt. The system prompt indicates the current level of the EXEC command interpreter. For example, the prompt `router>` indicates that you should be at the *user* level, and the prompt `router#` indicates that you should be at the *privileged* level. Access to the privileged level usually requires a password. Refer to the related software configuration and reference documentation listed in [“Related Documentation”](#) for additional information.
- Commands and keywords are in **boldface** font.
- Arguments for which you supply values are in *italic* font.
- Elements in square brackets ([]) are optional.
- Alternative but required keywords are grouped in braces ({ }) and separated by vertical bars (|).

Examples use these conventions:

- Terminal sessions and sample console screen displays are in `screen` font.
- Information you enter is in **boldface screen** font.
- Nonprinting characters, such as passwords, are in angle brackets (< >).
- Default responses to system prompts are in square brackets ([]).
- Exclamation points (!) at the beginning of a line indicate a comment line.



Note

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

**Timesaver**

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Caution**

Means *reader be careful*. You are capable of doing something that might result in equipment damage or loss of data.

**Warning**

This warning symbol means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device. Statement 1074

Related Documentation

For complete planning, installation, and configuration information, refer to the following documents:

- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis System Description](#)
- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis Site Planning Guide](#)
- [Cisco CRS Carrier Routing System 4-Slot Line Card Chassis Unpacking, Moving, and Securing Guide](#)
- [Cisco CRS Carrier Routing System Ethernet Physical Layer Interface Module \(PLIM\) Installation Note](#)
- [Cisco CRS Carrier Routing System Packet-over-SONET Physical Layer Interface Module \(PLIM\) Installation Note](#)
- [Cisco CRS Fiber-Optic Cleaning Kit Quick Start Guide](#)
- [Cisco CRS Carrier Routing System Hardware Documentation Guide](#)
- [Cisco CRS Carrier Routing System Regulatory Compliance and Safety Information](#)

For a complete listing of software documentation available, refer to *About Cisco IOS XR Software Documentation*, available online at

<http://www.cisco.com/univercd/cc/td/doc/product/core/crs/xrabout.htm>.

Changes to This Document

Table 1-1 lists the technical changes made to this document since it was first printed.

Table 1-1 **Changes to This Document**

Revision	Date	Change Summary
OL-10971-10	July 2011	Added information about new CRS-LSP Label Switch Processor (LSP) card to the following sections: <ul style="list-style-type: none"> • Chapter 1, “Overview” • Chapter 4, “Installing and Removing SFCs, RPs, MSCs, FPs, LSPs, PLIMs, and Associated Components”
OL-10971-09	April 2011	Added information about new CRS-4-PRP-6G and CRS-4-PRP-12G Performance Route Processor (PRP) cards. Technical updates and minor editorial changes were also made.
OL-10971-08	October 2010	Added information about the new MSC-140G and FP-140 line cards, and QQ123-140G switch fabric cards. Minor editorial changes were also made.
OL-10971-07	September 2009	Added additional information about plug styles for different countries on the Cisco CRS Carrier Routing System 4-Slot Line Card chassis. See Chapter 2, “AC Power Supply Cord Illustrations and Plug Types”
	May 2008	Added new procedures on installing and removing a pillow block to Chapter 4, “Installing and Removing SFCs, RPs, MSCs, FPs, LSPs, PLIMs, and Associated Components.”
OL-10971-06	March 2008	Minor editorial changes.
OL-10971-05	August 2007	Technical updates were made to Chapter 2, “Installing and Removing Power Components.”
OL-10971-04	June 2007	Added “Recommended Chassis Installation Task Sequence” in Chapter 1, “Overview,” and reorganized and revised Chapter 4, “Installing and Removing SFCs, RPs, MSCs, FPs, LSPs, PLIMs, and Associated Components.” Also added “Removing a DC Power Shelf” in Chapter 2, “Installing and Removing Power Components.”
OL-10971-03	March 2007	Added “DC Power Systems on the Cisco CRS 4-Slot Router” , “Installing a DC Power Shelf” , in Chapter 2, “Installing and Removing Power Components.” Also updated Appendix A, “Cisco CRS 4-Slot Line Card Chassis System Specifications,” with DC power specifications and other updates.
OL-10971-02	November 2006	Added Chapter 5, “Installing and Removing the Doors and Grille.”
OL-10971-01	November 2006	Initial release of the document

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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