

# Installing or Replacing SFPs in a C-series Controller

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This document describes how to install or replace a small form-factor pluggable (SFP) transceiver in a Juniper Networks C-series platform.

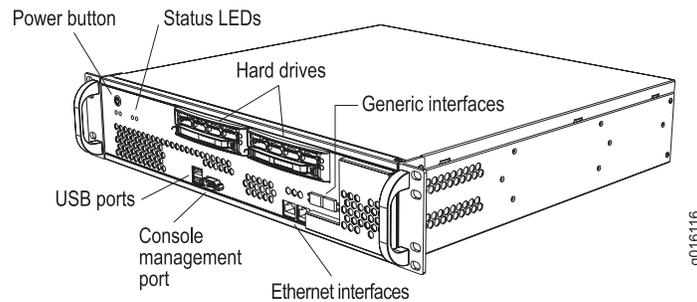
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## Installing or Replacing an SFP

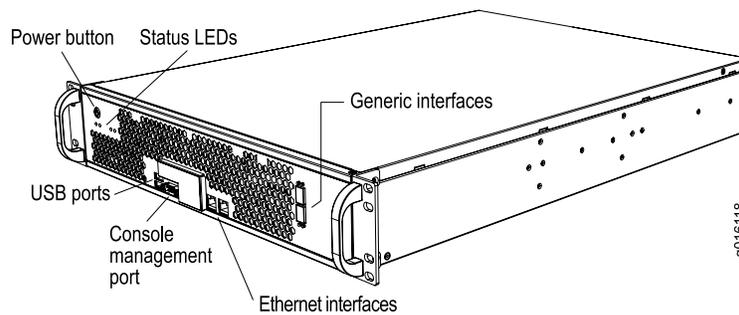
This section describes how to install or replace an SFP. SFPs can be installed in either generic interface port (ETH2 or ETH3). See Figure 1 on page 2 and Figure 2 on page 2 for generic interface port locations.

When replacing an SFP, make sure that you open the ejector handle completely before gently pulling it out of the interface.

**Figure 1: C2000, Front View**



**Figure 2: C4000, Front View**



### Tools and Parts Required

To remove and replace an SFP, you need the following tools and parts:

- Electrostatic bag or antistatic mat, one for each SFP removed
- ESD grounding wrist strap
- Rubber safety caps to cover each unused cable and SFP

### Removing an SFP

To remove an SFP:

1. Have a replacement SFP or a transceiver slot plug ready, as well as an antistatic mat and a rubber safety cap for the SFP.
2. Attach an ESD wrist strap to your bare wrist, and connect the wrist strap to an appropriate grounding point.
3. Label the cables connected to the SFP so that you can reconnect them correctly later.



**WARNING:** Do not look directly into a fiber-optic transceiver or into the end of a fiber-optic cable. Fiber-optic transceivers contain laser light sources that can damage your eyes.

4. Remove the cable connector plugged into the SFP.



**CAUTION:** Avoid bending fiber-optic cable beyond its minimum bend radius. An arc smaller than a few inches in diameter can damage the cable and cause problems that are difficult to diagnose.

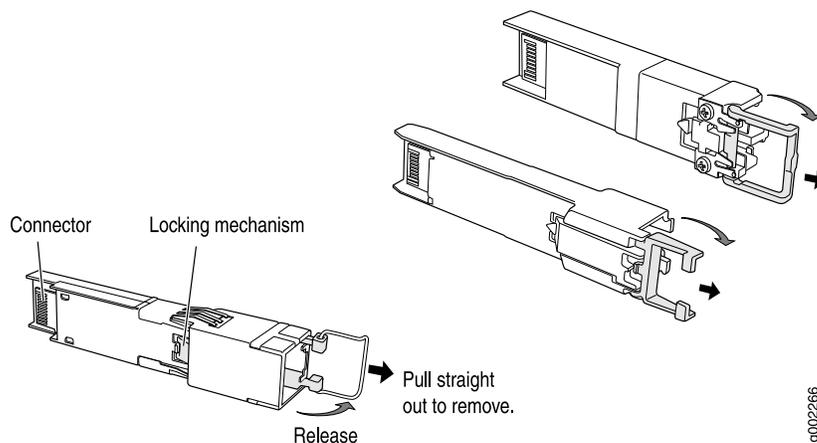
5. Pull the ejector handle out from the SFP to unlock the SFP.



**CAUTION:** Make sure that you open the ejector handle completely (you will hear it click). This prevents damage to the SFP.

6. Grasp the SFP ejector handle, and pull the SFP approximately 0.5 in (1.3 cm) out of the interface port.
7. Using your fingers, grasp the body of the SFP, and pull it the rest of the way out.

**Figure 3: Removing SFPs**



8. Place a rubber safety cap over the transceiver.
9. Place the removed SFP on an antistatic mat or in an electrostatic bag.

## ***Installing an SFP***

To install an SFP:

1. Attach an ESD wrist strap to your bare wrist, and connect the wrist strap to an appropriate grounding point.
2. Take each SFP to be installed out of its electrostatic bag, and identify the interface where it will be installed.
3. Verify that each transceiver is covered by a rubber safety cap. If it is not, cover the transceiver with a safety cap.
4. Carefully align the SFP with the interface. The connectors should face the chassis.
5. Slide the SFP until the connector is seated in the interface. If you are unable to fully insert the SFP, make sure the connector is facing the right way.
6. Remove the rubber safety cap from the transceiver and the end of the cable. Insert the cable into the transceiver.

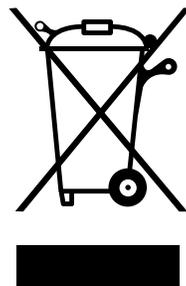
## **Product Reclamation and Recycling Program**

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Juniper Networks is committed to environmentally responsible behavior. As part of this commitment, we continually work to comply with environmental standards such as the European Union's *Waste Electrical and Electronic Equipment (WEEE) Directive* and *Restriction of Hazardous Substances (RoHS) Directive*.

These directives and other similar regulations from countries outside the European Union regulate electronic waste management and the reduction or elimination of specific hazardous materials in electronic products. The WEEE Directive requires electrical and electronics manufacturers to provide mechanisms for the recycling and reuse of their products. The RoHS Directive restricts the use of certain substances that are commonly found in electronic products today. Restricted substances include heavy metals, including lead, and polybrominated materials. The RoHS Directive, with some exemptions, applies to all electrical and electronic equipment.

In accordance with Article 11(2) of Directive 2002/96/EC (WEEE), products put on the market after 13 August 2005 are marked with the following symbol or include it in their documentation: a crossed-out wheeled waste bin with a bar beneath.



Juniper Networks provides recycling support for our equipment worldwide to comply with the WEEE Directive. For recycling information, go to <http://www.juniper.net/environmental>, and indicate the type of Juniper Networks equipment

that you wish to dispose of and the country where it is currently located, or contact your Juniper Networks account representative.

Products returned through our reclamation process are recycled, recovered, or disposed of in a responsible manner. Our packaging is designed to be recycled and should be handled in accordance with your local recycling policies.

## Related Juniper Networks Documentation

With each SRC software release, we provide the *SRC Documentation CD*, which contains the documentation described in Table 1 on page 5.

With each SRC Application Library release, we provide the *SRC Application Library CD*. This CD contains both the software applications and the *SRC Application Library Guide*.

The C-Web interface, which is based on the J-Web interface, is available for monitoring the C-series platforms and the SRC software. For general information about the J-Web interface, see the *J-Web Interface User Guide*.

A complete list of abbreviations used in this document set, along with their spelled-out terms, is provided in the *SRC Getting Started Guide*.

**Table 1: Juniper Networks C-series and SRC Technical Publications**

Document	Description
<b>Core Documentation Set</b>	
<i>C-series Hardware Guide</i>	Describes the hardware platforms and how to install, maintain, replace, and troubleshoot them. The guide also includes specifications.
<i>SRC-PE Getting Started Guide</i>	Describes the SRC software and explains how to set up an initial configuration and manage a C-series platform. The guide describes how to set up and start the SRC CLI and C-Web, as well as other SRC configurations. It provides information about setting up an initial SRC configuration on a Solaris platform. The guide also describes how to upgrade the SRC software and how to use the SRC configuration tools. It includes reference material for the SRC documentation.
<i>SRC-PE CLI User Guide</i>	Describes how to use the SRC CLI, configure and monitor the platform with the CLI, and control the CLI environment. The guide also describes how to manage SRC components with the CLI.
<i>SRC-PE Network Guide: SAE, Juniper Networks Routers, and NIC</i>	Describes how to use and configure the SAE and the NIC. This guide also provides detailed information for using JUNOSe routers and JUNOS routing platforms in the SRC network.
<i>SRC-PE Integration Guide: Network Devices, Directories, and RADIUS Servers</i>	Describes how to integrate external components—network devices, directories, and RADIUS servers—into the SRC network. The guide provides detailed information about integrating specific models of the external components.

**Table 1: Juniper Networks C-series and SRC Technical Publications (continued)**

Document	Description
<i>SRC-PE Services and Policies Guide</i>	Describes how to work with services and policies. The guide provides an overview, configuration procedures, and management information. The guide also provides information about the SRC tools for configuring policies.
<i>SRC-PE Subscribers and Subscriptions Guide</i>	Describes how to work with residential and enterprise subscribers and subscriptions. The guide provides an overview, configuration procedures, and management information. This guide also provides information about the sample residential portals and enterprise service portals, including the Enterprise Manager Portal.
<i>SRC-PE Monitoring and Troubleshooting Guide</i>	Describes how to use logging, the SNMP agent, the SRC CLI, and the C-Web interface to monitor and troubleshoot SRC components. This guide also describes the SNMP traps.
<i>SRC-PE Solutions Guide</i>	Provides high-level instructions for SRC implementations. The guide documents the following scenarios: managing QoS services on JUNOSe routers; managing subscribers in a wireless roaming environment; providing voice over IP (VoIP) services; integrating the SRC software in a PCMM environment, including the use of the Juniper Policy Server (JPS); mirroring subscriber traffic on JUNOSe routers; demonstrating network resource management features in a sample IP television (IPTV) application; and demonstrating the integration of prepaid services in a sample application.
<i>SRC-PE CLI Command Reference, Volume 1</i> <i>SRC-PE CLI Command Reference, Volume 2</i>	Together provide information about command and statement syntax; descriptions of commands, configuration statements, and options; editing level of statement options; and a history of when a command was added to the documentation.
<i>SRC-PE Comprehensive Index</i>	Provides a complete index of the SRC guides, excluding the <i>C-series Hardware Guide</i> and the <i>SRC-PE Command Reference</i> .
<i>J-Web User Interface Guide</i>	Provides general information about the J-Web interface.
<b>Application Library</b>	
<i>SRC Application Library Guide</i>	Describes how to install and work with applications that you can use to extend the capabilities of the SRC software. The guide documents the following applications: SRC-SG (SOAP Gateway) Web applications, applications to integrate the Juniper Networks Intrusion Detection and Protection (IDP) software into an SRC-managed environment, an application to provide endpoint security by integrating Juniper Networks Instant Virtual Extranet (IVE) Host Checker, a traffic-mirroring Web application, an application to integrate IP address managers with the SAE, an application to provide tracking and QoS control at the application level by integrating the SRC software with the Ellacoya deep packet inspection (DPI) platform, an application to control volume usage, and the SRC-ACP (Admission Control Plug-In) application.
<b>Release Notes</b>	

**Table 1: Juniper Networks C-series and SRC Technical Publications** (continued)

Document	Description
<i>SRC-PE Release Notes</i>	In the <i>Release Notes</i> , you will find the latest information about features, changes, known problems, resolved problems, supported platforms and network devices (such as Juniper Networks routers and CMTS devices), and third-party software. If the information in the <i>Release Notes</i> differs from the information found in the documentation set, follow the <i>Release Notes</i> .
<i>SRC Application Library Release Notes</i>	
	Release notes are included in the corresponding software distribution and are available on the Web.

## Requesting Support

For technical support, open a support case with the Case Manager link at <http://www.juniper.net/support/> or call 1-888-314-JTAC (from the United States, Canada, or Mexico) or 1-408-745-9500 (from elsewhere).

## Revision History

21 May 2007—Revision 1.

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