

J6300 Services Router Power Components Installation Instructions

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This document describes how to remove and replace a redundant power supply and power supply cord or cable on a Juniper Networks J6300 Services Router. For hardware installation and basic troubleshooting procedures for J-series Services Routers, see the *J-series Services Router Getting Started Guide*.

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Tools and Parts Required

To replace a component, you need the following tools and parts:

- Electrostatic bag or antistatic mat
- Electrostatic discharge (ESD) grounding wrist strap
- Nut driver
- Phillips (+) screwdriver, number 2

Replacing Power System Components

The J6300 Services Router has one or two load-sharing AC or DC power supplies (see Figure 1 or Figure 2), located at the right rear of the chassis. Each power supply provides power to all components in the router. The power supplies are fully redundant. If one power supply fails or is removed, the remaining power supply instantly assumes the entire electrical load. One power supply can provide full power for as long as the router is operational.

Each J6300 power supply is hot-insertable and hot-removable.



CAUTION: Do not leave a power supply slot empty for more than a short time while the Services Router is operational. The power supply or a blank power supply panel must remain in the chassis for proper airflow.

To replace a power supply in a J6300 router, use the following procedures:

- Removing an AC Power Supply from a J6300 Router on page 3
- Removing a DC Power Supply from a J6300 Router on page 4
- Installing an AC Power Supply in a J6300 Router on page 6
- Installing a DC Power Supply in a J6300 Router on page 7
- Replacing an AC Power Supply Cord in a J6300 Router on page 10
- Replacing a DC Power Supply Cable in a J6300 Router on page 11

Figure 1: Rear of AC-Powered J6300 Chassis

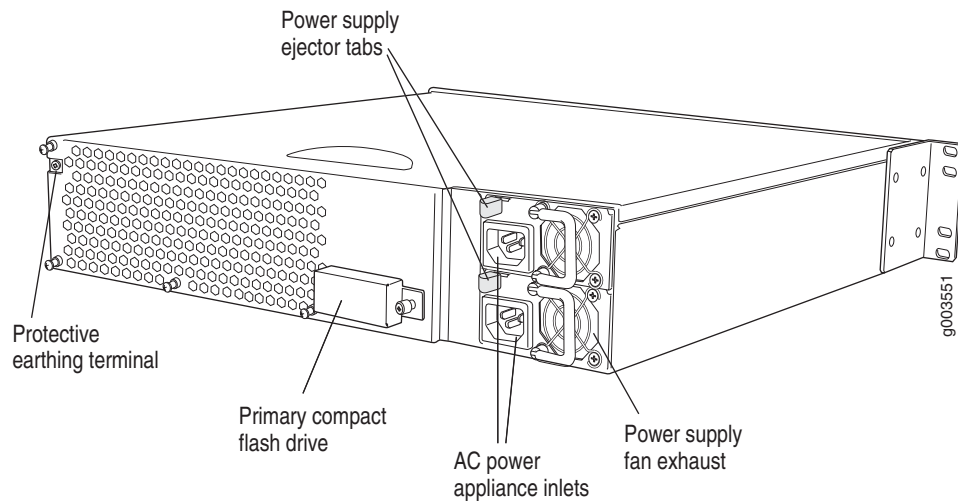
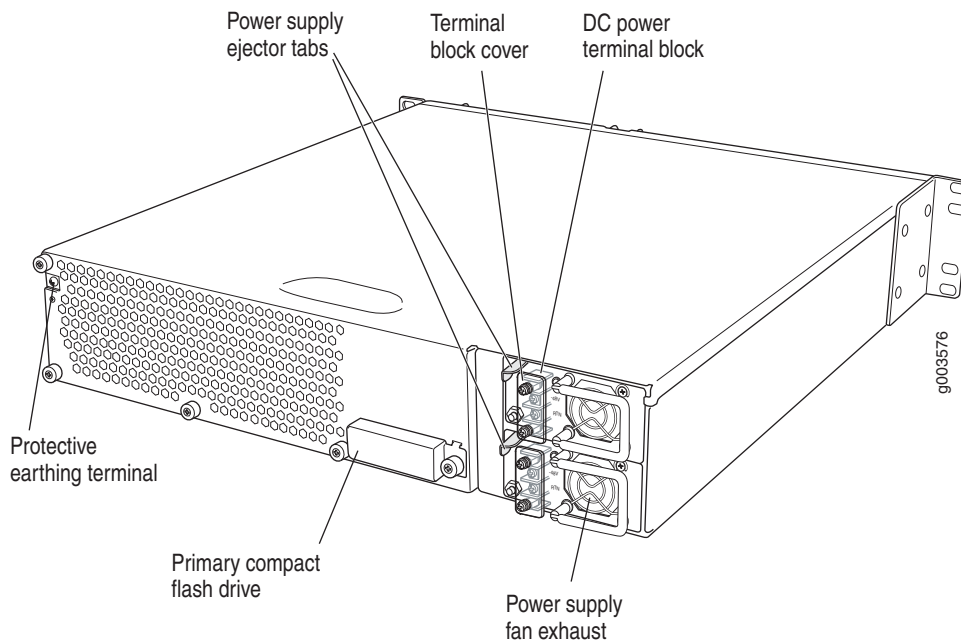


Figure 2: Rear of DC-Powered J6300 Chassis



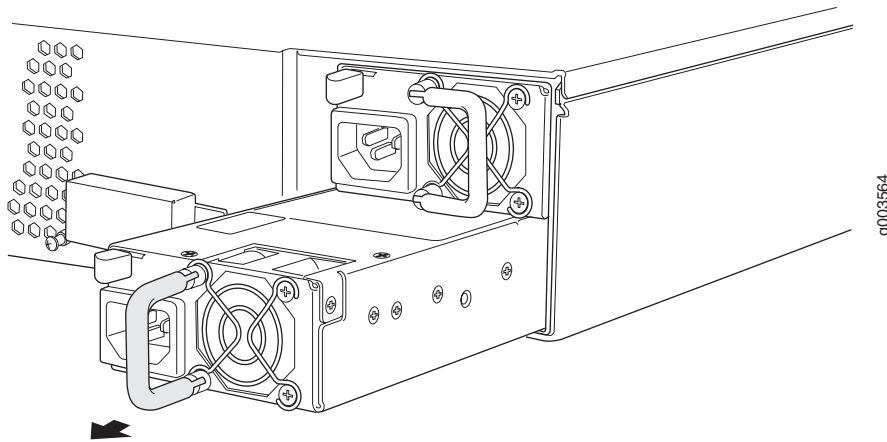
Removing an AC Power Supply from a J6300 Router

The power supplies are located at the right rear of the chassis. A power supply weighs 2.4 lb (1.1 kg).

To remove an AC power supply from a J6300 Services Router (see Figure 3):

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
2. Press and release the power button to power off the Services Router. Wait for the **POWER ON** LED to turn off.
3. Unplug the power cord from the power source receptacle.
4. Unplug the power cord from the appliance inlet on the power supply faceplate.
5. Slide the ejector tab on the power supply faceplate to the right and hold it in place to unlock the power supply.
6. Grasp the handle on the power supply faceplate, and pull firmly to start removing the power supply. Slide it halfway out of the chassis (see Figure 3).
7. Place one hand underneath the power supply to support it and slide it completely out of the chassis.
8. If you are not reinstalling a power supply into the emptied slot, install a blank power supply panel over the slot.

Figure 3: Removing an AC Power Supply



Removing a DC Power Supply from a J6300 Router

The power supplies are located at the right rear of the chassis. A power supply weighs 2.4 lb (1.1 kg).

To remove a DC power supply from a J6300 Services Router (see Figure 4):

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if

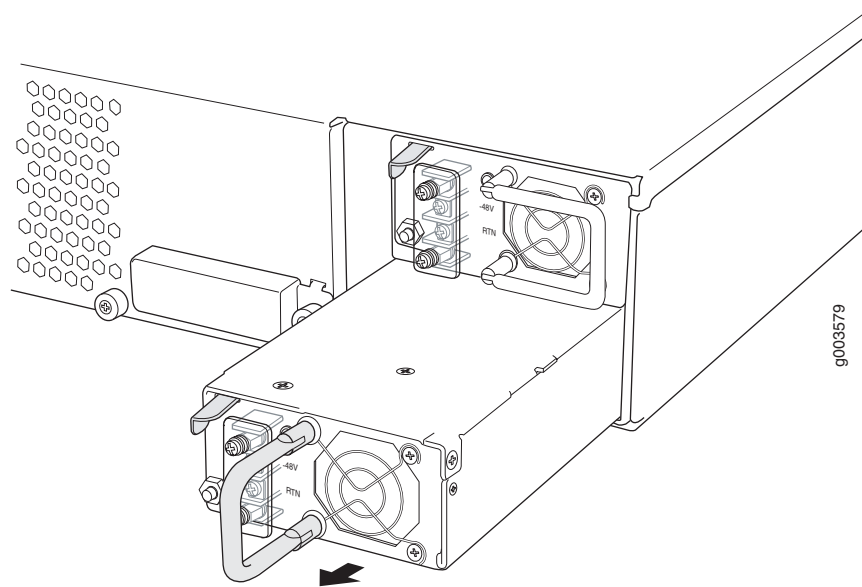
the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.

2. Press and release the power button to power off the Services Router. Wait for the **POWER ON** LED to turn off.
3. Ensure that the voltage across the DC power source cable leads is 0 V and that there is no chance that the cable leads might become active during installation.



CAUTION: There is no standard color coding for DC power cables. The color coding used by the external DC power source at your site determines the color coding for the leads on the power cables that attach to the terminal studs on each power supply. You must ensure that power connections maintain the proper polarity. The power source cables might be labeled (+) and (–) to indicate their polarity.

4. Remove the power cables from the DC power source.
5. Use a Phillips screwdriver to remove the clear plastic cover protecting the terminal block.
6. Within the terminal block, remove the screws that fasten the power cable lugs to the terminal block.
7. Carefully move the power cables out of the way.
8. Slide the ejector tab on the power supply faceplate to the right, and hold it in place to unlock the power supply.
9. Grasp the handle on the power supply faceplate, and pull firmly to start removing the power supply. Slide it halfway out of the chassis (see Figure 4).
10. Place one hand underneath the power supply to support it, and slide it completely out of the chassis.
11. If you are not reinstalling a power supply into the emptied slot, install a blank power supply panel over the slot.

Figure 4: Removing a DC Power Supply

Installing an AC Power Supply in a J6300 Router

To install an AC power supply in a J6300 Services Router (see Figure 5):

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
2. Using both hands, slide the power supply into the chassis until you feel resistance.
3. Firmly push the power supply into the chassis until it comes to a stop. Make sure that the power supply faceplate is flush with any adjacent power supply faceplate.
4. Insert the appliance coupler end of a power cord into the appliance inlet on the power supply faceplate.
5. Insert the power cord plug into an AC power source receptacle.

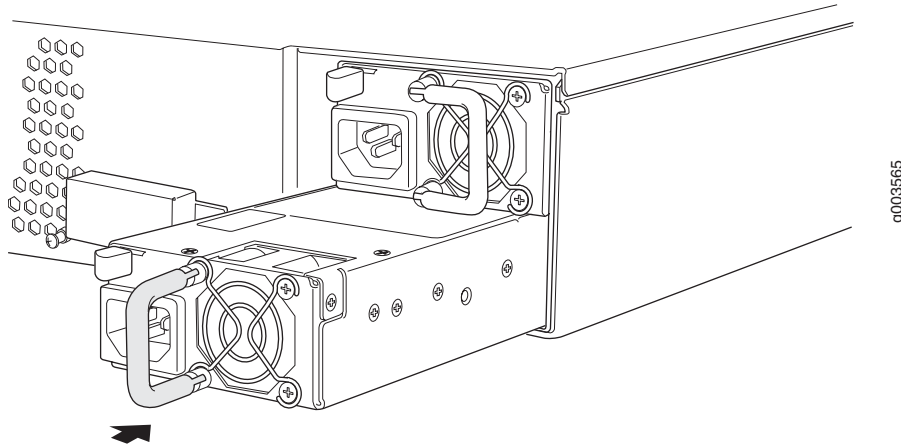


NOTE: Each power supply must be connected to a dedicated AC power feed. For information about connecting to AC power sources, see the *J-series Services Router Getting Started Guide*.

6. Verify that the power cord does not block access to router components or drape where people might trip on it.

7. Press and release the power button to power on the router. Verify that the POWER ON LED lights steadily after you press the power button.

Figure 5: Installing an AC Power Supply



Installing a DC Power Supply in a J6300 Router

Each power supply in a DC-powered router must be connected to earth ground. A ground terminal is provided on each DC power supply for this purpose.

To install a DC power supply in a J6300 Services Router (see Figure 6):

1. Ensure that the voltage across the DC power source cable leads is 0 V and that there is no chance that the cable leads might become active during installation.



CAUTION: There is no standard color coding for DC power cables. The color coding used by the external DC power source at your site determines the color coding for the leads on the power cables that attach to the terminal studs on each power supply. You must ensure that power connections maintain the proper polarity. The power source cables might be labeled (+) and (–) to indicate their polarity.

2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
3. Using both hands, slide the power supply into the chassis until you feel resistance.

4. Firmly push the power supply into the chassis until it comes to a stop. Make sure that the power supply faceplate is flush with any adjacent power supply faceplate.
5. Use a Phillips screwdriver to remove the clear plastic cover protecting the terminal block.
6. Within the terminal block, remove the two center screws next to the labels **-48 VDC** and **RTN**.

Each screw contains a captive washer used to secure a power cable lug to the terminal block.
7. Using one of the removed screws, secure the positive (+) DC source power cable lug to the **RTN** terminal.
8. Using the other removed screw, secure the negative (-) DC source power cable lug to the **-48 VDC** terminal.



NOTE: Each power supply must be connected to a dedicated DC power feed. For information about connecting to DC power sources, see the *J-series Services Router Getting Started Guide*.

9. Dress the power cables appropriately.
10. Replace the clear plastic cover over the terminal block.
11. Verify that the power cord does not block access to router components or drape where people might trip on it.
12. Press and release the power button to power on the router. Verify that the **POWER ON LED** lights steadily after you press the power button.

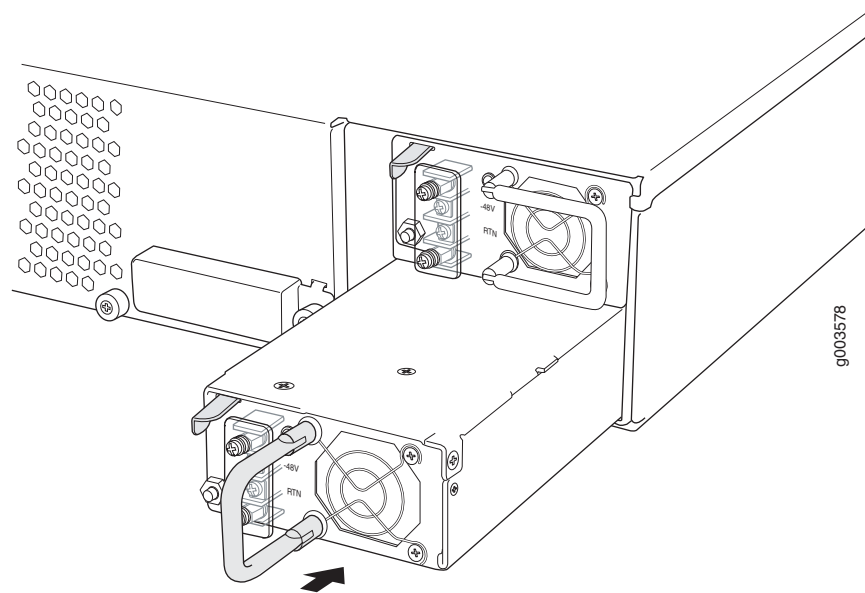
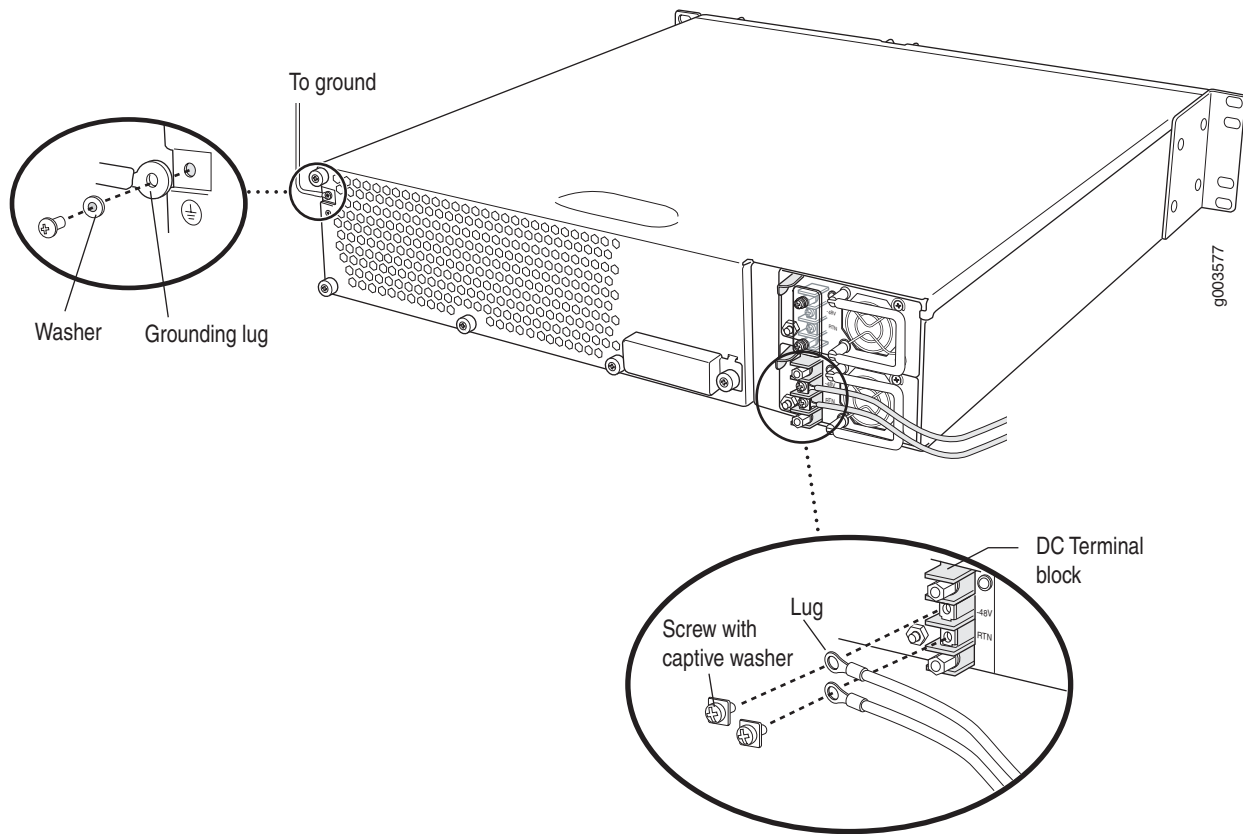
Figure 6: Installing a DC Power Supply

Figure 7: Connecting DC Power to the J6300 Services Router

Replacing an AC Power Supply Cord in a J6300 Router

To replace the AC power cord for a redundant power supply:

1. Locate a replacement power cord with the type of plug appropriate for your geographical location (see the *J-series Services Router Getting Started Guide*).
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
3. Press and release the power button to power off the router. Wait for the POWER ON LED to turn off.
4. Unplug the power cord from the power source receptacle.
5. Unplug the power cord from the appliance inlet on the power supply faceplate.
6. Insert the appliance coupler end of the replacement power cord into the appliance inlet on the power supply faceplate.

7. Insert the power cord plug into an AC power source receptacle.



NOTE: Each power supply must be connected to a dedicated AC power feed. For information about connecting to AC power sources, see the *J-series Services Router Getting Started Guide*.

8. Verify that the power cord does not block access to Services Router components or drape where people might trip on it.
9. Press and release the power button to power on the router. Verify that the POWER ON LED lights steadily after you press the power button.

Replacing a DC Power Supply Cable in a J6300 Router

To replace a power cable for a DC power supply:

1. Locate a replacement power cable and a lug that meet the specifications defined in the *J-series Services Router Getting Started Guide*.



CAUTION: A licensed electrician must attach a cable lug to the power cable that you supply. A cable with an incorrectly attached lug can damage the router (for example, by causing a short circuit).

2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
3. Press and release the power button to power off the Services Router. Wait for the POWER ON LED to turn off.
4. Ensure that the voltage across the DC power source cable leads is 0 V and that there is no chance that the cable leads might become active during installation.



CAUTION: There is no standard color coding for DC power cables. The color coding used by the external DC power source at your site determines the color coding for the leads on the power cables that attach to the terminal studs on each power supply. You must ensure that power connections maintain the proper polarity. The power source cables might be labeled (+) and (–) to indicate their polarity.

5. Remove the power cable from the DC power source.

6. Use a Phillips screwdriver to remove the clear plastic cover protecting the terminal block.
7. Within the terminal block, remove the screw that fastens the power cable lug to the terminal block.
8. Carefully move the power cable out of the way.
9. Using the removed screw, secure the replacement power cable to the appropriate terminal.

The screw contains a captive washer used to secure the power cable lug to the terminal block.



NOTE: Each power supply must be connected to a dedicated DC power feed. For information about connecting to DC power sources, see the *J-series Services Router Getting Started Guide*.

10. Dress the power cable appropriately.
11. Replace the clear plastic cover over the terminal block.
12. Verify that the power cable does not block access to router components or drape where people might trip on it.
13. Press and release the power button to power on the router. Verify that the POWER ON LED lights steadily after you press the power button.

Related Juniper Networks Documentation

Table 1 lists and describes the publications for J-series Services Routers, the JUNOS CLI, the JUNOScript application programming interface (API), and the JUNOScope network management software.

Table 1: Juniper Networks Technical Documentation

Title	Description
J-series Guides	
<i>J-series Services Router Getting Started Guide</i>	Provides an overview, basic instructions, and specifications for J-series Services Routers. The guide explains how to prepare your site for installation, unpack and install the router and its components, install licenses, and establish basic connectivity.

Title	Description
<i>J-series Services Router Configuration Guide</i>	Explains how to configure the interfaces on J-series Services Routers for basic IP routing with standard routing protocols. The guide also shows how to configure virtual private networks (VPNs), configure and manage multicast networks, and apply routing techniques such as policies, firewall filters, IP Security (IPSec) tunnels, and service classification for safer, more efficient routing.
<i>J-series Services Router Administration Guide</i>	Shows how to manage users and operations, monitor network performance, upgrade software, and diagnose common problems on J-series Services Routers.
JUNOS Configuration Guides	
<i>JUNOS Class of Service Configuration Guide</i>	Provides an overview of the class-of-service (CoS) functions of the JUNOS software and describes how to configure CoS features, including configuring multiple forwarding classes for transmitting packets, defining which packets are placed into each output queue, scheduling the transmission service level for each queue, and managing congestion through the random early detection (RED) algorithm.
<i>JUNOS Feature Guide</i>	Provides a detailed explanation and configuration examples for several of the most complex features in the JUNOS software.
<i>JUNOS System Basics Configuration Guide</i>	Provides an overview of the JUNOS software and describes how to install and upgrade the software. This manual also describes how to configure system management functions and how to configure the chassis, including user accounts, passwords, and redundancy.
<i>JUNOS Network Interfaces Configuration Guide</i>	Provides an overview of the network interface functions of the JUNOS Internet software and describes how to configure the network interfaces on the routing platform.
<i>JUNOS Multicast Protocols Configuration Guide</i>	Provides an overview of multicast concepts and describes how to configure multicast routing protocols.
<i>JUNOS Network Management Configuration Guide</i>	Provides an overview of network management concepts and describes how to configure various network management features, such as SNMP and accounting options.
<i>JUNOS Policy Framework Configuration Guide</i>	Provides an overview of policy concepts and describes how to configure routing policy, firewall filters, forwarding options, and cflowd.
<i>JUNOS Routing Protocols Configuration Guide</i>	Provides an overview of routing concepts and describes how to configure routing, routing instances, and unicast routing protocols.
<i>JUNOS Services Interfaces Configuration Guide</i>	Provides an overview of the services interfaces functions of the JUNOS software and describes how to configure the services interfaces on the router.
JUNOS References	
<i>JUNOS System Basics and Services Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot system basics, including commands for real-time monitoring and route (or path) tracing, system software management, and chassis management. This guide also describes commands for monitoring and troubleshooting services such as class of service (CoS), IP Security (IPSec), stateful firewalls, flow collection, and flow monitoring.
<i>JUNOS Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot interfaces.

Title	Description
<i>JUNOS Routing Protocols and Policies Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot routing policies and protocols, including firewall filters.
<i>JUNOS System Log Messages Reference</i>	Describes how to access and interpret system log messages generated by JUNOS software modules and provides a reference page for each message.
JUNOScript API and Scripting Documentation	
<i>JUNOScript API Guide</i>	Describes how to use the JUNOScript application programming interface (API) to monitor and configure Juniper Networks routers.
<i>JUNOScript API Configuration Reference</i>	Provides a reference page for the configuration tags in the JUNOScript API.
<i>JUNOScript API Operational Reference</i>	Provides a reference page for the operational tags in the JUNOScript API
<i>JUNOS Configuration Scripting Guide</i>	Provides an overview, instructions for using, and examples of the commit script feature of the JUNOS software. This guide explains how to enforce custom configuration rules defined in scripts that run at commit time. This guide also explains how to use commit script macros to provide simplified aliases for frequently used configuration statements.
JUNOS Comprehensive Index and Glossary	
<i>JUNOS Comprehensive Index and Glossary</i>	Provides a complete index of all JUNOS Internet software books and the <i>JUNOScript API Guide</i> . Also provides a comprehensive glossary.
JUNOScope Software Documentation	
<i>JUNOScope Software User Guide</i>	Describes the JUNOScope software graphical user interface (GUI), how to install and administer the software, and how to use the software to manage router configuration files and monitor router operations.
Release Notes	
<i>J-series Services Router Release Notes</i>	Summarize new features, identify hardware problems, provide information omitted from the manual, and contain upgrade and downgrade instructions.
<i>JUNOS Internet Software Release Notes</i>	Summarize new features for a particular software release, provide corrections and updates to published JUNOS and JUNOScript manuals, provide information that might have been omitted from the manuals, and describe upgrade and downgrade procedures.
<i>JUNOScope Software Release Notes</i>	Contain corrections and updates to the published JUNOScope manual, provide information that might have been omitted from the manual, and describe upgrade and downgrade procedures.

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).

For documentation issues, fill out the bug report form located at <http://www.juniper.net/techpubs/docbug/docbugreport.html>.

Revision History

- 14 September 2005—530-014227-01 Revision 1. Added DC power supply.
- 13 April 2005—530-013373-01 Revision 1. Updated book cross-references.
- 4 November 2004—530-011520-01 Revision 1.

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