Juniper Networks | Engineering Simplicity

SSR400 Routers Hardware Guide

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SSR400 Routers Hardware Guide
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About This Guide

Use this guide to install hardware and perform initial software configuration, routine maintenance, and troubleshooting for the SSR400 Routers.

After completing the installation and basic configuration procedures covered in this guide, refer to the Session Smart Router Software documentation for information about further software configuration.

1

CHAPTER

Fast Track: Initial Installation

IN THIS CHAPTER

- Fast Track to Rack Installation and Power | **2**
- Claim, Onboard, and Configure SSR400 Routers | **11**

Fast Track to Rack Installation and Power

SUMMARY

This procedure guides you through the simplest steps to install the SSR400 Series Routers on a desk or other level surface. The procedure also includes the steps to mount each router in a two-post rack and connect it to power. Have more complex installation needs? See "Install the SSR400 Routers" on page 38.

IN THIS SECTION

- Install the SSR400 Routers | 2
- Connect the SSR400 Routers to Power | 8



Install the SSR400 Routers

IN THIS SECTION

- Mount an SSR400 on an Desk or Other Level Surface | 3
- Mount an SSR400 on a Two-Post Rack | 3

Before you install, review the following:

- Site Guidelines and Requirements
- General Safety Guidelines and Warnings
- "Unpack the SSR400 Routers" on page 34

You can mount SSR400 Routers:

1. On a desk or other level surface using rubber feet.

2. On a two-post rack or cabinet using the separately orderable SSR400-RMK rack mount kit.

We'll walk you through the steps to mount the router on a desk or other level surface or to mount the router on a two-post rack.

Mount an SSR400 on an Desk or Other Level Surface

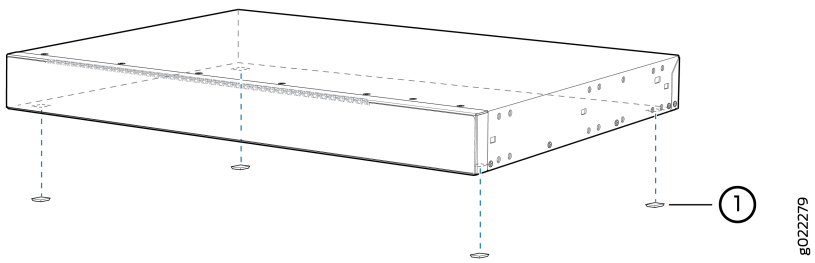
Ensure that you have the following parts and tools available:

- Four rubber feet to stabilize the chassis on a desk or other level surface (provided)
- One AC power adapter

To mount an SSR400 on a desk or other level surface:

> **NOTE**: Place the desk in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure.

1. Remove the router from the shipping carton—see "Unpack the SSR400 Routers" on page 34.
2. Turn the chassis upside down on the desk or the level surface where you intend to mount the router.
3. Attach the rubber feet to the bottom of the chassis.



4. Turn the chassis right side up and place it on the desk or the level surface.
5. Ensure the router rests firmly on the desk or level surface.

After you finish mounting the router on a desk or level surface, see "Connect the SSR400 Routers to Power" on page 50.

Mount an SSR400 on a Two-Post Rack

Ensure that you have the following parts and tools available:

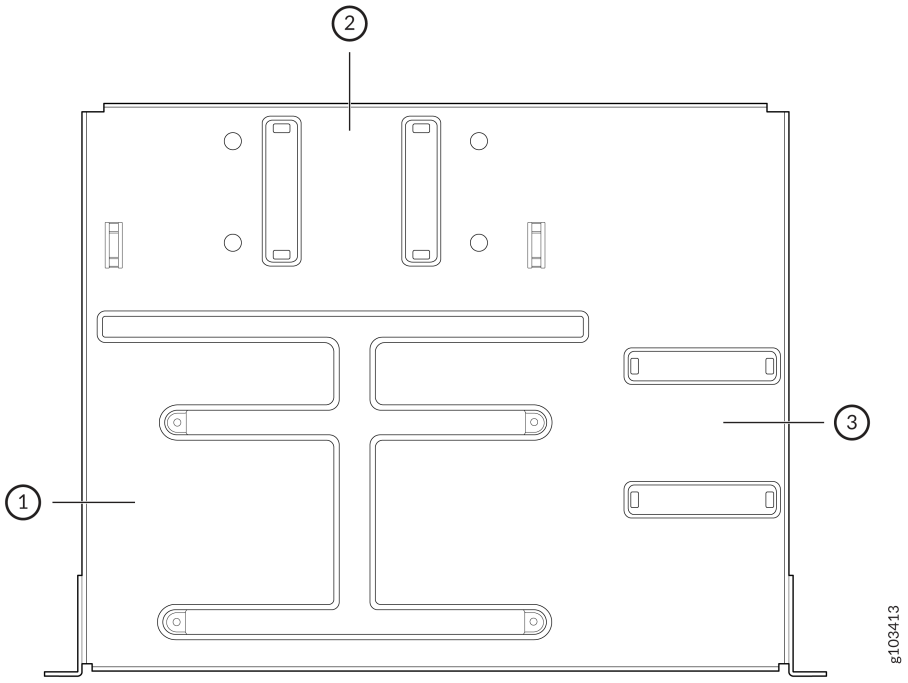
- SSR400-RMK rack mount kit—separately orderable
  - Power adapter tray
  - Four cable ties
  - Four M4 screws
- One AC power adapter
- Phillips (+) screwdriver, number 2

NOTE: If you are mounting multiple units on a rack, mount the units from the bottom to the top of the rack in decreasing order of weights. Therefore, you mount the heaviest unit right at the bottom and the lightest unit right at the top of the rack.

To mount an SSR400 on a two-post rack:

1. Remove the router, power adapter tray, and the AC power adapter from the shipping carton.

   The power adapter tray will host the SSR400 Router and one or two AC power adapters.



Callout	Component
1	SSR400 Chassis
2	Power adapter 1
3	Power adapter 2

2. To install the power adapter on the tray:

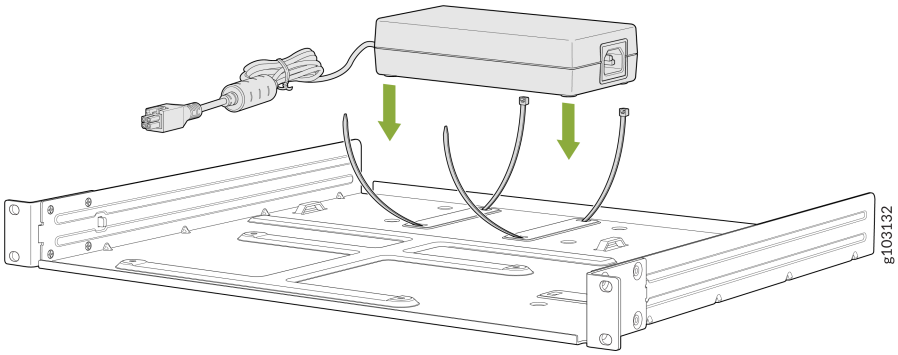
   a. Take a cable tie and insert the tailend of the cable tie through the two holes on the tray.

   b. Repeat "2.a" on page 5 with the second cable tie.

   c. Place the power adapter on the tray in between both the cable ties.

   d. Insert the tailend of the cable tie through the square locking piece and pull the tie through the main head to set the length of excess material.

   e. Repeat "2.d" on page 5 with the second cable tie.

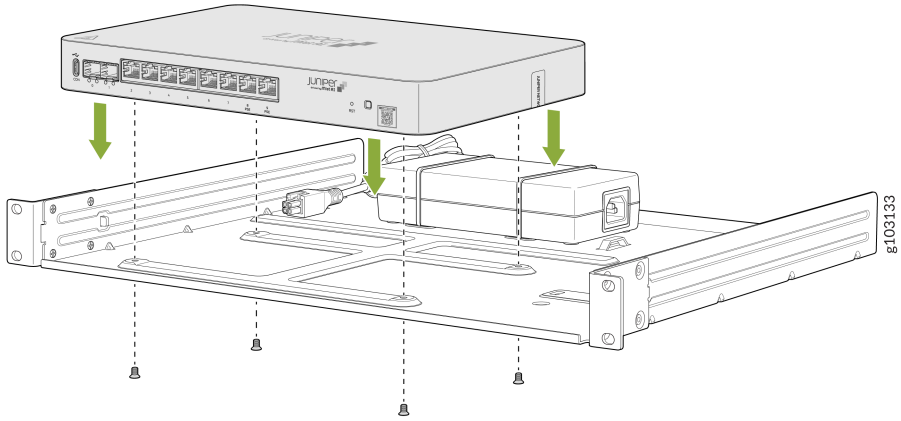


3. To install the SSR400 chassis on the tray:

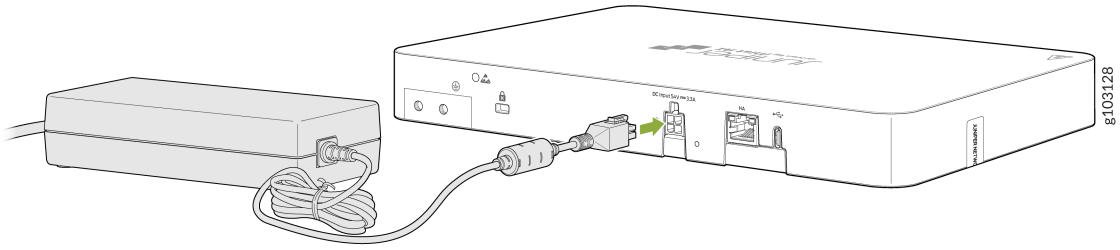
   a. Have one person grasp the sides of the tray and hold it.

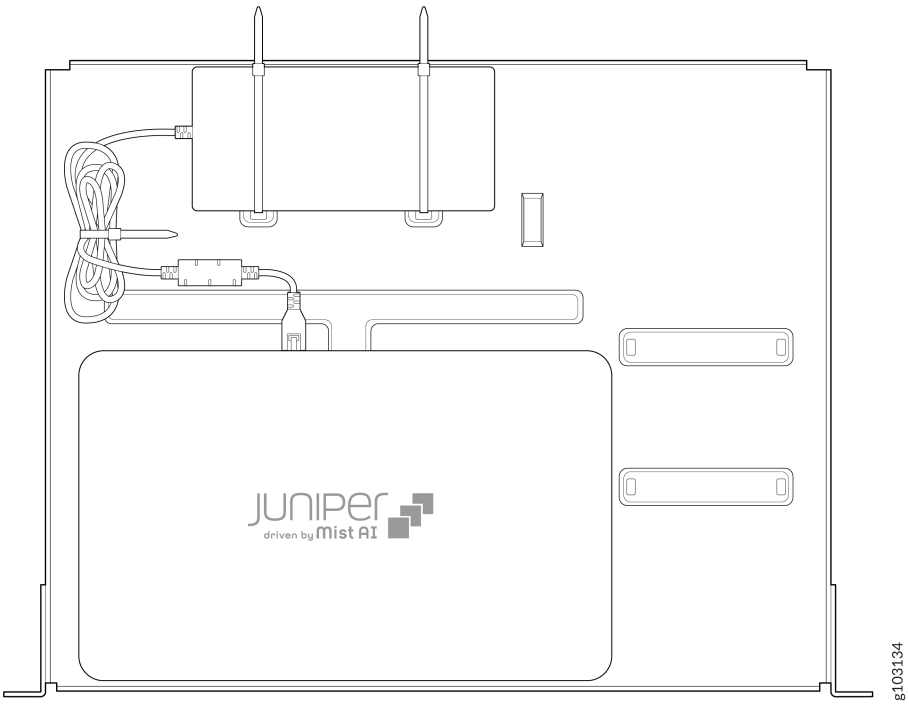
   b. Have a second person position the chassis on the tray and align the bottom holes of the chassis with the four holes on the tray.

   c. Install the four M4 screws into each of these four holes on the tray. Use the Phillips (+) screwdriver, number 2 to tighten the four screws and secure the chassis to the tray.

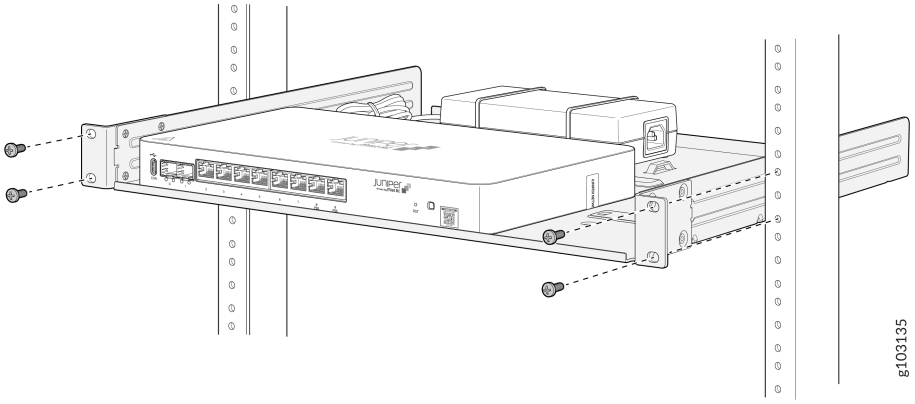


4. Plug the DC connector end of the power cable into the power connector on the back of the router.





5. Have one person grasp the sides of the tray, lift it, and position it in the rack.
6. Align the holes on the tray with the holes on the rack rails, making sure the router is level.
7. Have a second person secure the router to the rack by using four mounting screws (not provided). Use the Phillips (+) screwdriver, number 2 to tighten the four screws and secure the power adapter tray to the rack. Tighten the screws with a torque of 18 Nm.



8. Ensure that the router is level by verifying that all the screws on one side of the rack are aligned with the screws on the other side.

Connect the SSR400 Routers to Power

SUMMARY

Connecting an SSR400 to power involves the following steps and safety precautions to prevent equipment damage and personal injury.

IN THIS SECTION

- Ground the SSR400 Routers | **8**
- Connect the Power Cord and Power on the SSR400 | **9**
- Power Off the SSR400 | **10**

Ground the SSR400 Routers

Before connecting an SSR400 to an earth ground, ensure that you have the following parts and tools:

- An electrostatic discharge (ESD) grounding strap
- Grounding cable for your router (not provided)—The grounding cable must be 6 AWG (13.3 mm^2) stranded wire and rated 90 °C or according to local electrical code.
- Grounding lug for your grounding cable (not provided)—This lug attaches to the chassis grounding point. The grounding lug required is a Panduit LCD6-14A-L or equivalent.
- Two M5 X 9.5 screws (not provided)
- A Phillips (+) screwdriver, number 2 to tighten the screws.

You must install heat-shrink tubing insulation around the crimped section of the power cables and lugs.

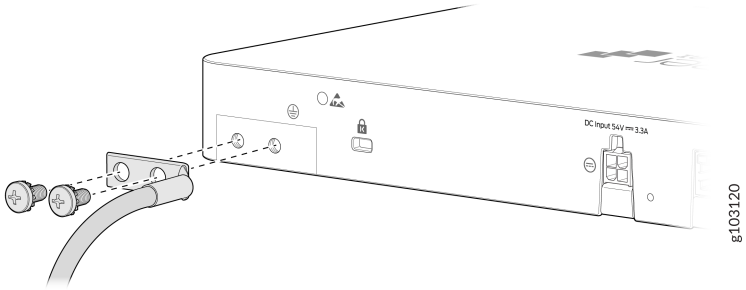
NOTE: To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must connect the SSR400 to an earth ground before you connect the router to power.

Before you connect an earth ground to the protective earthing terminal of the router, ensure that a licensed electrician attaches an appropriate grounding terminal to the grounding cable you supply. Using a grounding cable with an incorrectly attached terminal can damage the router.

NOTE: The router should be permanently connected to ground during operation.

To ground the SSR400 :

1. Wrap and fasten one end of the electrostatic discharge (ESD) cable grounding strap around your bare wrist, and connect the other end to a site ESD point.
2. Ensure that all grounding surfaces are clean and brought to a bright finish before making the grounding connections.
3. Connect the 6 AWG (13.3 mm^2) grounding cable to a proper earth ground, such as the rack in which you mount the router.
4. Place the grounding cable terminal over the grounding point (sized for M5 X 9.5 grounding screws) on the rear of the chassis.



5. Secure the grounding cable terminal to the grounding point with the two M5 X 9.5 screws. Apply between 2.5 Nm and 2.8 Nm of torque to the screw.
6. Dress the grounding cable. Ensure that the cable doesn't block access to or come in contact with other device components, and that it doesn't drape where people could trip over it.

Connect the Power Cord and Power on the SSR400

Ensure that you have a power cord appropriate for your geographical location.

For information about the supported AC power cord specifications for your router, see "SSR400 Routers Power System" on page 30.

To connect the power cord:

1. Wrap and fasten one end of the electrostatic discharge (ESD) grounding strap around your bare wrist, and connect the other end to a site ESD point.
2. Locate the AC power cord or cords shipped with the router; the cords have plugs appropriate for your geographical location.
3. Insert the AC power cord coupler firmly into the power cord inlet on the AC power adapter.
4. If the AC power source outlet has a power switch, turn it off.
5. Plug the AC power cord into an AC power source outlet.
6. If the AC power source outlet has a power switch, turn it on. The SSR400 models do not have a power switch and each appliance powers on as soon as you plug it in.

Power Off the SSR400

You can power off the SSR400 in one of the following ways:

- Graceful shutdown—You can perform a graceful shutdown in either of the following ways:
  - Log in to the SSR CLI and issue the `shell halt` command.
  - Log in to the serial console and run `sudo halt`.

```
[t128@HH1124AY0004 ~]$ sudo halt

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

    #1) Respect the privacy of others.
    #2) Think before you type.
    #3) With great power comes great responsibility.

[sudo] password for t128:
[t128@HH1124AY0004 ~]$

[  336.511466] reboot: System halted
```

  In each situation, after the system has stopped, you must manually disconnect the router from the power source.

  CAUTION: Use the graceful shutdown method to power off the router.

- Forced shutdown—Unplug the power cord or switch off the power source.

  CAUTION: Forced shutdown can result in data loss and corruption of the file system. Use the forced shutdown method as a last resort to recover the router if the router operating system is not responding to the graceful shutdown method.

After powering off the router, wait at least 10 seconds before turning it back on. After powering on the router, wait at least 10 seconds before turning it off.

Claim, Onboard, and Configure SSR400 Routers

SUMMARY

Read this topic to learn how to onboard and configure the SSR400 Routers.

The SSR400 Routers are cloud-ready devices. You can get these routers up and running either from the Mist AI cloud portal if you have a Mist Wired Assurance license or from the SSR User Interface.

Mist

Table 1: Claim, Onboard, and Configure the SSR400 using Mist

If you want to	Then
Claim and onboard using Mist	See Cloud-Ready SSR Devices.
Configure Juniper Wired Assurance	See Mist WAN Assurance Configuration Guide.
See all available documentation for Juniper Wired Assurance	See WAN Assurance Documentation.

SSR Web Interface

You can initialize your router as a Conductor-managed router using the Session Smart Router Web Interface. The Conductor-managed router can be managed and configured using the SSR Web Interface or the CLI.

Table 2: Initialize and Configure SSR400 Routers Using the Session Smart Router CLI

If you want to	Then
Boot an SSR400 for the first time or reinstall SSR software from a USB	See "Boot and Initialize the SSR400 Routers" on page 53.
Initialize an SSR400 Router using SSR Web interface	See Initialize Your Device - Web Workflow.

Table 2: Initialize and Configure SSR400 Routers Using the Session Smart Router CLI *(Continued)*

If you want to	Then
Initialize an SSR400 Router using CLI	See Initialize Your Device - Advanced Workflows.
Customize basic configuration	See Configuration Management on the SSR.
Configure Session Smart Router features on the SSR400 Routers	See the following user guides: • SSR Concepts Guide • Best Practices • Command Line Reference • SSR Architecture Concepts and Components • SSR Software Overview
Stay up-to-date about new and changed features, and known and resolved issues	See the SSR Releases page.

2

CHAPTER

Overview

IN THIS CHAPTER

- SSR400 Routers Overview | **14**
- SSR400 Routers Software Features | **15**

SSR400 Routers Overview

SUMMARY

Learn about the hardware features of the SSR400 Routers.

IN THIS SECTION

- Meet the SSR400 Routers | 14

Meet the SSR400 Routers

The SSR400 Routers are designed to cater to your current network needs and are scalable to meet future demands.

SSR400 Routers are the Juniper AI-Driven SD-WAN edge products that run the Session Smart Router (SSR) software. These routers are suitable for small retail and small branch deployments.

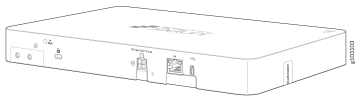
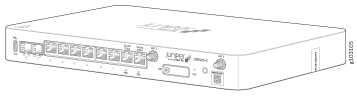
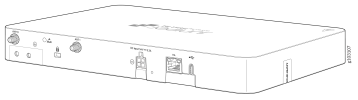
SSR400		
SSR400—C		

Table 3: SSR400 Routers Description

Form factor	1 U
Chassis type	Fixed configuration
Operating system	Session Smart Router
Power system	AC (AC to DC, 180 W power supply adapter)
Cooling system	Fanless

Port configuration	• Eight 10/100/1000 Gigabit Ethernet (GbE) BASE-T RJ-45 ports Ports **8** and **9** support PoE PSE (30W/port) • Two 1GbE ports that support SFP • One high availabilty (HA) port • Console port - One USB 2.0 Type C • One USB 2.0 Type C port that accepts a USB storage device.
Memory	8 GB DDR4
Throughput	100 Mbps
Cellular	SSR400-C Routers support WCDMA/LTE/5G cellular network technologies
Managed using	• Juniper® Mist • Session Smart Router CLI

SSR400 Routers Software Features

SUMMARY

This topic describes some of the key software features available on the SSR400 routers.

IN THIS SECTION

Some of the key software features supported on the SSR400 routers:

Features and Concepts	Documentation
Session Smart Networking Platform	Session Smart Networking Platform
Concepts of the SSR software	Concepts Overview
Software and hardware security	Software and Hardware Security
SD-WAN design	SD-WAN Design Guide
Chassis manager	"SSR Chassis Manager" on page 23
Secure Boot	"Boot and Initialize the SSR400 Routers" on page 53

3

CHAPTER

Chassis

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SSR400 Chassis

SUMMARY

Learn about the components in the SSR400 chassis.

IN THIS SECTION

- SSR400 Specifications | **18**
- SSR400 Models | **20**

Each SSR400 model chassis is a rigid sheet-metal structure that houses all device components.

SSR400 Specifications

Table 4: Physical Specifications

Specification	SSR400 Models (SSR400 and SSR400-C)
Height	1.3 in. (3.3 cm)
Width	11.81 in. (29.9 cm)
Depth	7.52 in. (19.1 cm)
Weight	• SSR400—3.52 lb (1.6 kg) • SSR400-C—4 lb (1.8 kg)

Table 5: Environmental Specifications

Specification	Value
Operating altitude	6561.68 ft (2000 m)

Table 5: Environmental Specifications *(Continued)*

Specification	Value
Operating temperature	• SSR400-C—32 °F to 104 °F (0 °C to 40 °C) • SSR400—32 °F to 122 °F (0 °C to 50 °C)
Storage temperature	-40 °F to 158 °F (-40 °C to 70 °C)
Relative humidity (operating) (noncondensing)	10% to 90%
Relative humidity (nonoperating) (noncondensing)	5% to 95%
Seismic tolerance	Zone 4

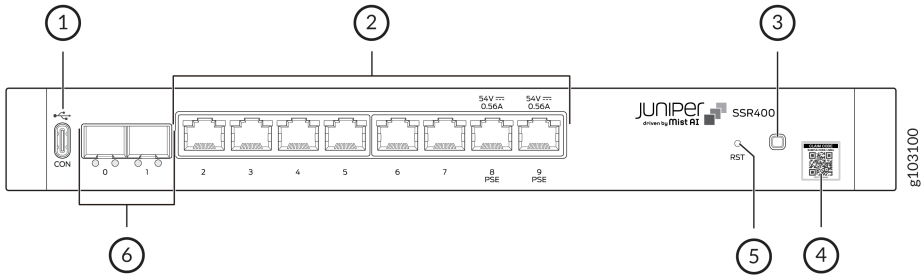
Security Status Information: Default Open Ports/Services on the SSR400 routers

In the factory default state, the following services are enabled on the corresponding network interfaces of the SSR400 routers:

- Ports 0—2: WAN interfaces. You use these interfaces to run a DHCP client for IP address allocation. No other services are bound to these interfaces.
- Ports 3—9: Bootstrap interfaces. These ports run `Port 22 SSH` and `Port 443 HTTPS` using the static IP address `192.168.128.1`.
- HA port: Located on the rear of the chassis and not defined as a public interface. This port defaults to `no IP address`.

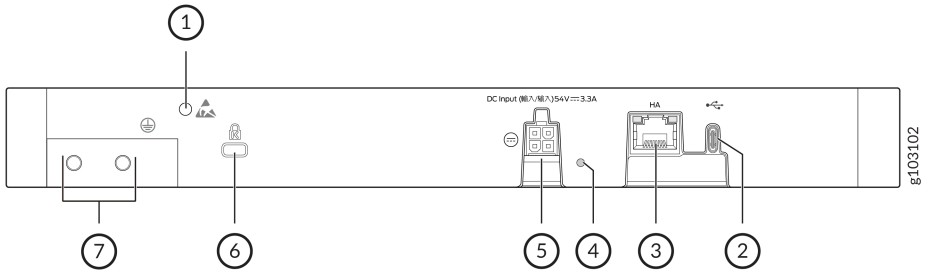
SSR400 Models

Figure 1: SSR400 Front Panel



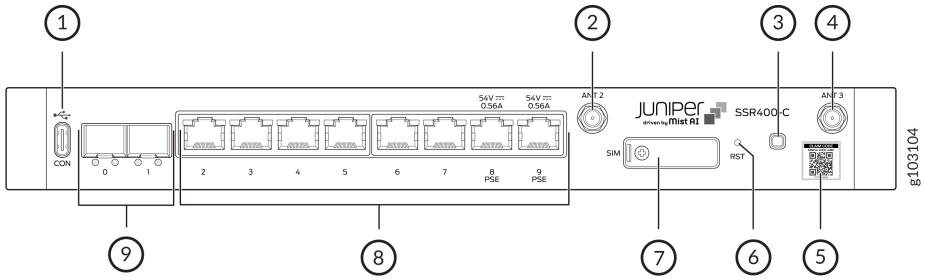
Callout	Item
1	Console port—USB Type C
2	Eight 10/100/1000GbE Base-T RJ-45 network ports Ports **8** and **9** support PoE PSE (30 W each)
3	Multicolor system LED
4	QR code label
5	RESET button
6	Two 1GbE SFP ports

Figure 2: SSR400 Rear Panel



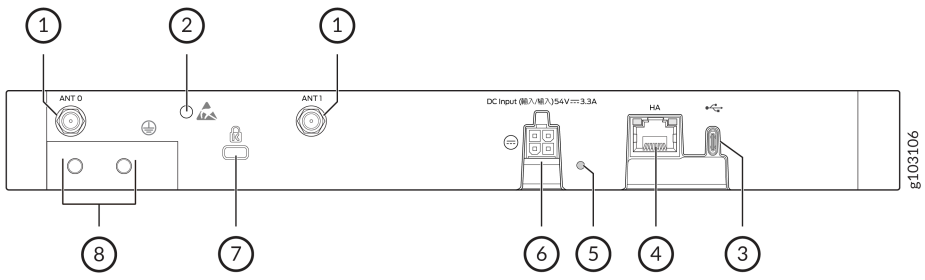
Callout	Item
1	ESD point
2	USB 2.0 Type C port that accepts a USB storage device.
3	1GbE RJ-45 HA port
4	Power supply adapter (PSA) LED
5	PSA point
6	Security slot to lock and secure the chassis
7	Ground terminal

Figure 3: SSR400-C Front Panel



Callout	Item
1	Console port—USB Type C
2	SubMiniature version A (SMA) antenna connector
3	Multicolor system LED
4	SubMiniature version A (SMA) antenna connector
5	QR code label
6	RESET button
7	SIM slot
8	Eight 10/100/1000GbE Base-T RJ-45 network ports Ports **8** and **9** support PoE PSE (30 W each)
9	Two 1GbE SFP ports

Figure 4: SSR400-C Rear Panel



Callout	Item
1	SubMiniature version A (SMA) antenna connectors
2	ESD point
3	USB 2.0 Type C port that accepts a USB storage device.
4	1GbE RJ-45 HA port
5	Power supply adapter (PSA) LED
6	PSA point
7	Security slot to lock and secure the chassis
8	Ground terminal

SSR Chassis Manager

IN THIS SECTION

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- CLI Commands | 26
- Power Supply Adapter LEDs | 27
- HA Port Status LEDs | 28

The SSR400 routers support an integrated Chassis Manager to help monitor connectivity, power, and temperature, as well as provide insight into other vital operational data.

Chassis Manager

You can interact with the Chassis Manager through CLI commands and button presses on the front of the SSR400 chassis. The Chassis Manager components include the LED Manager and the Temperature Manager.

LED Manager

The LED Manager translates status updates from internal SSR components and provides a high-level indication of system status through the system LED.

The System LED displays the following colors to report system state:

- Steady green: Device is operating normally.
- Amber: Device is starting up.
- Purple: Device has degraded operation.
- Red: An error has been detected in the device.
- Off: Device has shut down.

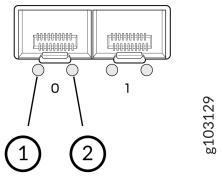


NOTE: The presence of any major or critical alarms causes degraded service, resulting in the system LED glowing purple. To view information about system alarms or events that may be impacting device operation (as reflected by the System LED), access the SSR CLI and use the `show alarms` command. See "CLI Commands" on page 26 for more information.

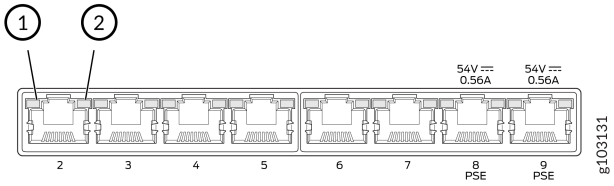
Port Status LEDs

Port LEDs indicate port status through the following behavior. The following illustration identifies the port status LEDs for SFP and RJ-45 ports.

SFP Network Port Status LED Orientation



RJ-45 Network Port Status LED Orientation



Left LED (1) - Port Link Activity

The left LED on each port indicates port activity with the following behavior:

- Blinking green: The port and the link are active, and there is link activity.
- Glowing steadily: The port and the link are active, but there is no link activity.
- Unlit: The port is inactive.

Right LED (2) - Port Speed

The right LED on each port indicates port speed with the following behavior:

- Unlit: Below 100 Mbps
- Blinking green: 100 Mbps (1 blink per second)
- Glowing steadily: 1000 Mbps

Temperature Manager

Three temperature thresholds are specified for each sensor:

- **Yellow**: A major alarm is generated, warning of high temperatures, but no action is taken.

- **Red**: A critical alarm is generated, warning of an impending shutdown due to `critical temperature reached` reached state. The CPU is slowed and monitored to reduce heat generation.
- **Shutdown**: When the critical temperature threshold is reached, the system generates a fatal error and immediately shuts down the SSR to prevent any damage to the device.

Use `show chassis temperature-thresholds` to see the thresholds for each alarm level.

```
admin@node.router# show chassis temperature-thresholds
Thu 2025-07-17 23:56:07 UTC
Retrieving chassis status...

========== ============== ========== ==========
 Sensor      Yellow Alarm   Red Alarm   Shutdown
========== ============== ========== ==========
 cpu         97.0 C         99.0 C      101.0 C
 mac         104.0 C        107.0 C     110.0 C
 mainboard   86.0 C         89.0 C      92.0 C

Completed in 0.01 seconds
```

CLI Commands

Use the `show` commands to see the chassis status from the CLI.

CLI Command	Function
`show chassis led`	Shows the current LED states on the chassis. The output includes the LED color, pattern, and description.
`show chassis led system`	Shows the status of the system LED.
`show chassis led port <number>`	Shows the status of a specific port number.
`show chassis environment`	Shows the current temperatures, fan speeds, and temperature thresholds.
`show chassis environment fans`	Shows the current fan speeds, along with their settings.

(Continued)

CLI Command	Function
`show chassis environment temperature`	Shows all current ambient and CPU temperatures using lm_sensors and sysfs, respectively.
`show chassis environment temperature sensor <id>`	Shows current temperatures for the specified sensor.
`show chassis environment temperature-threshold`	Lists the thresholds to trigger the yellow alarm, red alarm, and fire shutdown.
`show chassis environment temperature-threshold sensor <id>`	Lists the thresholds to trigger the yellow alarm, red alarm, and fire shutdown for the specified sensor.
`show chassis power`	Shows current PSU voltages and amperage levels.
`show chassis power component <id>`	Shows current PSU voltages and amperage levels for the specified PSU id.
`show chassis hardware`	Reports the hardware SKU, CLEI, revision (rev), and serial numbers from `/sys/kernel/leopard_idprom`.
`show chassis firmware`	Shows CPLD and boot firmware versions from `/sys/kernel/leopard_cpld/version` and `/sys/devices/virtual/dmi/id/bios_version`, respectively.

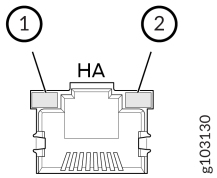
Power Supply Adapter LEDs

The power supply adapter LEDs are not managed by the Chassis Manager, but the LEDs located on the adapters are used to indicate status.

- Steady green: Receiving power
- Off: Power failure or no power

HA Port Status LEDs

The high availability (HA) port status LEDs located on the HA port on the rear of the device are not managed by the Chassis Manager. However, the LEDs are used to indicate the link activity and port speed.



Left LED (1) - Port Link Activity

The left LED on each port indicates port link activity with the following behavior:

- Blinking green: The port and the link are active, and there is link activity.
- Steadily on: The port and the link are active, but there is no link activity.
- Off: The port is inactive.

Right LED (2) - Port Speed

The right LED on each port indicates port speed with the following behavior:

- Blinking green: 1000 Mbps (1 blink per second)
- Steadily on: 100 Mbps
- Unlit: 10 Mbps

4

CHAPTER

Power System

IN THIS CHAPTER

- SSR400 Routers Power System | **30**

SSR400 Routers Power System

SUMMARY

The power system for the SSR400 routers includes an AC power supply adapter (PSA) and related power cords and cables. The AC power adapter operates within certain ranges and the chassis is equipped with a status indicator LED.

IN THIS SECTION

- Supported AC Power Cords | 31

The SSR400 routers receive power from an external source. You must use an AC to DC, 180-W power supply adapter (PSA) provided by Juniper Networks to provide power to the appliances. The adapter provides an output of 54 volts direct current (VDC) at 3.3 amperes (A).

Table 6: Electrical Specifications of Power Supply Adapter

Specification	Value
Maximum power output	180 W
Input voltage	100–240 VAC
Input current rating	2.6 A at 100 VAC
Input line frequency	50-60 Hz

Table 7: System Power Consumption

SSR Model	Maximum System Power Consumption	Typical System Power Consumption
SSR400	107 W	85 W

Supported AC Power Cords

A detachable AC power cord is supplied with the device. The coupler is type C13 as described by International Electrotechnical Commission (IEC) standard 60320. The plug end of the power cord fits into the power source outlet that is standard for your geographical location.

Table 8: Supported AC Power Cords

Locale	Cord Set Rating	Plug Standard
Argentina	250 VAC, 10 A, 50 Hz	IRAM 2073 Type RA/3
Australia	250 VAC, 10 A, 50 Hz	AS/NZZS 3112 Type SAA/3
Brazil	250 VAC, 10 A, 50 Hz	NBR 14136 Type BR/3
China	250 VAC, 10 A, 50 Hz	GB 1002-1996 Type PRC/3
Continental Europe	250 VAC, 10 A, 50 Hz or 60 Hz	EN 60320/Type C13
India	250 VAC, 10 A, 50 Hz	IS 1293 Type IND/3
Israel	250 VAC, 10 A, 50 Hz	SI 32/1971 Type IL/3G
Italy	250 VAC, 10 A, 50 Hz	CEI 23-16 Type I/3G
Japan	125 VAC, 12 A, 50 Hz or 60 Hz	JIS C8303
Korea	250 VAC, 10 A, 50 Hz or 60 Hz	KSC8305
South Africa	250 VAC, 10 A, 50 Hz	SABS 164/1:1992 Type ZA/13
Switzerland	250 VAC, 10 A, 50 Hz	SEV 6534-2 Type 12G
Taiwan	125 VAC, 13 A, 60 Hz	NEMA 5-15 Type N5-15

Table 8: Supported AC Power Cords *(Continued)*

Locale	Cord Set Rating	Plug Standard
International (except India)	250 VAC, 10 A, 50 Hz	EN 60320/Type C13
United Kingdom	250 VAC, 10 A, 50 Hz	BS 1363/A Type BS89/13
USA	125 VAC, 13 A, 60 Hz	NEMA 5-15 Type N5-15

5

CHAPTER

Installation and Setup

IN THIS CHAPTER

- SSR400 Routers Installation Overview | **34**
- Unpack the SSR400 Routers | **34**
- Register Products—Mandatory to Validate SLAs | **37**
- Install the SSR400 Routers | **38**
- Connect the SSR400 Routers to External Devices | **48**
- Connect the SSR400 Routers to Power | **50**
- Boot and Initialize the SSR400 Routers | **53**
- Connect the SSR400 Routers to the Network | **60**

SSR400 Routers Installation Overview

SUMMARY

This topic lists the steps that you need to follow to get your SSR400 Routers router up and running.



To install and configure the SSR400 routers:

1. Unpack your device as described in "Unpack the SSR400 Routers" on page 34.
2. Install the device as described in "Install the SSR400 Routers" on page 38.
3. Connect cables to network device as described in "Connect the SSR400 Routers to the Network" on page 60.
4. Connect cables to external devices as described in "Connect the SSR400 Routers to External Devices" on page 48.
5. Connect the grounding cable and power supply as described in "Connect the SSR400 Routers to Power" on page 50. Power on the router.
6. Perform initial configuration by following the instructions in "Boot and Initialize the SSR400 Routers" on page 53.

Unpack the SSR400 Routers

SUMMARY

Unpack the SSR400 Router by following the recommended procedure and check that you have received all the components.

IN THIS SECTION

- Unpack the SSR400 Routers | 35
- Packing List for the SSR400 Routers | 35

Unpack the SSR400 Routers

We ship the SSR400 Routers in a cardboard carton, secured with foam packing material.

> ⚠ **CAUTION**: SSR400 routers have maximum protection inside the shipping carton. Do not unpack the device until you are ready to mount it.

To unpack the device and prepare for installation, you need the following tools:

- A Phillips (+) screwdriver, number 2
- A box cutter or packing knife to slice open the tape that seals the boxes

To unpack the device:

1. Move the shipping carton to a staging area as close to the installation site as possible. Also ensure that this area provides you with enough room to remove the device and its components.
2. Position the carton so that the arrows marked on the carton are pointing up.
3. Open the top flaps on the shipping carton.
4. Pull out the packing material holding the device in place.
5. Verify the parts received against the packing list as mentioned in "Packing List for the SSR400 Routers" on page 35.
6. Save the shipping carton and packing materials in case you need to move or ship the device later.

Packing List for the SSR400 Routers

The shipment includes a packing list. Check the parts you receive in the shipping carton against the items on the packing list. We ship the parts as per the configuration that you order.

If any part on the packing list is missing, contact your customer service representative or contact Juniper customer care from within the U.S. or Canada by telephone at 1-888-314-5822. For international-dial or direct-dial options in countries without toll-free numbers, see https://www.juniper.net/support/requesting-support.html.

- Table 9 on page 36
- Table 10 on page 36

Table 9: Parts List for the SSR400 Router

Component	Part Number	Quantity
Chassis	SSR400	1
Rubber feet	—	4
Power supply adapter (PSA) and power cord	—	1
Rack mount kit (separately orderable) • One power adaptor tray • Four cable ties • Four M4 screws	SSR400-RMK	1
Documentation roadmap	—	1

Table 10: Parts List for the SSR400-C Router

Component	Part Number	Quantity
Chassis	SSR400-C	1
Rubber feet	—	4
Power supply adapter (PSA) and power cord	—	1

Table 10: Parts List for the SSR400-C Router *(Continued)*

Component	Part Number	Quantity
Rack mount kit (separately orderable) • One power adaptor tray • Four cable ties • Four M4 screws	SSR400-RMK	1
Antennas	SSR400-5G-ANT or SSR400-5G-EXT (separately orderable)	4
Documentation roadmap	—	1

Register Products—Mandatory to Validate SLAs

Juniper Networks auto registers newly purchased products based on the end customer information provided at the point of sale. Registering products and changes to products activates your hardware replacement service-level agreements (SLAs).

CAUTION: Update the installation base data if any installation base data is added or changed or if the installation base is moved. Juniper Networks is not responsible for customers not meeting the hardware replacement service-level agreement (SLA) for products that do not have registered serial numbers or accurate installation base data.

To know more about how to register your product and update your installation base, see Juniper Networks Product Registration and Install Base Management.

Install the SSR400 Routers

SUMMARY

This topic guides you through the steps to install the SSR400 Routers on a desk or other level surface or mount each router in a two-post rack.

IN THIS SECTION

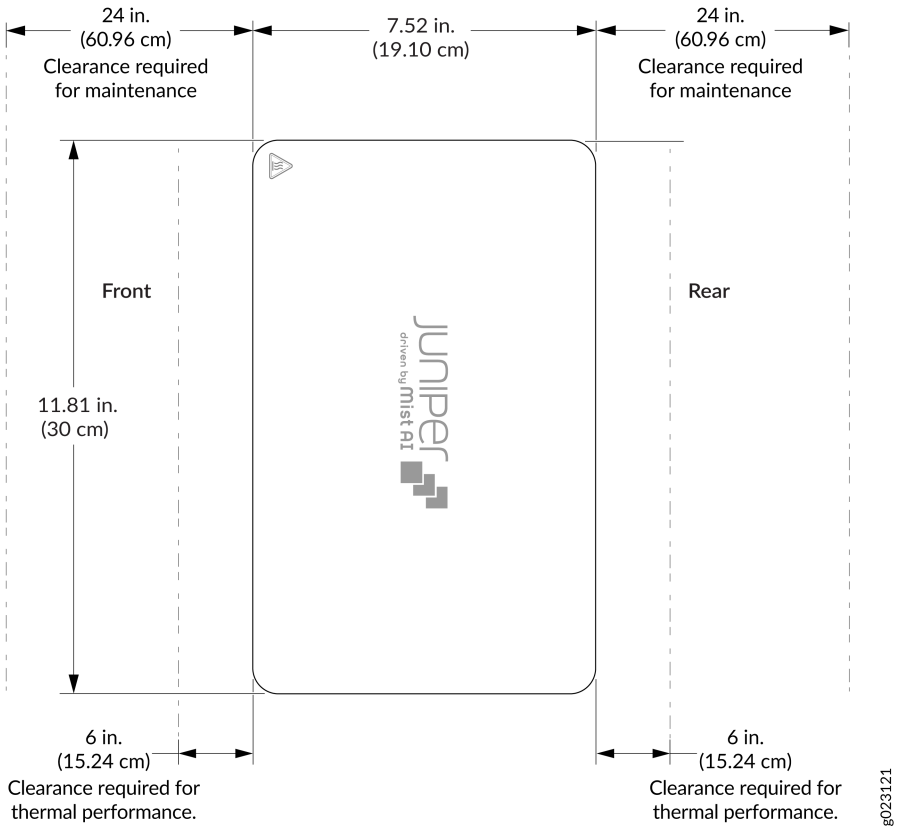
- Install the SSR400 Routers | 40
- **Install Antennas and SIM Card on the SSR400 LTE Models | 45**

You can mount an SSR400 on a desk or other level surface. Alternatively, you can mount the device in a two-post rack, using the separately orderable rack mount kit shipped with the router.

Complete these prerequisites before you mount the router:

- Prepare the site for installation as described in the Site Guidelines and Requirements.
- Ensure that the site has adequate clearance for both airflow and hardware maintenance.

Figure 5: Clearance Requirements for the SSR400 Models



- Unpack the device as described in "Unpack the SSR400 Routers" on page 34.

NOTE: Ensure that you support the rear of the chassis throughout the process of mounting the appliance on the rack.

CAUTION: A qualified technician must verify that the rack or cabinet is strong enough to support the device's weight before mounting the device. Have the technician also verify that the rack or cabinet has adequate support at the installation site.

If you are installing more than one device on a rack or in a cabinet, install the first device at the bottom of the rack.

Install the SSR400 Routers

IN THIS SECTION

- Mount an SSR400 on an Desk or Other Level Surface | 40
- Mount an SSR400 on a Two-Post Rack | 41

Before you install, review the following:

- Site Guidelines and Requirements
- General Safety Guidelines and Warnings
- "Unpack the SSR400 Routers" on page 34

You can mount SSR400 Routers:

1. On a desk or other level surface using rubber feet.
2. On a two-post rack or cabinet using the separately orderable SSR400-RMK rack mount kit.

We'll walk you through the steps to mount the router on a desk or other level surface or to mount the router on a two-post rack.

Mount an SSR400 on an Desk or Other Level Surface

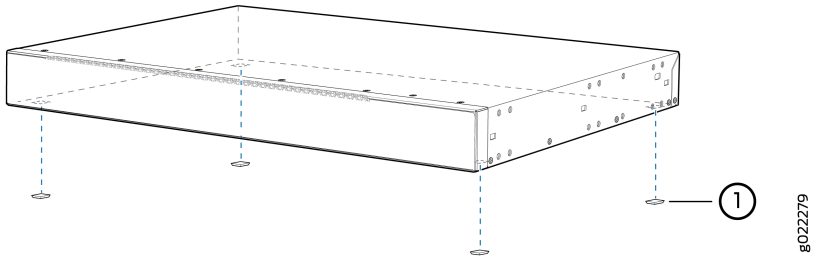
Ensure that you have the following parts and tools available:

- Four rubber feet to stabilize the chassis on a desk or other level surface (provided)
- One AC power adapter

To mount an SSR400 on a desk or other level surface:

NOTE: Place the desk in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure.

1. Remove the router from the shipping carton—see "Unpack the SSR400 Routers" on page 34.
2. Turn the chassis upside down on the desk or the level surface where you intend to mount the router.
3. Attach the rubber feet to the bottom of the chassis.



4. Turn the chassis right side up and place it on the desk or the level surface.
5. Ensure the router rests firmly on the desk or level surface.

After you finish mounting the router on a desk or level surface, see "Connect the SSR400 Routers to Power" on page 50.

Mount an SSR400 on a Two-Post Rack

Ensure that you have the following parts and tools available:

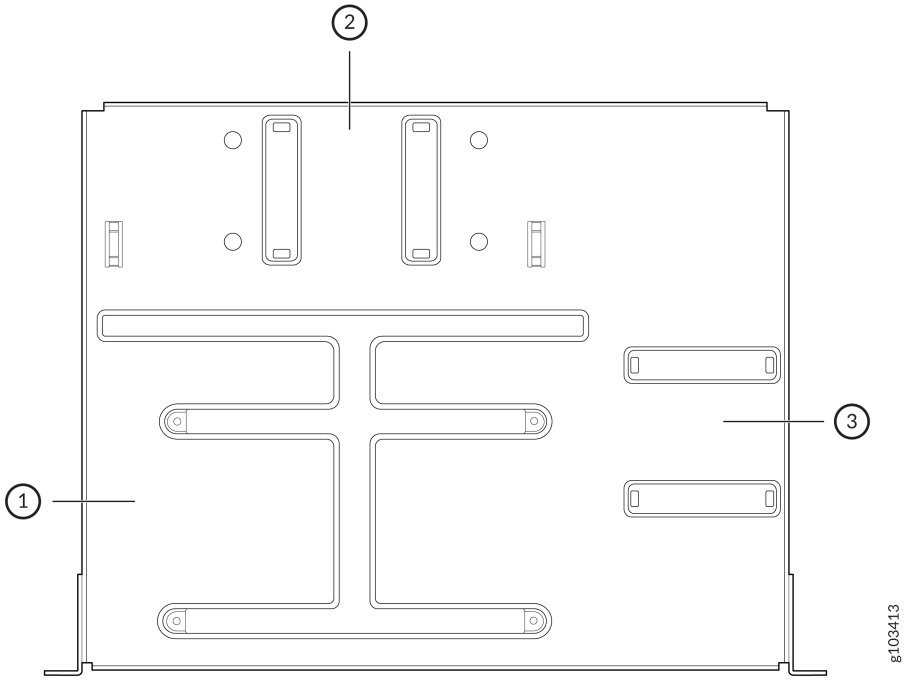
- SSR400-RMK rack mount kit—separately orderable
  - Power adapter tray
  - Four cable ties
  - Four M4 screws
- One AC power adapter
- Phillips (+) screwdriver, number 2

NOTE: If you are mounting multiple units on a rack, mount the units from the bottom to the top of the rack in decreasing order of weights. Therefore, you mount the heaviest unit right at the bottom and the lightest unit right at the top of the rack.

To mount an SSR400 on a two-post rack:

1. Remove the router, power adapter tray, and the AC power adapter from the shipping carton.

The power adapter tray will host the SSR400 Router and one or two AC power adapters.



Callout	Component
1	SSR400 Chassis
2	Power adapter 1
3	Power adapter 2

2. To install the power adapter on the tray:

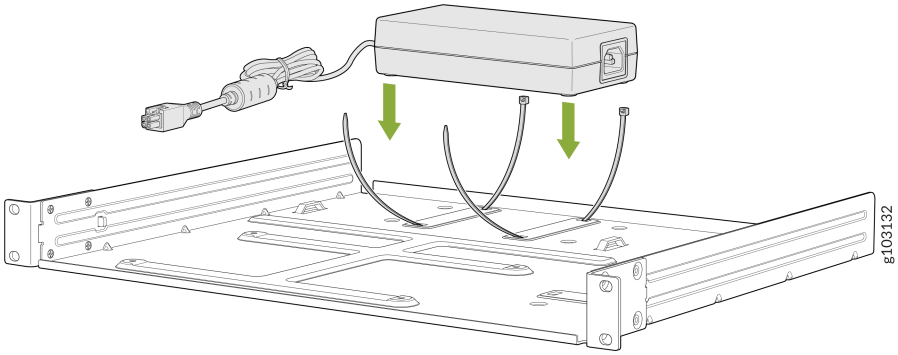
   a. Take a cable tie and insert the tailend of the cable tie through the two holes on the tray.

   b. Repeat "2.a" on page 42 with the second cable tie.

   c. Place the power adapter on the tray in between both the cable ties.

   d. Insert the tailend of the cable tie through the square locking piece and pull the tie through the main head to set the length of excess material.

   e. Repeat "2.d" on page 42 with the second cable tie.

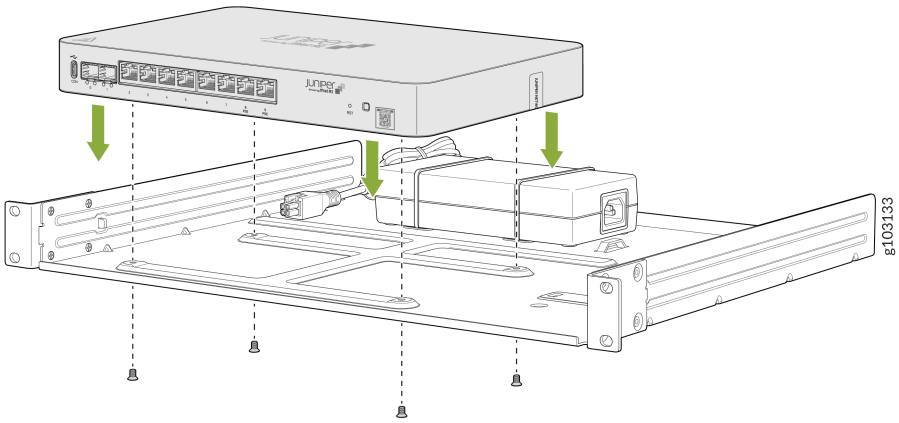


3. To install the SSR400 chassis on the tray:

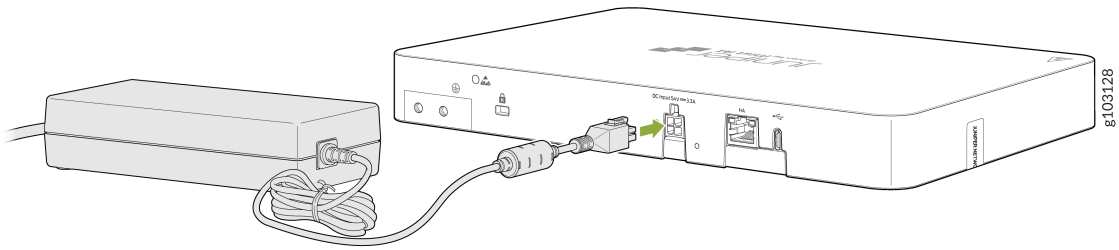
   a. Have one person grasp the sides of the tray and hold it.

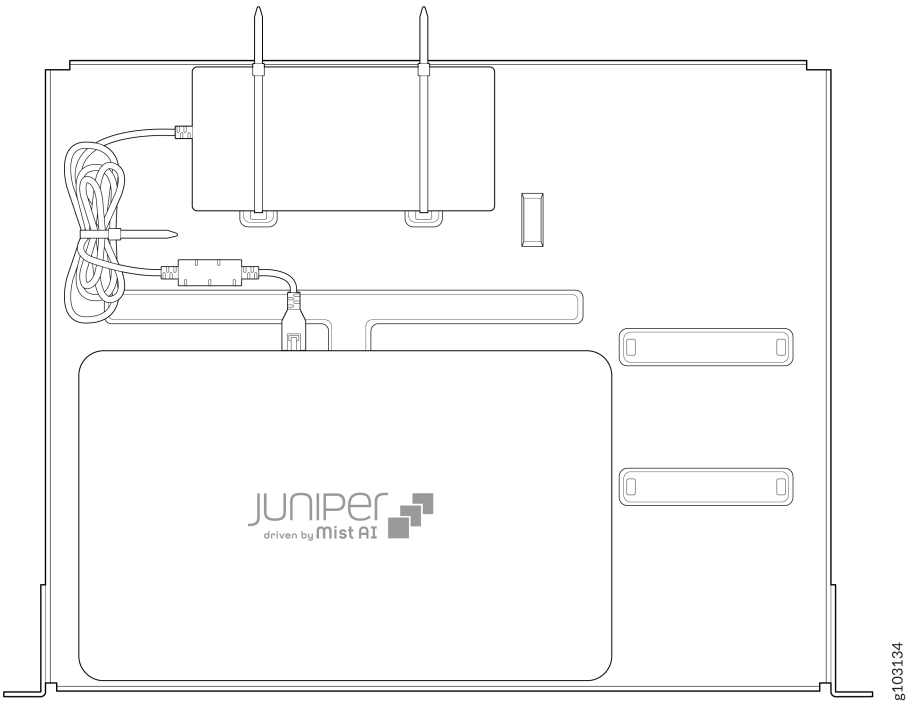
   b. Have a second person position the chassis on the tray and align the bottom holes of the chassis with the four holes on the tray.

   c. Install the four M4 screws into each of these four holes on the tray. Use the Phillips (+) screwdriver, number 2 to tighten the four screws and secure the chassis to the tray.

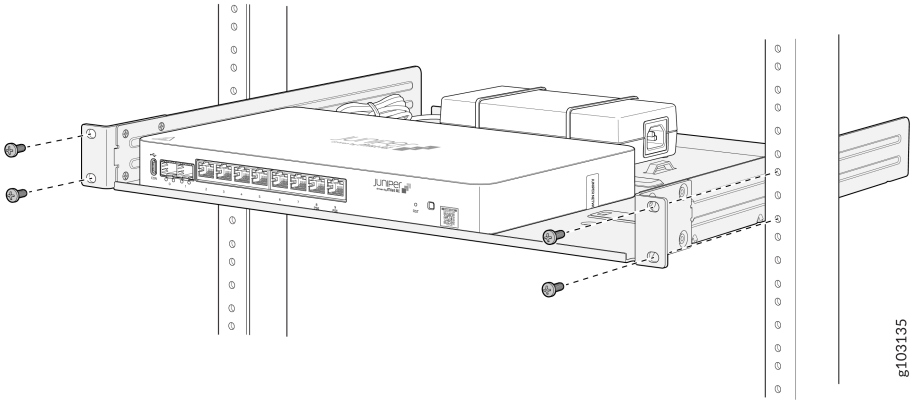


4. Plug the DC connector end of the power cable into the power connector on the back of the router.





5. Have one person grasp the sides of the tray, lift it, and position it in the rack.
6. Align the holes on the tray with the holes on the rack rails, making sure the router is level.
7. Have a second person secure the router to the rack by using four mounting screws (not provided). Use the Phillips (+) screwdriver, number 2 to tighten the four screws and secure the power adapter tray to the rack. Tighten the screws with a torque of 18 Nm.



8. Ensure that the router is level by verifying that all the screws on one side of the rack are aligned with the screws on the other side.

Install Antennas and SIM Card on the SSR400 LTE Models

IN THIS SECTION

- Install Antennas | 45
- Insert the SIM Card | 48

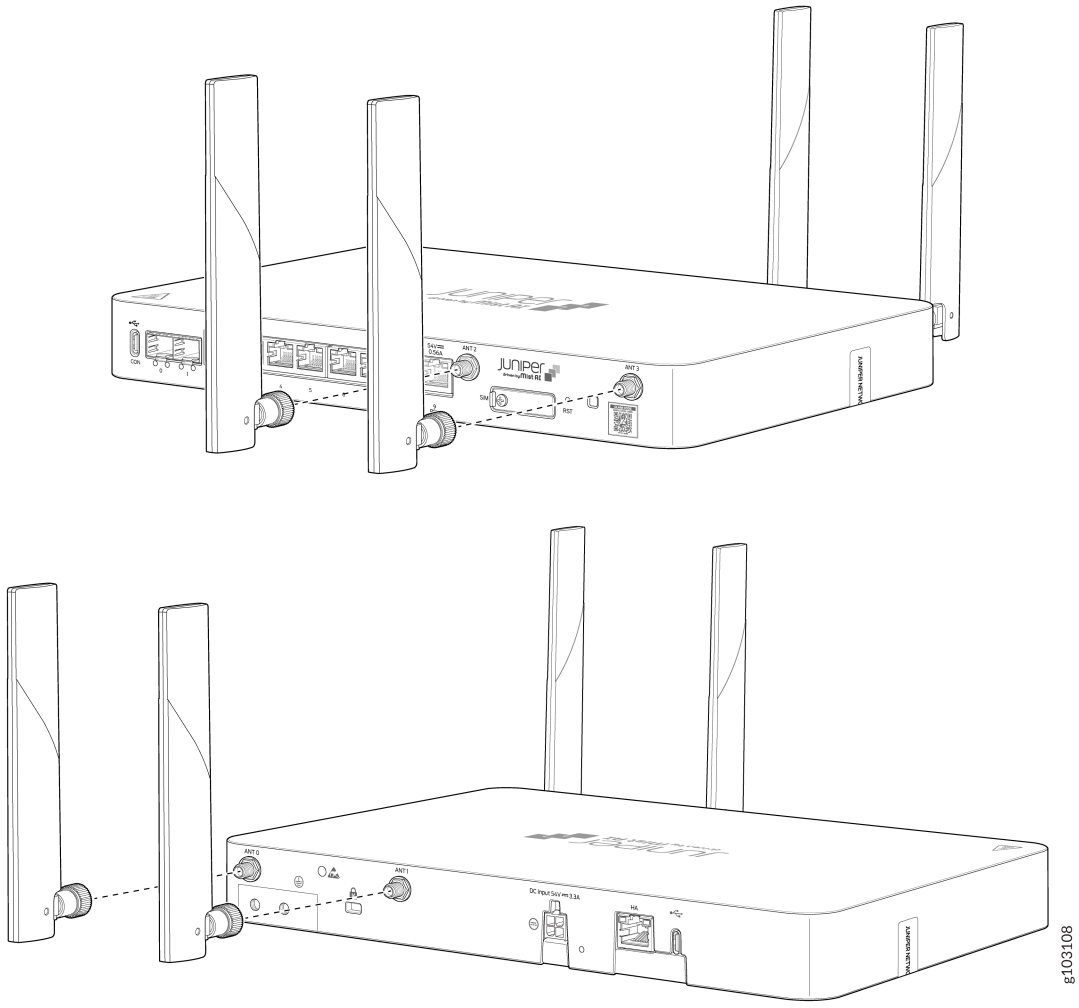
The SSR400 LTE variant: SSR400-C has an integrated modem and operates over 5G networks. SSR400-C supports:

- Multi-Band Swivel Mount Dipole antennas (SSR400-5G-ANT) (here on are referred to as antenna)
- SSR400-5G-EXT—Double-port antenna holder with antenna extension RF cable (separately orderable)
- SIM card

Install Antennas

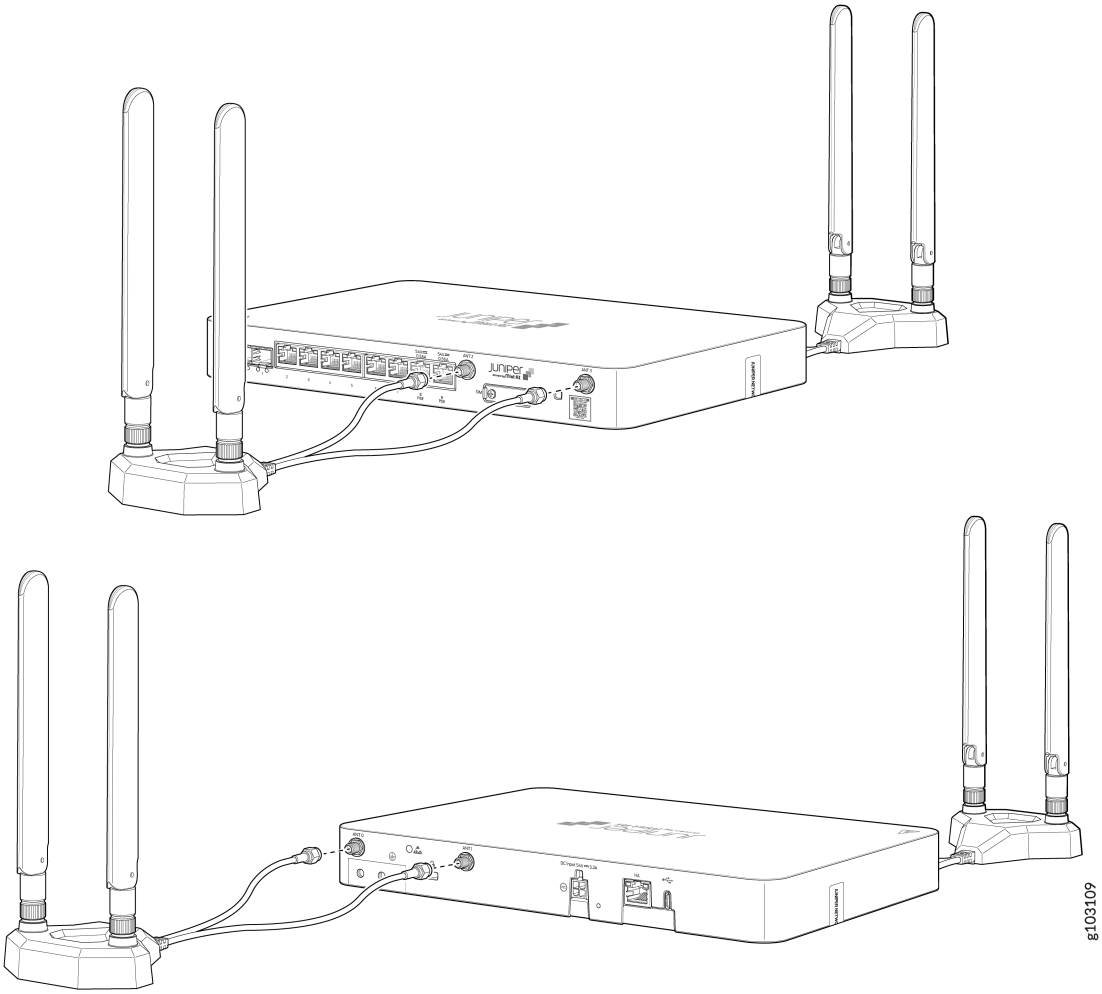
To install the antennas directly on the router:

1. Remove the dust caps from the SubMiniature version A (SMA) connectors on the router front and rear panels.
2. Attach the antennas to the SMA connectors on the device and tighten them firmly by hand.

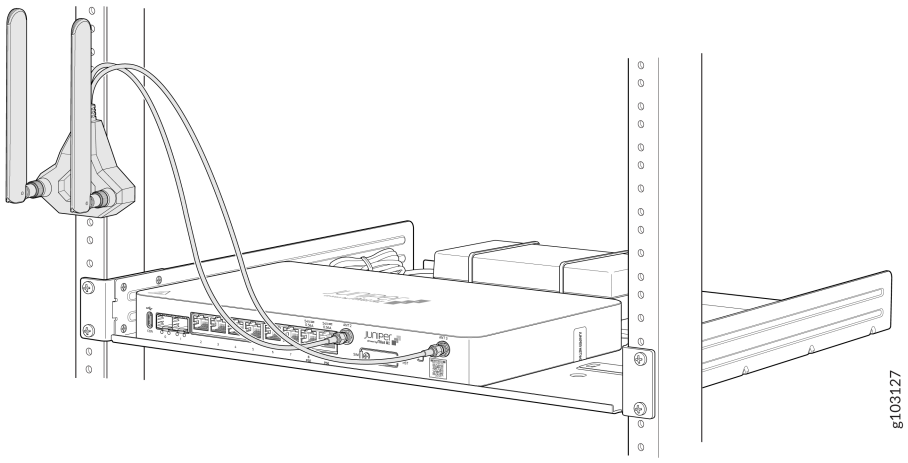


To install the antennas using the separately orderable double-port antenna holder with the antenna extension RF cable:

1. Remove the dust caps from the SubMiniature version A (SMA) connectors from the router front and rear panels.
2. Attach the antennas to the antenna holders. Connect the RF cables from each antenna holder to the SMA connectors on the router and tighten them firmly by hand.



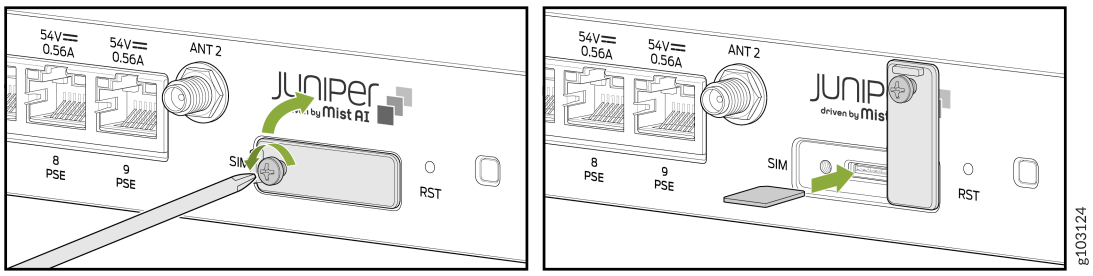
The antenna holder is magnetic and can be attached to the rack directly if the rack is metallic.



Insert the SIM Card

The SSR400-C has a SIM card slot. To insert a SIM card:

1. Using a Phillips (+) screwdriver, number 2, loosen the M2.5 screw on the SIM card slot cover and rotate the cover 90^0 to the right.
2. Ensure correct orientation of the SIM card—the chip side (Gold finger) must face down into the slot and the edge cut must face toward the chassis.
3. Position the SIM card horizontally in the slot.
4. Insert the SIM card in the slot and push it in until the latch mechanism locks it in place and you hear a click sound.



5. Roll back the SIM card slot cover and tighten its screw with a torque of 1.8 Nm.

Connect the SSR400 Routers to External Devices

SUMMARY

Use the information in this topic to connect your SSR400 Router to an external management device.

IN THIS SECTION

- Connect Your Device to a Management Console Using a USB-C Connector | **49**

You can monitor and manage the SSR400 Routers by using a dedicated management channel. Use the USB 2.0 Type C console port located on the front panel or your router to connect your device to the management device.

Connect Your Device to a Management Console Using a USB-C Connector

Connect a USB-C cable between your console server or laptop and the front USB-C port of the router.

Figure 6: Connect Your Device to a Management Console through a Console Server

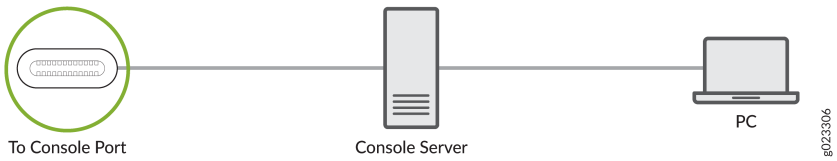


Figure 7: Connect Your Device directly to a Management Console



Set the properties of the console server or terminal emulation software as follows:

- Baud rate: 115,200
- Flow control: Software
- Data: 8
- Parity: None
- Stop bits: 1

Connect the SSR400 Routers to Power

SUMMARY

Connecting an SSR400 to power involves the following steps and safety precautions to prevent equipment damage and personal injury.

IN THIS SECTION

- Ground the SSR400 Routers | **50**
- Connect the Power Cord and Power on the SSR400 | **51**
- Power Off the SSR400 | **52**

Ground the SSR400 Routers

Before connecting an SSR400 to an earth ground, ensure that you have the following parts and tools:

- An electrostatic discharge (ESD) grounding strap
- Grounding cable for your router (not provided)—The grounding cable must be 6 AWG (13.3 mm^2) stranded wire and rated 90 °C or according to local electrical code.
- Grounding lug for your grounding cable (not provided)—This lug attaches to the chassis grounding point. The grounding lug required is a Panduit LCD6-14A-L or equivalent.
- Two M5 X 9.5 screws (not provided)
- A Phillips (+) screwdriver, number 2 to tighten the screws.

You must install heat-shrink tubing insulation around the crimped section of the power cables and lugs.

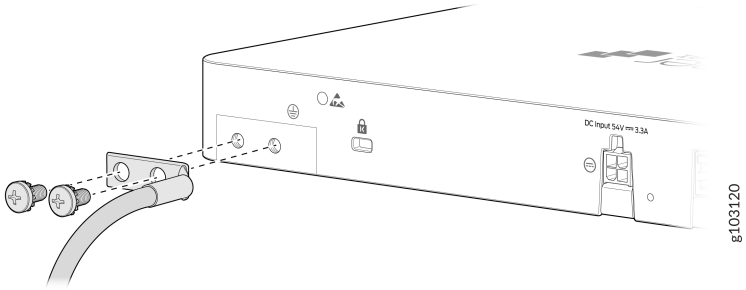
NOTE: To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must connect the SSR400 to an earth ground before you connect the router to power.

Before you connect an earth ground to the protective earthing terminal of the router, ensure that a licensed electrician attaches an appropriate grounding terminal to the grounding cable you supply. Using a grounding cable with an incorrectly attached terminal can damage the router.

NOTE: The router should be permanently connected to ground during operation.

To ground the SSR400 :

1. Wrap and fasten one end of the electrostatic discharge (ESD) cable grounding strap around your bare wrist, and connect the other end to a site ESD point.
2. Ensure that all grounding surfaces are clean and brought to a bright finish before making the grounding connections.
3. Connect the 6 AWG (13.3 mm^2) grounding cable to a proper earth ground, such as the rack in which you mount the router.
4. Place the grounding cable terminal over the grounding point (sized for M5 X 9.5 grounding screws) on the rear of the chassis.



5. Secure the grounding cable terminal to the grounding point with the two M5 X 9.5 screws. Apply between 2.5 Nm and 2.8 Nm of torque to the screw.
6. Dress the grounding cable. Ensure that the cable doesn't block access to or come in contact with other device components, and that it doesn't drape where people could trip over it.

Connect the Power Cord and Power on the SSR400

Ensure that you have a power cord appropriate for your geographical location.

For information about the supported AC power cord specifications for your router, see "SSR400 Routers Power System" on page 30.

To connect the power cord:

1. Wrap and fasten one end of the electrostatic discharge (ESD) grounding strap around your bare wrist, and connect the other end to a site ESD point.
2. Locate the AC power cord or cords shipped with the router; the cords have plugs appropriate for your geographical location.

3. Insert the AC power cord coupler firmly into the power cord inlet on the AC power adapter.
4. If the AC power source outlet has a power switch, turn it off.
5. Plug the AC power cord into an AC power source outlet.
6. If the AC power source outlet has a power switch, turn it on. The SSR400 models do not have a power switch and each appliance powers on as soon as you plug it in.

Power Off the SSR400

You can power off the SSR400 in one of the following ways:

- Graceful shutdown—You can perform a graceful shutdown in either of the following ways:
  - Log in to the SSR CLI and issue the `shell halt` command.
  - Log in to the serial console and run `sudo halt`.

```
[t128@HH1124AY0004 ~]$ sudo halt

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

    #1) Respect the privacy of others.
    #2) Think before you type.
    #3) With great power comes great responsibility.

[sudo] password for t128:
[t128@HH1124AY0004 ~]$

[  336.511466] reboot: System halted
```

  In each situation, after the system has stopped, you must manually disconnect the router from the power source.

  CAUTION: Use the graceful shutdown method to power off the router.

- Forced shutdown—Unplug the power cord or switch off the power source.

CAUTION: Forced shutdown can result in data loss and corruption of the file system. Use the forced shutdown method as a last resort to recover the router if the router operating system is not responding to the graceful shutdown method.

After powering off the router, wait at least 10 seconds before turning it back on. After powering on the router, wait at least 10 seconds before turning it off.

Boot and Initialize the SSR400 Routers

SUMMARY

Use the following procedures to boot, initialize, and onboard your SSR400 Router.

IN THIS SECTION

- Normal System Boot | 53
- Reinstall SSR Software from a USB | 56

Because the SSR400 routers do not have a power switch, each device powers up into the boot process when power is applied. You can apply power either by plugging an appliance into a live outlet or by operating an external power switch.

For a manual upgrade, copy the new image to a USB drive and insert the USB into the device prior to powering on the SSR400. Manual upgrade supports images later than 7.1.0. See "Re-Installing SSR Software from a USB" on page 56 for more information.

Normal System Boot

To boot an SSR400 for the first time:

1. Connect a terminal emulator to the front USB-C serial console port. The baud rate must be configured to 115,200bps. For more information, see "Connect Your Device to a Management Console Using a USB-C Connector" on page 48.

2. Power the system on. The system LED flashes red to indicate a hardware reset is in progress.

```
BootROM - 2.03
Starting CP-0 IOROM 1.07
Secure boot from SPI NOR flash 0 (0x34)
Found valid image at boot postion 0x000
```

The system LED changes from red to amber, indicating the firmware boot is in progress.

```
Secure boot from SPI NOR flash 0 (0x34)
Found valid image at boot postion 0x000


U-Boot 2023.01-12.25.07-34 (Sep 02 2025 - 17:11:49 UTC)

           CPLD version: 1f
    Golden CPLD version: 1f
       Firmware version: 12.25.07-34
Golden firmware version: 12.25.07-34

Press Esc to boot from USB
```

After 5 seconds, or if **Esc** is pressed, the system LED changes to green and then to amber to indicate an SSR software boot is in progress.

Any time the system is rebooted, the firmware checks the system and compares it against the firmware capsule versions available on disk. Any required firmware updates are automatically installed. During this process, the system LED color changes to amber, indicating a firmware update is in progress.

NOTE: The SSR can install multiple firmware updates with an automatic reboot after each individual update. Do not power cycle or interrupt the firmware update process.

```
Found 1 update capsule on disk
disk:00-cn9130-leopard-flash-image-12.25.06-33-signed.capsule:firmware:33

Capsule 1 of 1: disk:00-cn9130-leopard-flash-image-12.25.06-33-signed.capsule
Firmware: capsule version is 33, current version is 32
Reading capsule
```

```
Applying capsule
The primary flash is unlocked
Capsule authentication successful
################################################################################
################################################################################
################################################################################
################################################################################
################################################
Apply succeeded.

Rebooting...
```

Subsequent boots skip previously installed updates.

```
Found 2 update capsules on disk
disk:00-cn9130-leopard-flash-image-12.25.06-33-signed.capsule:firmware:33
disk:01-cn9130-leopard-cpld-1f-signed.capsule:cpld:1f
Capsule 1 of 2: disk:00-cn9130-leopard-flash-image-12.25.06-33-signed.capsule
Firmware: capsule version is 33, current version is 33
Skipping capsule
Capsule 2 of 2: disk:01-cn9130-leopard-cpld-1f-signed.capsule
CPLD: capsule version is 1f, current version is 1f
Skipping capsule
```

To indicate booting is in progress, the system LED changes from green to amber.

3. After the OS boot has completed, the hardware bootstrapper runs. The system LED changes from green to teal twice during this activity. When the SSR software application is up and running, the system LED displays the following colors to indicate status:

   - Red: Error detected in the device.
   - Purple: Degraded service.
   - Steady Green: Device operating normally.

4. After the system LED changes to green, initialize your device as either a Conductor-managed router or a Mist-managed router.

To initialize your router, connect your laptop to any of the designated LAN ports and connect to `192.168.128.1` to access the SSR Initialization workflow.

If you prefer to use the CLI, use the information provided in the Advanced Initialization Workflow.

Reinstall SSR Software from a USB

Use the following procedure to manually upgrade an SSR400 router using a USB drive. This procedure is most common in secure networks with no external internet connection, or in a case where the SSR400 is upgraded prior to deployment. Reinstallation deletes all configuration and settings, but does not perform a secure erase. Refer to the Factory Reset procedure to return to zero if necessary.

This procedure assumes you have already copied the `SSR-7.1.x*.aarch64*.iso` to a USB drive. For information about the procedure, see Creating a Bootable USB.

1. Insert the USB drive with the new image into the USB-C port on the rear of the device.
2. Power on the system.
3. At the instruction in the terminal window: `Press ESC for boot menu`, press **Esc** to boot from the USB. The USB installer boots as follows:

```
Esc pressed, booting from USB
starting USB...
Bus usb3@500000: Register 2000120 NbrPorts 2
Starting the controller
USB XHCI 1.00
Bus usb3@510000: Register 2000120 NbrPorts 2
Starting the controller
USB XHCI 1.00
scanning bus usb3@500000 for devices... 1 USB Device(s) found
scanning bus usb3@510000 for devices... 2 USB Device(s) found
       scanning usb for storage devices... 1 Storage Device(s) found
1404928 bytes read in 44 ms (30.5 MiB/s)
Booting /EFI\BOOT\BOOTAA64.EFI
The secondary flash is locked
The primary flash is locked



                                GRUB version 2.06

 ┌──────────────────────────────────────────────────────────────────────────┐
 │*Install Session Smart Router - SSR400-CW-US                              │
 │ Maintenance Operations -->                                               │
 │                                                                          │
 │                                                                          │
 │                                                                          │
 │                                                                          │
```

```
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└──────────────────────────────────────────────────────────────────────────────┘

      Use the ▲ and ▼ keys to select which entry is
highlighted.
      Press enter to boot the selected OS

   The highlighted entry will be executed automatically in 30s...
```

4. Press **Enter** or wait for the countdown timer to expire. The SSR OS installer boots:

```
Loading signature database
Loading kernel and verifying signature...
Loading ramfs and verifying signature...
Booting...
EFI stub: Booting Linux Kernel...
EFI stub: EFI_RNG_PROTOCOL unavailable
EFI stub: Using DTB from configuration table
EFI stub: Exiting boot services...

[    0.000000] Booting Linux on physical CPU 0x0000000000 [0x410fd083]
[    0.000000] Linux version 5.15.0-308.179.6.3.el9uek.128tech.30.aarch64
[    0.000000] Machine model: CN9130-Leopard
[    0.000000] efi: EFI v2.100 by Das U-Boot
[    0.000000] secureboot: Secure boot enabled
...
```

Once the installer has booted, the following menu is displayed:

```
Welcome to the Session Smart Router Installer for SSR-7.1.0-1.r1.el9.aarch64.ibu-v0

Skipping removable device /dev/sda
Disk device /dev/mmcblk0 has size 83 GB

Install Options:
  1 - FIPS 140-3 : ENABLED
  2 - Cloud-init : DISABLED

Press a number/letter to change current selections,
[Esc] to reboot or [Enter] to start the installation:

Installation will begin in 30 seconds...
```

5. The default installation options for the SSR400 routers are shown above: **FIPS enabled** and **cloud-init disabled**. Press 1 or 2 to toggle the options if required. To start the installation, press **Enter** or wait for the countdown timer to expire. The system LED changes to teal, indicating the installation is in progress.

```
Install device selections total 2 GB for boot and 81 GB for root

Install Configuration:
MIN_RAM_MB=7000
MIN_BOOT_GB=2
MIN_ROOT_GB=58
CLOUDINIT_ENABLE=0
FIPS_ENABLE=1
BOOT_INSTALL_DEV=/dev/mmcblk0
ROOT_INSTALL_DEV=/dev/mmcblk0

Launching unpacker...
cloud-init will be disabled
Building for aarch64
/dev/mapper/live-rw on / type ext4 (rw,relatime)
Removing detected vg00 volume group.
Erasing device /dev/mmcblk0
Creating partitions on target /dev/mmcblk0
Writing first stage bootloader on target /dev/mmcblk0
Writing second stage bootloader on target /dev/mmcblk0
```

```
Writing rootfs on target /dev/mmcblk0
Decompressing image slice 1 of 5
Decompressing image slice 2 of 5
Decompressing image slice 3 of 5
Decompressing image slice 4 of 5
Decompressing image slice 5 of 5
Applying boot configuration defaults
Adding boot config
Adding CN9130-Leopard nic interface rename files
Pre-populating saved package repository

unpacker was successful

Press [Esc] to reboot or [Enter] to shutdown:

System will shutdown in 1 second...
Shutting down...
[  371.037680] dracut Warning: Killing all remaining processes
dracut Warning: Killing all remaining processes
[  371.117798] dracut Warning: Unmounted /oldroot.
dracut Warning: Unmounted /oldroot.
371.152352 | invalid value for WatchdogSec: "0"
Powering off.
[  371.419135] reboot: Power down
```

6. You must manually reboot the system. Press **Esc** to reboot. You can press **Enter** to shut down the system; however, you must manually power cycle the system to perform the required reboot.

7. After the OS boot has completed, the hardware bootstrapper runs. The system LED changes from green to teal twice during this activity. When the SSR software application is up and running, the system LED displays the following colors to indicate status:

   - Red: Error detected in the device.
   - Purple: Degraded service.
   - Steady Green: Device operating normally.

8. After the system LED has changed from cyan to green or purple, initialize your device as either a Conductor-managed router or a Mist-managed router.

To initialize your router, connect your laptop to any of the designated LAN ports and connect to `192.168.128.1` to access the SSR Initialization workflow.

If you prefer to use the CLI, use the information provided in the Advanced Initialization Workflow.

Connect the SSR400 Routers to the Network

SUMMARY

This topic guides you on how to connect your SSR400 to the network.

IN THIS SECTION

- Determine Transceiver Support for SSR400 Routers | 61
- Install a Transceiver | 62
- Connect a Fiber-Optic Cable | 63

SSR400 Routers support eight 10/100/1000 GbE BASE-T RJ45 and two 1GbE onboard small form-factor pluggable (SFP) transceiver LAN ports.

The transceivers for Juniper Networks routers are hot-removable and hot-insertable field-replaceable units (FRUs). You can remove and replace the transceivers without powering off the device or disrupting the device functions.

NOTE: We recommend that you use only optical transceivers and optical connectors purchased from Juniper Networks with your Juniper Networks device.

NOTE: Use shielded cables on all the ports to connect to the network.

CAUTION: The Juniper Networks Technical Assistance Center (JTAC) provides complete support for Juniper-supplied optical modules and cables. However, JTAC does not provide support for third-party optical modules and cables that are not qualified or supplied by Juniper Networks. If you face a problem running a Juniper device that uses third-party optical modules or cables, JTAC may help you diagnose host-related issues if the observed issue is not, in the opinion of JTAC, related to the use of the third-party optical modules or cables. Your JTAC engineer will likely request that you check the third-party optical module or cable and, if required, replace it with an equivalent Juniper-qualified component.

Use of third-party optical modules with high-power consumption can potentially cause thermal damage to or reduce the lifespan of the host equipment. Any damage to the host equipment due to the use of third-party optical modules or cables is the users'

responsibility. Juniper Networks will accept no liability for any damage caused due to such use.

NOTE: After you insert a transceiver or after you change the media-type configuration, wait for 6 seconds for the interface to display operational commands.

Determine Transceiver Support for SSR400 Routers

The SSR400 Routers have two 1GbE small form-factor pluggable (SFP) transceiver ports. You can use the Hardware Compatibility Tool to find information about the pluggable transceivers and connector types supported by your Juniper Networks device. The tool also documents the optical and cable characteristics, where applicable, for each transceiver. You can search for transceivers by product—and the tool displays all the transceivers supported on that device—or by category, interface speed, or type. You can find the list of supported transceivers for the SSR400 Routers at https://apps.juniper.net/hct/product/.

CAUTION: If you face a problem running a Juniper Networks device that uses a third party optic or cable, the Juniper Networks Technical Assistance Center (JTAC) can help you diagnose the source of the problem. Your JTAC engineer might recommend that you check the third party optic or cable and potentially replace it with an equivalent Juniper Networks optic or cable that is qualified for the device.

The I-temp and C-temp transceivers with various levels of power consumption on SSR400 support the following ambient temperature values:

- I-temp SFP transceivers drawing up to 1 W operate normally in the temperature range of 32°F through 122°F (0°C through 50°C).
- I-temp SFP transceivers drawing up to 2.45 W operate normally in the temperature range of 32°F through 122°F (0°C through 50°C).
- C-temp SFP transceivers drawing up to 1 W operate normally in the temperature range of 32°F through 104°F (0°C through 40°C).
- C-temp SFP transceivers drawing up to 2.45 W operate normally in the temperature range of 32°F through 104°F (0°C through 40°C).

The I-temp transceivers with various levels of power consumption on SSR400-C support the following ambient temperature values:

- I-temp SFP transceivers drawing up to 1 W operate normally in the temperature range of 32°F through 104°F (0°C through 40°C)
- I-temp SFP transceivers drawing up to 2.45 W operate normally in the temperature range of 32°F through 104°F (0°C through 40°C)

Install a Transceiver

Before you install a transceiver in a device, ensure that you have taken the necessary precautions for the safe handling of lasers (see Laser and LED Safety Guidelines and Warnings).

Ensure that you have a rubber safety cap available to cover the transceiver.

Figure 8 on page 63 shows how to install a QSFP+ transceiver. The installation procedure is same for all types of transceivers except the QSFP28 transceivers.



CAUTION: To prevent electrostatic discharge (ESD) damage to the transceiver, do not touch the connector pins at the end of the transceiver.

To install a transceiver:

1. Wrap and fasten one end of the ESD wrist strap around your bare wrist, and connect the other end of the strap to the ESD point on the device.
2. Remove the transceiver from its bag.
3. Check to see whether the transceiver is covered with a rubber safety cap. If it is not, cover the transceiver with a rubber safety cap.



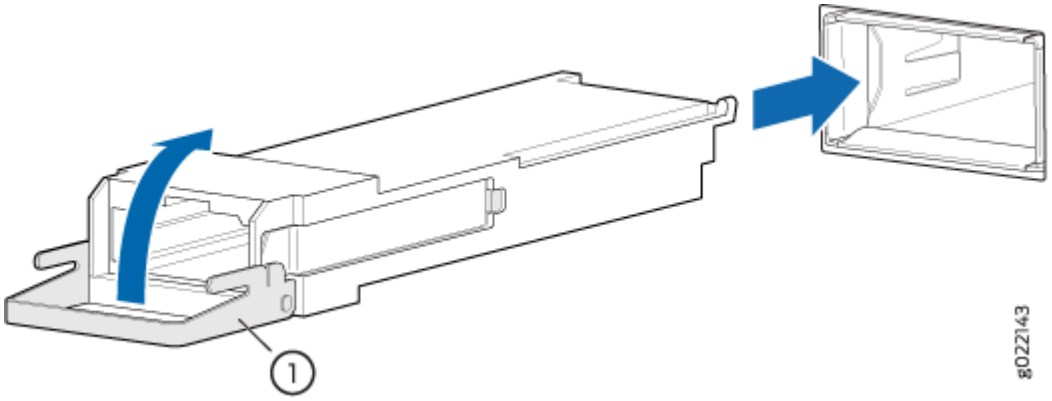
LASER WARNING: Do not leave a fiber-optic transceiver uncovered except when inserting or removing a cable. The rubber safety cap keeps the port clean and protects your eyes from accidental exposure to laser light.

4. If the port in which you want to install the transceiver is covered with a dust cover, remove the dust cover. Save it in case you need to cover the port later. If you are hot-swapping a transceiver, wait for at least 10 seconds after removing the transceiver from the port before installing a new transceiver.
5. Using both hands, carefully place the transceiver in the empty port. The connectors must face the chassis.

CAUTION: Before you slide the transceiver into the port, ensure that the transceiver is aligned correctly to the port. Misalignment might cause the pins to bend, making the transceiver unusable.

6. Slide the transceiver in gently until it is fully seated. If you are installing a C form-factor pluggable (CFP) transceiver, use your fingers to tighten the captive screws on the transceiver.

Figure 8: Install a Transceiver



Connect a Fiber-Optic Cable

Before you connect a fiber-optic cable to an optical transceiver installed in a device, ensure that you have taken the necessary precautions for the safe handling of lasers (see Laser and LED Safety Guidelines and Warnings).

LASER WARNING: Do not look directly into a fiber-optic transceiver or into the ends of fiber-optic cables. Fiber-optic transceivers and fiber-optic cables connected to transceivers emit laser light that can damage your eyes.

To connect a fiber-optic cable to an optical transceiver installed in a device:

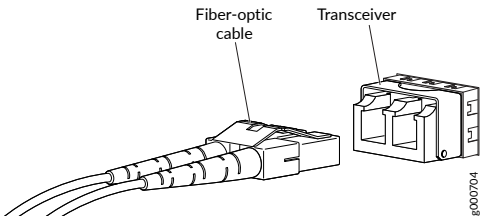
1. If the fiber-optic cable connector is covered with a rubber safety cap, remove the cap. Save the cap for subsequent use.
2. Remove the rubber safety cap from the optical transceiver. Save the cap for subsequent use.

CAUTION: Do not leave a fiber-optic transceiver uncovered except when inserting or removing a cable. The safety cap keeps the port clean and protects your eyes from accidental exposure to laser light.

LASER WARNING: Do not look directly into a fiber-optic transceiver or into the ends of fiber-optic cables. The fiber-optic transceivers and the fiber-optic cables connected to a transceiver emit laser light that can damage your eyes.

3. Insert the cable connector into the optical transceiver.

Figure 9: Connect a Fiber-Optic Cable to an Optical Transceiver Installed in a Device



4. Secure the cables so that they do not support their own weight. Place excess cable out of the way in a neatly coiled loop. Placing fasteners on a loop helps cables maintain their shape.

   If there is a cable management system, arrange the cable in the cable management system to prevent the cable from dislodging or developing stress points.

CAUTION: Do not bend fiber-optic cables beyond their minimum bend radius. An arc smaller than a few inches in diameter can damage the cables and cause problems that are difficult to diagnose.

Do not let fiber-optic cables hang free from the connector. Do not allow fastened loops of cables to dangle, which stresses the cables at the fastening point.

CHAPTER 6

Maintenance

IN THIS CHAPTER

- Routine Maintenance Procedures for the SSR400 Routers | 66

Routine Maintenance Procedures for the SSR400 Routers

To maintain optimum performance of your SSR400 router, perform the following preventive maintenance procedures on a regular basis.

- Inspect the installation site for moisture, loose wires or cables, and excessive dust.
- Check the System status LED on the front panel of the device.
- Check that the PSA status LEDs are lit for the DC power inputs.

CHAPTER 7

Troubleshooting and Support

IN THIS CHAPTER

- Troubleshoot the SSR400 Routers | **68**
- Contact Customer Support and Return the Chassis or Components | **70**

Troubleshoot the SSR400 Routers

SUMMARY

This topic contains some common troubleshooting resources for the SSR400 routers. The topic also provides a list of alarms and explains how to fix them.

IN THIS SECTION

- Troubleshooting Resources for SSR400 Routers | 68
- Alarm Types and Alarm Severity | 68

Troubleshooting Resources for SSR400 Routers

To troubleshoot the router, you use the Session Smart Router software and LEDs on the components and also contact JTAC:

- LEDs—When the device detects an alarm condition, the alarm LED on each interface glows red, yellow, or purple depending on alarm type and severity. See "SSR Chassis Manager" on page 23.
- Session Smart Router software—For information about using the Session Smart Router software to troubleshoot, see the appropriate Session Smart Router User Guide.
- JTAC—If you need assistance during troubleshooting, you can contact the Juniper Networks Technical Assistance Center (JTAC) by using the Web or by telephone. If you encounter software problems, or problems with hardware components not discussed here, contact JTAC.

Alarm Types and Alarm Severity

IN THIS SECTION

- Alarm Types | 69
- Alarm Severity | 69

Table 11: Alarm Terms

Term	Definition
Alarm	Signal alerting you to conditions that might prevent normal operation. In cases of error detection in the device, the multicolor system LED on the front of the chassis glows red. In cases of degraded service, the system LED glows purple.
Alarm condition	Failure event that triggers an alarm.
Alarm severity	Seriousness of the alarm. The level of severity can be either major or minor.

Alarm Types

Table 12: Alarm Types

Term	Definition
Chassis alarm	Predefined alarm triggered by a physical condition on the device such as a power supply failure or excessive component temperature.
Interface alarm	Alarm that you configure to alert you when an interface link is down. Applies to Ethernet, Fibre-channel, and management-Ethernet interfaces. You can configure a major or minor alarm for the link-down condition, or have the condition ignored.
System alarm	Predefined alarm that might be triggered by a missing rescue configuration, failure to install a license for a licensed software feature, or high disk usage.

Alarm Severity

The presence of any major or critical alarm that causes degraded service results in the system LED glowing purple. Addressing these alarms will result in the system LED color to return to green.

Table 13: Alarm Severity

Term	Definition
No critical or major alarms (green)	Indicates the system is operational. One or more minor or shelved alarms may exist; however, the alarm conditions do not impact the system operation.
Degraded system (purple)	The presence of any major or critical alarm causes degraded service and results in the system LED glowing purple. In this situation, it is recommended to access the software from the CLI and run a `show alarms` command. This command displays the alarms on the device and provides more access to troubleshooting capabilities. You can also access the alarms dashboard through the Session Smart Router Web Interface.

Contact Customer Support and Return the Chassis or Components

SUMMARY

If you need to return a hardware component to Juniper Networks, Inc., you need a Return Material Authorization (RMA) number and the equipment serial number. Contact the Juniper Networks Technical Assistance Center (JTAC) to generate an RMA number. You may also need to locate the chassis or component details using the CLI or by referring to equipment labels. You then pack and ship the component.

IN THIS SECTION

- Contact Customer Support | 70
- Return a Hardware Component to Juniper Networks | 71
- Locate the Serial Number of the SSR400 Routers | 72
- Request a Return Material Authorization | 72
- Guidelines for Packing and Shipping Hardware Components | 73

Contact Customer Support

You can contact JTAC 24 hours a day, seven days a week.

Chat	Use the **Ask me** icon at the bottom right of the Support page. Don't see the Chat icon? Read this.
Web	Juniper Support Portal Government Support Portal
Telephone	U.S. and Canada (Toll-free): 1-888-314-JTAC (5822) Outside the US or Canada, use the relevant country number listed on the regional tabs listed on the Contact Support page. Federal Government Support: 1-833-900-1454

NOTE: We do not support opening new cases through e-mail. Please use one of the above options to contact JTAC.

Return a Hardware Component to Juniper Networks

If a hardware component fails, contact Juniper Networks to obtain an RMA number. We use this number to track the returned material at the factory and to return the repaired or new components to you, as needed.

NOTE: Do not return any component to Juniper Networks unless you have first obtained an RMA number. Juniper Networks reserves the right to refuse shipments that do not have an RMA number. Refused shipments are returned to you by collect freight.

To return a defective hardware component:

1. Determine the part number and the serial number of the defective component. See "Locate the Serial Number of the SSR400 Routers" on page 72.
2. Obtain an RMA number from JTAC as described in "Request a Return Material Authorization" on page 72.
3. Pack the component for shipment. See "Guidelines for Packing and Shipping Hardware Components" on page 73.

For more information about return and repair policies, see the **Support** page at https://support.juniper.net/support/.

Locate the Serial Number of the SSR400 Routers

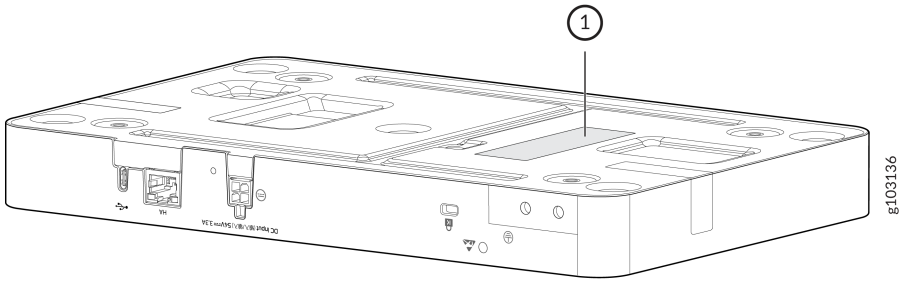
IN THIS SECTION

- Locate the Chassis Serial Number ID Label | **72**

You can locate the serial number ID label on the device.

Locate the Chassis Serial Number ID Label

You can find the serial number on the bottom of the device.



1– Chassis Serial Number ID Label

Request a Return Material Authorization

If you are returning a device or hardware component to Juniper Networks for repair or replacement, obtain an RMA number from JTAC.

Before you request an RMA from JTAC, be prepared to provide the following information:

- Your existing service request number, if you have one
- Serial number of the device or component

- Your name, organization name, telephone number, fax number, and shipping address
- Details of the failure or problem
- Type of activity you were performing on the device when the problem occurred
- Configuration data displayed by one or more `show` commands

You can contact JTAC using the Support page or by telephone.
If you're contacting JTAC by telephone:

- To report a new incident, press the star (*) key to be routed to the next available support engineer.
- To enquire about an existing case, enter your 12-digit service request number followed by the pound (#) key.

The support representative validates your request and issues an RMA number for return of the device or component.

Guidelines for Packing and Shipping Hardware Components

To pack and ship individual components:

- When you return the chassis or components, make sure to adequately protect them with packing materials. Pack them properly to prevent the pieces from moving around the carton.
- Use the original shipping materials, if they are available.
- Place the individual components in antistatic bags.
- Write the RMA number on the exterior of the box to ensure proper tracking.

CHAPTER 8

Safety and Compliance Information

IN THIS CHAPTER

- Safety | **75**
- Agency Approvals for SSR400 Routers | **76**
- FCC Declarations | **83**

Safety

IN THIS SECTION

- Safety Information | 75
- Boot Time | 75
- Warning Statement for Shielded Intra-Building Criteria | 75
- Warning Statement for Unshielded Intra-Building Criteria | 76

Safety Information

The Juniper Networks Safety Guide provides general safety information and guidelines for all Juniper Networks products. Follow the guidelines provided in the guide to reduce the likelihood of personal injury, equipment damage, and damage to surrounding areas.

Along with the information provided in the Juniper Networks Safety Guide, you must read and understand the *SSR400 Routers* specific safety information provided in this hardware guide.

Boot Time

The boot time for SSR400 routers is 80 seconds.

Warning Statement for Shielded Intra-Building Criteria



WARNING: The intra-building port(s) of the equipment or subassembly must use shielded intra-building cabling or wiring that is grounded at both ends.

Warning Statement for Unshielded Intra-Building Criteria



WARNING: Certain ports of a device are designed for use as intra-building (within-the-building) interfaces only (Type 2 or Type 4 ports as described in *GR-1089-CORE*) and require isolation from the exposed outside plant (OSP) cabling. To comply with NEBS requirements and protect against lightning surges and commercial power disturbances, the intra-building ports must not be metallically connected to interfaces that connect to the OSP or its wiring. The intra-building ports on the device are suitable for connection to intra-building or unexposed wiring or cabling only. The addition of primary protectors is not sufficient protection for connecting these interfaces metallically to OSP wiring.

Agency Approvals for SSR400 Routers

IN THIS SECTION

- Agency Approvals | **76**
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- Compliance Statement for Canada | **78**
- Compliance Statement for Brazil | **80**
- Compliance Statement for Mexico | **80**
- Compliance Statement for Argentina | **80**
- Taiwan BSMI | **81**
- Taiwan NCC | **82**
- CE | **83**

Agency Approvals

Safety

- IEC 62368-1:2014(All country deviation; 2nd Edition): CB Scheme
- IEC 62368-1:2018 (All country deviation;3rd Edition): CB Scheme

- EN62368-1:2014+A11:2017
- BSEN 62368-1:2014+A11:2017
- UL62368-1:2019
- CAN/CSAC22.2 No. 62368-1:19
- UL60950-1:2007 R5.19
- CAN/CSAC22.2 No. 60950-1-07+ A1:2011+A2:2014

EMC

- FCC 47 CFR Part 15
- ICES-003 / ICES-GEN
- BS EN 55032
- BS EN 55035
- EN 300 386 V1.6.1
- EN 300 386 V2.2.1
- BS EN 300 386
- EN 55032
- CISPR 32
- EN 55035
- CISPR 35
- IEC/EN 61000-3-2
- IEC/EN 61000-3-3
- AS/NZS CISPR 32
- VCCI-CISPR 32
- BSMI CNS 15936
- EN 301 489-1
- EN 301 489-52

- EN 301 489-17
- KS X 3126
- KS X 3124
- KS C 9835
- KS C 9832
- KS C 9610

Environmental

- RoHS2, REACH and WEEE
- TSCA
- California Prop 65
- PFAS
- POPs
- China RoHS
- Taiwan RoHS

Regulatory Compliance Information

This product and all interconnected equipment must be installed indoors within the same building, including the associated LAN connections as defined by the 802.3 at Standard. If you need further assistance with purchasing the power source, please contact Juniper Networks, Inc.

Compliance Statement for Canada

This device complies with the Industry Canada Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Cedispositif est conforme à la norme d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes:

- le dispositif ne doit pas produire de brouillage préjudiciable, et.
- ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

This radio transmitter (IC: 22068-AP12/Model: AP12) has been approved by ISED to operate with the antenna type listed below with maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Leprésent émetteur radio (IC: 22068-AP12/Model: AP12) a été approuvé par ISED pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne noninclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Users should also be advised that:

- The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the e.i.r.p. limit.
- The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

  High-power radars are allocated as primary users (i.e. priority users) of bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Les utilisateurs devraient aussi être avisés que:

- les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l’intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- le gain maximal d’antenne permis pour les dispositifs utilisant les bandes 5 250-5 350 MHz et 5 470-5 725 MHz doit se conformer à la limite de p.i.r.e.;
- le gain maximal d’antenne permis (pour les dispositifs utilisant la bande 5 725-5 825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l’exploitation point à point et non point à point, selon le cas. De plus, les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu’ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Radio Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 31 cm between the radiator & yourbody.

Déclarationd'exposition aux radiations:Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé etutiliséavec un minimum de 31 cm de distance entre la source de rayonnement et votre corps.

Compliance Statement for Brazil

Esteequipamento não tem direito a proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

Este produto não é apropriado para uso em ambientes domésticos, pois poderá causar interferencias eletromagnéticas que obrigam o usuário a tomar medidas necessárias para minimizar essas interferências.

Compliance Statement for Mexico

Laoperación de este equipo está sujeta a las siguientes dos condiciones:

- esposible que este equipo o dispositivo no cause interferencia perjudicial y.
- esteequipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operaciónno deseada.

If you need more details regarding the regulatory compliance information of AP12 Wi-Fi, please visit https://www.mist.com/hardware-installation-guides/

Compliance Statement for Argentina

Equipo de Uso Idóneo.

Taiwan BSMI

警告：為避免電磁干擾，本□品不應安裝或使用於住宅環境。

單元U nit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯□ Polybrominated diphenyl ethers (PBDE)
外殼 Enclosure	○	○	○	○	○	○
電路板組件 PCBA	○	○	○	○	○	○
風扇 Fan	○	○	○	○	○	○
電源供應器 Power supply	○	○	○	○	○	○
線材 Cable wire	○	○	○	○	○	○

備考: "超出 0.1 wt %" 及 "超出 0.01 wt %" 係指限用物質之百分比含量超出百分比含量基準□。

NOTE: "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

(Continued)

單元U nit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
備考: "o" 係指該項限用物質之百分比含量未超出百分比含量基準。 **NOTE**: "o" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.						
備考: "—" 係指該項限用物質為排除項目。 **NOTE**: The "–" indicates that the restricted substance corresponds to the exemption.						

Taiwan NCC

減少電磁波影響,請妥適使用

應避免影響附近雷達系統之操作。

高增益指向性天線只得應用於固定式點對點系統。

警語容:「電波功率密度 MPE 標準:1.0 mW/cm²,送測品實測: 0.024 mW/cm²,建議使用時設備天線至少距離人體 31 公分。」。

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前述合法通信,指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

CE

This device operates in the 5150 – 5350 MHz frequency range, and is restricted to indoor use only. Outdoor operation in this range is prohibited.

FCC Declarations

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FCC Requirement for Operation in the United States of America

FCC Guideline for Human Exposure

Thisequipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 31 cm between the radiator & yourbody.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.These limits are designed to provide reasonable protection against harmfulinterference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interferenceto radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure.
- These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.
- The availability of some specific channels and / or operational frequency bands are country dependent and are firmware programmed at factory to match the intended destination. The firmware setting is not accessible by the end user.

FCC Caution

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 31 cm from all persons. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

UK

Hereby, Juniper Networks, Inc.declares that the radio equipment types are in compliance with UK Radio Equipment Regulation 2017. The full text of the UK declaration of conformity is available at the following internet address www.juniper.net.

ETSI 301 893

5150MHz to 5350MHz and 5470MHz to 5725MHz (Indoor)

China

智慧型會話路由器