Juniper Networks | Engineering Simplicity

JRR200 Route Reflector Quick Start

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RELEASE

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JRR200 Route Reflector Overview

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The Juniper Networks JRR200 Route Reflector is a 1U form factor appliance with a multicore x86 CPU and preinstalled vRR software that can host one route-reflector instance. The JRR200 route reflector is suitable for large enterprises, data centers and service providers for hosting vRR software to scale up to 30 million routing information base (RIB) entries.

The JRR200 route reflector comes with eight 1/10 Gigabit Ethernet SFP+ ports, 64 GB of DDR4 memory, and two 240-GB solid-state drives (SSDs) in a RAID1 configuration. The JRR200 route reflector is available in both AC and DC models which support Zero Touch Provisioning mode (ZTP) to ensure seamless insertion into the network and provide operational simplicity.

For more information about the JRR200 Route Reflector Hardware, see the *JRR200 Route Reflector Hardware Guide* available at:

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/jrr-series/jrr200/index.html

NOTE: The JRR200 route reflector shipment package contains a packing list. Check the parts in the shipment against the items on the packing list. If anything is missing or damaged, contact your Juniper Networks customer service representative.

Package Contents

The JRR200 route reflector is shipped with the following parts:

- Four-post rack-mounting kit
- Fourteen flat-head screws to secure the mounting brackets to the chassis
- An AC power cord with plugs appropriate for your geographical location

- RJ-45 cable and RJ-45 to DB-9 serial port adapter

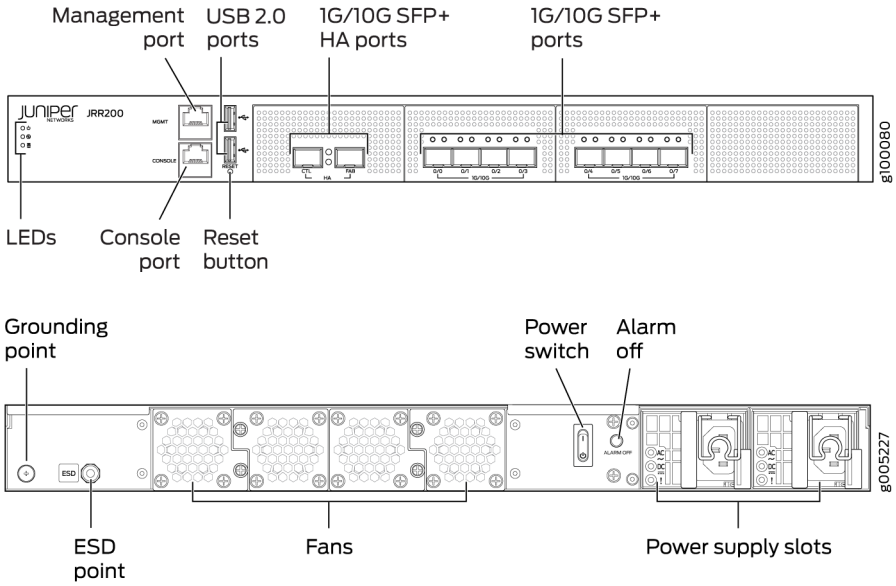
Register the Product

Register product serial numbers on the Juniper Networks website and update the installation base data if there is any addition or change to the installation base or if the installation base is moved. Juniper Networks will not be held accountable for not meeting the hardware replacement service-level agreement for products that do not have registered serial numbers or accurate installation base data.

Register your product at https://tools.juniper.net/svcreg/SRegSerialNum.jsp.

Update your installation base at https://www.juniper.net/customers/csc/management/updateinstallbase.jsp.

JRR200 Route Reflector Chassis Overview



Specification	Value
Dimensions (H x W x D)	1.75 in. x 17.48 in. x 25 in. (4.45 cm x 44.40 cm x 63.50 cm)

(Continued)

Specification	Value
Chassis weight	29 lb (13.16 kg) with two AC power supplies 28.8 lb (13.06 kg) with two DC power supplies
Average power consumption	200 W
Maximum thermal output	1500 BTU/hour
Relative humidity	5% to 90%, non-condensing

Mount the JRR200 Route Reflector on Four Posts of a Rack

You can mount a JRR200 route reflector in a 19-inch four-post rack configuration. An AC device weighs approximately 29 lb (13.16 kg) and a DC device weighs approximately 28.8 lb (13.06 kg).

You will need the items listed below to mount the JRR200 route reflector onto the rack:

- Electrostatic discharge (ESD) grounding strap
- Screws to secure the mounting brackets to the chassis
- Rack-mounting screws to secure the chassis to the four rack posts—not provided
- Phillips (+) screwdriver, number 2
- Two persons are required for mounting the JRR200 route reflector.

NOTE: Ensure that the rack is in its permanent location, allowing adequate clearance for airflow and maintenance, and secured to the building structure.

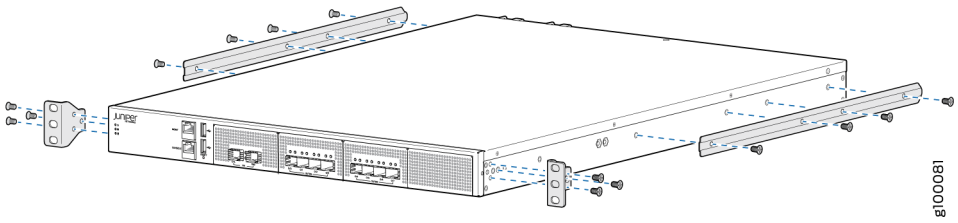
NOTE: If you are mounting multiple units in the rack, mount the heaviest unit at the bottom and mount the others from bottom to top in order of decreasing weight.

CAUTION: Wrap and fasten one end of the ESD grounding strap around your wrist and connect the other end to a site ESD point.

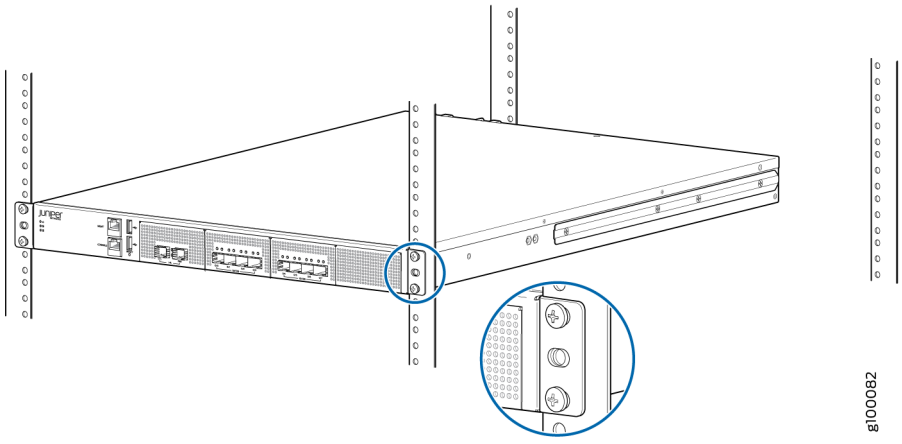
NOTE: Ensure that the rear of the JRR200 route reflector is supported throughout the process of mounting the JRR200 route reflector into the rack.

To mount the JRR200 route reflector on a rack:

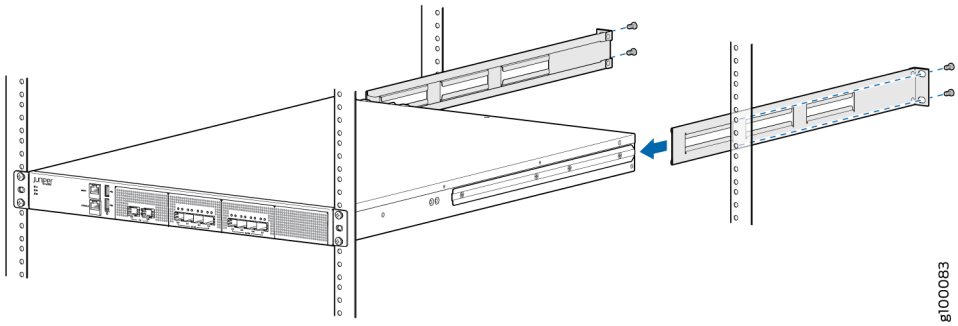
1. Attach the front-mounting brackets and the side mounting rails to the chassis by using the flat-head screws.



2. Have one person grasp both sides of the JRR200 route reflector, lift it, and position it in the rack so that the front mounting bracket holes align with the threaded holes in the rack rail and the second person secure the front of the JRR200 route reflector to the rack by using rack-mounting screws (and cage nuts and washers if your rack requires them).

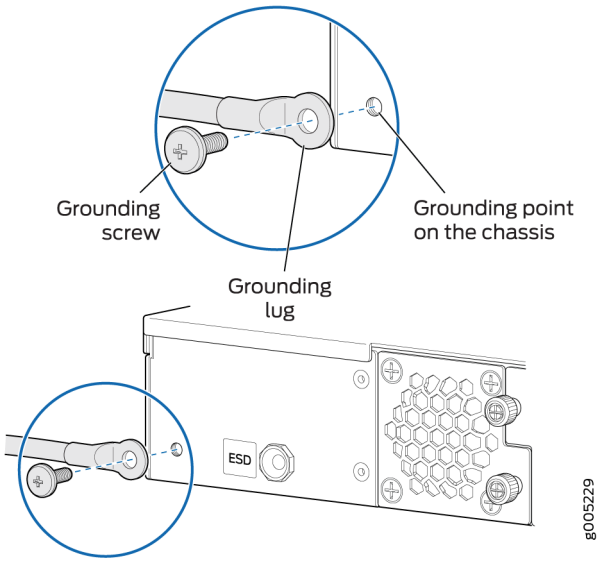


3. Continue to support the JRR200 route reflector, and have the second person slide the rear mounting blades into the channels of the side mounting rails and secure the blades to the rack. Use rack-mounting screws (and cage nuts and washers if your rack requires them) to attach the sliding blades to the rack.



Connect the Grounding Cable

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist, and connect the strap to an approved site ESD grounding point. See the instructions for your site.
2. Connect one end of the grounding cable to a proper earth ground, such as the rack in which the JRR200 route reflector is mounted.
3. Place the grounding cable lug over the grounding point on the rear of the chassis.



NOTE: The JRR200 route reflector should be permanently connected to ground during normal operation. A licensed electrician must attach a cable lug to the grounding cable. A cable with an incorrectly attached lug can damage the JRR200 route reflector.

4. Secure the grounding cable lug to the grounding point with the screw.
5. Dress the grounding cable and ensure that it does not touch or block access to other device components and that it does not drape where people could trip over it.

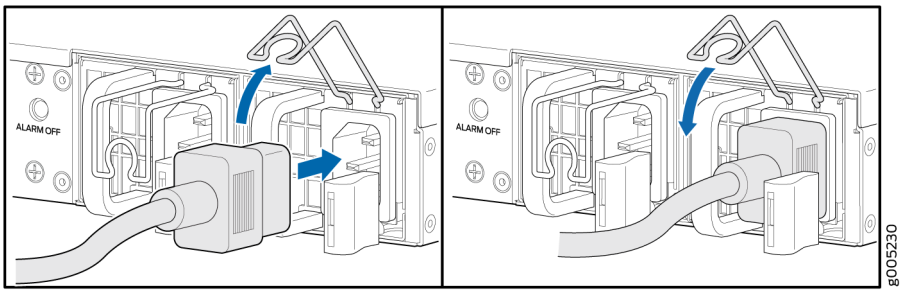
Power on the JRR200 Route Reflector

NOTE: Check that the AC or DC power supplies are fully inserted into the chassis.

If you are using the AC model, perform the following steps:

1. Set the power switch on the JRR200 route reflector to the off (**O**) position.
2. Insert the coupler end of the power cord into the AC power cord inlet on the AC power supply faceplate. Push the power cord retainer onto the power cord.

NOTE: An AC-powered device gets additional grounding when you connect the power supply in the device to a grounded AC power outlet by using the power cord.



3. Insert the power cord plug into an AC power source outlet.
4. Repeat steps 2 and 3 for the second AC power supply.
5.
   - If the AC power source outlet has a power switch, set it to on (|) position. Set the power switch on the JRR200 route reflector to the on (|) position and it will power on.

- If there is no power switch on the AC power source outlet, set the power switch on the JRR200 route reflector to the on (|) position and it will power on.

6. Verify that the **AC** and **DC** LEDs on each power supply are lit green.

If you are using the DC model, perform the following steps:

> **WARNING**: Before performing the following procedure, ensure that there is no power in the DC circuit. To ensure that all power is cut off, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the off (0) position, and tape the switch handle of the circuit breaker in the off position.

1. Ensure that the voltage across the DC power source cable leads is 0 V and that the cable leads do not become active while you are connecting DC power.

2. Verify that the DC power cables are correctly labeled before connecting them to the power supply. In a typical power distribution scheme where the return is connected to chassis ground at the battery plant, you can use a multi-meter to verify the resistance of the – 48 V and RTN DC cables to chassis ground:

   - The cable with very high resistance (indicating an open circuit) to chassis ground will be connected to the **V -** (input) DC power input terminal.

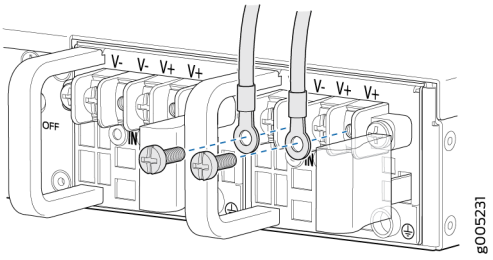
   - The cable with very low resistance (indicating a closed circuit) to chassis ground will be connected to the **V +** (return) DC power input terminal.

3. Remove the protective cover from the terminal studs on the faceplate. Save this cover for future use.

4. Remove the screws on the terminals by using a number 2 Phillips (+) screwdriver.

5. Secure each positive (+) DC source power cable lug to a RTN (return) terminal. Secure each negative (–) DC source power cable lug to a -48 V (input) terminal.

6. Tighten the screws on the power supply terminals until snug using the screwdriver. Do not overtighten.



7. Replace the protective cover over the terminal studs on the faceplate.

8. Switch the circuit breaker to the ON (|) position.

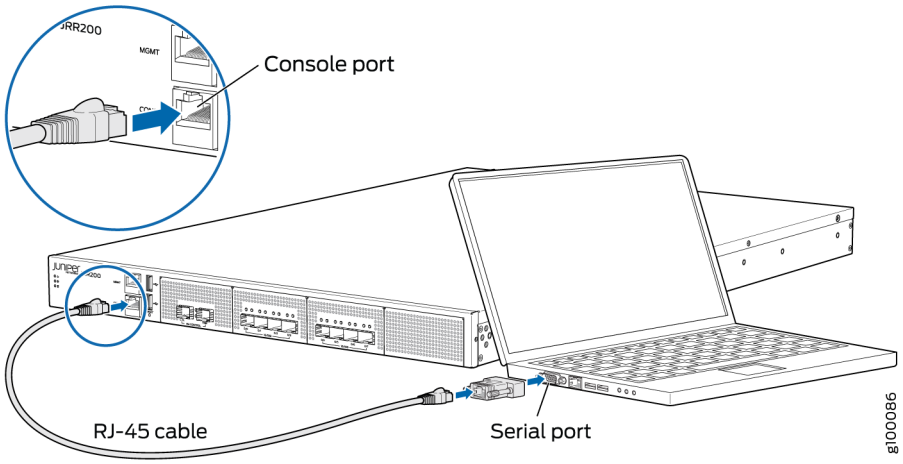
9. Verify that the **IN** and **OUT** LEDs on the power supply are lit green and are on steadily.

NOTE: Wait until the Status LED on the front panel of the JRR200 route reflector is solid green before proceeding to the next step.

Connect to the Console

To configure the JRR200 route reflector, you must connect a management device to the **CONSOLE** port located on the front panel of the JRR200 route reflector, using the provided RJ-45-to-DB-9 adapter and the RJ45 cable.

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist, and connect the strap to the ESD point on the chassis.
2. Plug one end of the RJ-45 cable into the **CONSOLE** port of the JRR200 route reflector and the other end into the DB-9 serial port adapter.



3. Connect the DB-9 serial port adapter end of the RJ-45 cable to the serial port of your management device. Use the following values to configure the serial port:
   - Baud rate—9600
   - Parity—N
   - Data bits—8
   - Stop bits—1
   - Flow control—None

Initial Configuration Using the CLI

Access the CLI to perform the initial configuration.

1. Log in to the device as root. When the device is powered on with the factory-default configuration, you do not need to enter a password.
2. At the (%) prompt, type `cli` to start the CLI and press Enter. The prompt changes to an angle bracket (>) when you enter the CLI operational mode.

```
root% cli
root>
```

3. At the (>) prompt, type `configure` and press Enter. The prompt changes from > to # when you enter configuration mode.

```
root>configure
Entering configuration mode
[edit]
root#
```

4. Set the root authentication password by entering a cleartext password, an encrypted password, or an SSH public key string (DSA or RSA).

```
root# set system root-authentication plain-text- password
New password: password
Retype new password: password
```

5. Configure the route for the management interface (optional, required only if you do not connect the **MGMT** port directly to the management device).

```
root# set routing-options static route destination prefix next-hop gateway
```

6. Commit the configuration changes.

```
root# commit
```

7. Connect the **MGMT** port on the device to the Ethernet port on the management device using an RJ-45 cable.
8. The JRR200 route reflector **MGMT** port is internally mapped to the `em0` interface in Junos. By default, the management network interface (`em0`) is configured with DHCP enabled. If there is a DHCP server on the management network, then the JRR200 management network interface is automatically assigned an IP address. If there is no DHCP server on the management network then you need to configure the management network interface IP address by performing the following steps:
   a. Delete the default management interface configuration.

```
root# delete interfaces em0
```

   b. Configure a new IP address for the management interface.

```
root# set interfaces em0 unit 0 family inet address address/prefix-length
```

   c. Commit the configuration changes.

```
root# commit
```

   d. Configure an IP address for the management device. Ensure that the IP address is on the same subnetwork as the management interface (`em0`).
9. When you have finished configuring the device, exit configuration mode:

```
[edit]
root# exit
```

Installing Junos OS Using USB

Use the following procedure to install Junos OS by using USB.

> **NOTE**: If you want to downgrade from the Junos OS 19.4R1 and the higher versions to the legacy Junos OS 17.4 versions, you must downgrade using the USB procedure. You cannot downgrade using the CLI.

Before you begin, you need to have the **junos-install-media-usb-jrr200-x86-64-19.4R1.img** software image.

1. Copy or download **junos-install-media-usb-jrr200-x86-64-19.4R1.img** image onto a Linux workstation.
2. Insert the USB device into the Linux workstation where the junos-install-media-usb-jrr200-x86-64-19.4R1.img is copied or downloaded.
3. Determine the system device of the USB device by using the `dmesg | less` command.
4. Copy the software image onto the USB device by using the `dd if=<img file absolute path> of=<USB disk device> bs=4M` command.

   ```
   user@leif:/var/tmp # dd  if=junos-install-media-usb-jrr200-x86-64-19.4R1.img  of=/dev/da0
   bs=4M
   ```

5. Once the software image is installed on the USB device, remove it form the Linux workstation.
6. Plug the USB device into the USB port on the JRR200 Route Reflector.
7. Connect a console terminal to the JRR200 Route Reflector.
8. Power on the JRR200. The JRR200 will boot from the USB device and a menu with three options will be displayed on the USB boot screen.
9. Press the down arrow on the USB boot screen to select the option `Install Juniper Linux Platform` and press Enter to install the software image.

   Once the installation is finished, you be prompted to remove the USB device.
10. When the software installation is finished, unplug the USB device from the USB port and press Enter to reboot the JRR200 and complete the software image installation.

Installing Junos OS Using CLI

Use the following procedure to install Junos OS using the CLI.

Before you begin, you need to have the **junos-install-media-jrr200-x86-64-cli.tgz** software.

1. Copy or download **junos-install-media-jrr200-x86-64-cli.tgz** software onto JRR200 Route Reflector.
2. At the CLI, enter the command `request system software add <JRR-cli-image> reboot` to install the software.

```
user@vrr-srx01>request system software add no-validate /var/tmp/junos-install-media-jrr200-x86-64-cli.tgz reboot
Verified junos-install-media-jrr200-x86-64-cli signed by PackageDevelopmentEc_2019 method ECDSA256+SHA256

WARNING:     This package will load JUNOS 19.4I software.
WARNING:     It will save JUNOS configuration files, and SSH keys
WARNING:     (if configured), but erase all other files and information
WARNING:     stored on this machine.  It will attempt to preserve dumps
WARNING:     and log files, but this can not be guaranteed.  This is the
WARNING:     pre-installation stage and all the software is loaded when
WARNING:     you reboot the system.

Saving the config files ...
Pushing Junos image package to the host...
Skip the copying for jrr200
Installing /var/tmp/install-media-jrr200-jrr200-19.4I-20191207.0.2159.tgz
Extracting the package ...
total 1431156
-rw-r--r-- 1 35553 757  288995564 Dec  9 17:43 junos-jrr200-x86-64-19.4I-20191207.0.2159-linux.tgz
-rw-r--r-- 1 35553 757 1176500534 Dec  9 17:43 junos-jrr200-x86-64-19.4I-20191207.0.2159-app.tgz
Setting up Junos host applications for installation ...
```

Power Off the Device

To power off the device, press the power switch on the rear of the device. After powering off the device, wait at least 60 seconds before turning it back on.

Reset the Configuration

Pressing and holding the **RESET** button—which is on the front panel of the chassis—for 5 seconds or more deletes all configurations (backup configurations and rescue configuration) on the device, and loads and commits the factory configuration.

Safety Warnings Summary

This is a summary of safety warnings.

For a complete list of warnings, including translations, see the JRR200 Route Reflector documentation at:

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/jrr-series/product/

WARNING: Failure to observe the following safety warnings can result in personal injury or death:

- Permit only trained and qualified personnel to install or replace device components.
- Perform only the procedures described in this Quick Start Guide and the JRR200 route reflector documentation. Other services must be performed only by authorized service personnel.
- Before installing the JRR200 route reflector, read the planning instructions in the JRR200 route reflector documentation to make sure that the site meets power, environmental, and clearance requirements for the device.

- Before connecting the JRR200 route reflector to a power source, read the installation instructions in the JRR200 route reflector documentation.
- The JRR200 route reflector weighs approximately 29 lb (13.16 kg). Manually installing the device in a rack requires two persons; one to lift the device and the second to install the mounting screws. To prevent injury while lifting, keep your back straight and lift with your legs, not your back.
- If the rack has stabilizing devices, install them in the rack before mounting or servicing the device in the rack.
- Before installing or after removing an electrical component, always place it component-side up on an antistatic mat placed on a flat, stable surface or in an antistatic bag.
- Do not work on the device or connect or disconnect cables during electrical storms.
- Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches. Metal objects heat up when connected to power and ground and can cause serious burns or become welded to the terminals.

Reference

- Technical Support

  https://www.juniper.net/support/requesting-support.html

- JRR200 Route Reflector Hardware Guide

  https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/jrr-series/jrr200/index.html