

MX104 Universal Routing Platforms

Quick Start

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This document describes how to install the Juniper Networks® MX104 Universal Routing Platform.

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MX104 Quick Start Description

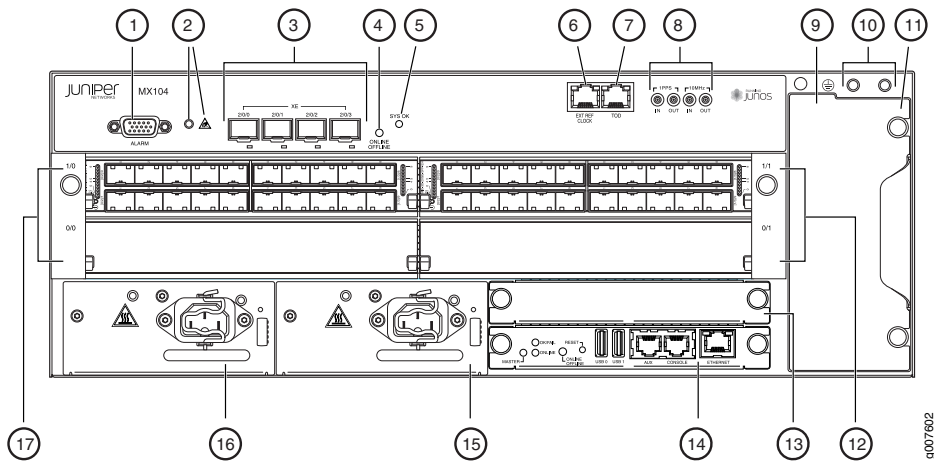
This Quick Start contains information you need to install and configure the router quickly. For complete installation instructions, see the *MX104 Universal Routing Platform Hardware Guide* at <https://www.juniper.net/documentation/>.



WARNING: This Quick Start contains a summary of safety warnings in “[Safety Warnings](#)” on page 25. For a complete list of warnings for this router, including translations, see the *MX104 Universal Routing Platform Hardware Guide* at <https://www.juniper.net/documentation/>.

The router is environmentally hardened and is 3.5 rack units (U; that is 6.125 in., or 15.55 cm) tall. Several routers can be stacked in a single floor-to-ceiling rack, for increased port density per unit of floor space. The chassis installs in standard 11.81 in. (30 cm)-deep (or larger) enclosed cabinets, 19-in. equipment racks, or telco open-frame racks.

Figure 1: Front View of the MX104 Router



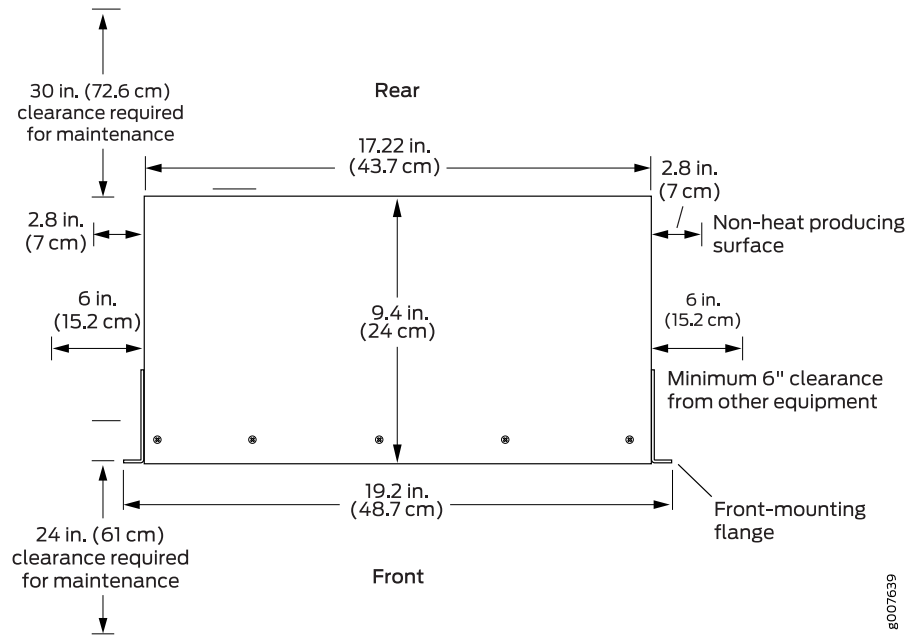
1—Alarm input and output contacts	10—Grounding terminals
2—Alarm LEDs	11—Fan tray
3—10-Gigabit Ethernet SFP+ ports	12—MIC slots 0/1 and 1/1
4—ONLINE/OFFLINE button	13—Routing Engine
5—System status LED	14—Routing Engine
6—External reference clocking port	15—Power supplies (AC or DC)
7—Time-of-day (TOD) port	16—Power supplies (AC or DC)
8—1-PPS and 10-MHz GPS input and output ports	17—MIC slots 0/0 and 1/0
9—ESD point	

Step 1: Prepare the Site for MX104 Router Installation

Prepare your site for MX104 installation by observing the following guidelines:

- You can install the router in a four-post rack or cabinet or an open-frame rack.
- The rack rails must be spaced widely enough to accommodate the chassis's external dimensions: 6.125 in. or (15.55 cm) high, 9.5 in. (24.13 cm) deep, and 17.5 in. (44.5 cm) wide. The outer edges of the mounting brackets extend the width to 19.2 in. (48.7 cm).
- One person must be available to lift the router while another secures the router to the rack.
- The rack must be strong enough to support the weight of the fully configured router, up to 32 lb (14.5 kg).
- For the cooling system to function properly, the airflow around the chassis must be unrestricted. Allow at least 6 in. (15.2 cm) of clearance between side-cooled devices. Allow 2.8 in. (7 cm) between the side of the chassis and any non-heat-producing surface such as a wall.
- For service personnel to remove and install hardware components, there must be adequate space at the front and back of the router. Allow at least 30 in. (76.2 cm) in front of the router and 24 in. (61 cm) behind the router.
- The rack or cabinet must have an adequate supply of cooling air.
- Ensure that the cabinet allows the chassis hot exhaust air to exit from the cabinet without recirculating into the router.
- You must install the router into a rack that is secured to the building structure.
- Mount the router at the bottom of the rack if it is the only unit in the rack.
- When mounting the router in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- Install the router only in restricted areas, such as dedicated equipment rooms and equipment closets, in accordance with Articles 110-16, 110-17, and 110-18 of the National Electrical Code, ANSI/NFPA 70.

Figure 2: MX104 Rack Clearance and Chassis Dimensions



Step 2: Install the Router

IN THIS SECTION

- [Tools Required to Install the Router in a Rack | 7](#)
- [Install the MX104 Router in the Rack | 7](#)

Tools Required to Install the Router in a Rack

To install the router in a rack, you need the following tools:

- Phillips (+) screwdriver, number 2
- ESD grounding wrist strap

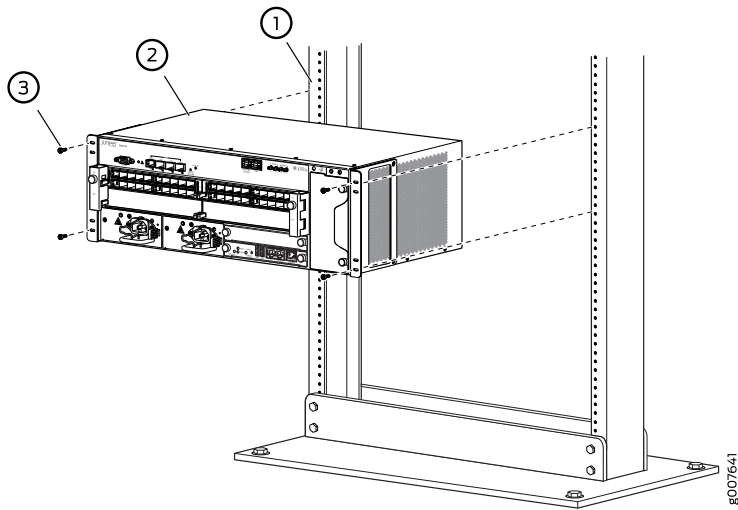
Install the MX104 Router in the Rack

The router can be installed horizontally in a rack or cabinet.

Two people are required to install the MX104 router. The chassis weighs approximately 32 lb (14.5 kg). To install the chassis (see [Figure 3 on page 8](#)):

1. Ensure that the rack is in its permanent location and is secured to the building. Ensure that the installation site allows adequate clearance for both airflow and maintenance.
2. Position the router in front of the rack or cabinet.
3. Have one person grasp both sides of the router, lift the router, and position it in the rack, aligning the mounting bracket holes with the threaded holes in the rack rails. Make sure the chassis is level.
4. Have the second person install a mounting screw into each of the open mounting holes aligned with the rack, starting from the bottom.
5. Visually inspect the alignment of the router. If the router is installed properly in the rack, all the mounting screws on one side of the rack should be aligned with the mounting screws on the opposite side, and the router should be level.

Figure 3: Installing the Front-Mounted Router in the Rack



1-Rack

3-Mounting screws

2-MX104 router

Step 3: Ground the MX104 Router

IN THIS SECTION

- [Tools Required to Ground the MX104 Router | 9](#)
- [Connect the Grounding Cable | 9](#)

Tools Required to Ground the MX104 Router

To ground the router, you need the following tools:

- Phillips (+) screwdriver, number 2
- ESD grounding wrist strap
- Two SAE 10-32 screws and washers
- Grounding lug, Panduit LCD10-10-L
- Grounding cable, use 14-AWG (2.08 mm²) 90° C wire for AC (not provided)
- Grounding cable, use 6-AWG (13.3 mm²) 60° C wire for 24V DC (not provided)

Connect the Grounding Cable

You ground the router by connecting a grounding cable to earth ground and then attaching it to the chassis grounding points on the front of the router. To ground the router:

1. Verify that a licensed electrician has attached the cable lug provided with the router to the grounding cable.
2. Attach an ESD grounding strap to your bare wrist, and connect the other end of the strap to an approved site ESD grounding point. See the instructions for your site.
3. Ensure that all grounding surfaces are clean and brought to a bright finish before grounding connections are made.
4. Connect the grounding cable to a proper earth ground.

5. Detach the ESD grounding strap from the site ESD grounding point.
6. Attach an ESD grounding strap to your bare wrist, and connect the other end of the strap to an ESD grounding point.
7. Place the grounding cable lug over the grounding points on the front of the chassis (see [Figure 4 on page 11](#)).
8. Secure the grounding cable lug with the washers and screws. The holes are sized for SAE 10-32 screws. Apply 4.34 lb-in. (0.49 Nm) of torque to each screw. Do not overtighten the screw. (Use a number 2 Phillips screwdriver.)



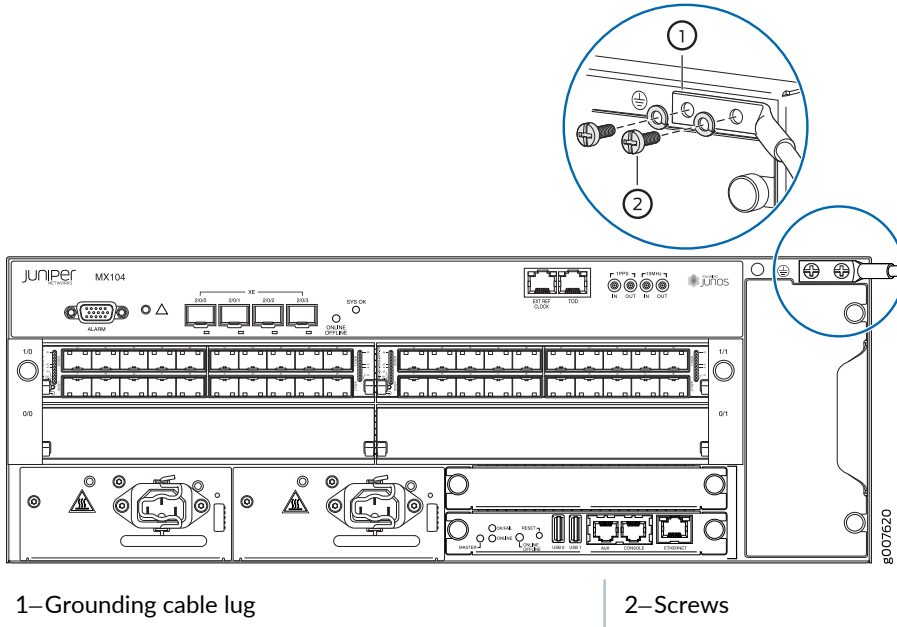
CAUTION: Ensure that each grounding cable lug seats flush against the surface of the grounding points as you are tightening the screws. Ensure that each screw is properly threaded into the grounding points. Applying installation torque to the screw when improperly threaded may result in damage to the terminal.



CAUTION: The maximum torque rating of the grounding screws on the router is 4.34 lb-in. (0.49 Nm). The grounding screws may be damaged if excessive torque is applied. Use only a torque-controlled driver to tighten screws. Use an appropriately sized driver, with a maximum torque capacity of 5 lb-in. or less. Ensure that the driver is undamaged and properly calibrated and that you have been trained in its use. You may wish to use a driver that is designed to prevent overtorque when the preset torque level is achieved.

9. Dress the grounding cable, and verify that it does not touch or block access to router components, and that it does not drape where people could trip on it.

Figure 4: Grounding Points on the MX104 Router



Step 4: Connect External Devices and Cables

IN THIS SECTION

- [Connect the Router to a Network for Out-of-Band Management | 12](#)
- [Connect the Router to a Management Console Device | 12](#)
- [Connect MIC Cables to the MX104 Router | 13](#)

Connect the Router to a Network for Out-of-Band Management

1. Turn off the power to the management device.
2. Plug one end of the Ethernet cable into the **ETHERNET** port on the Routing Engine. ([Figure 5 on page 12](#) shows the connector. [Figure 6 on page 12](#) shows the port.)
3. Plug the other end of the cable into the network device.

Figure 5: Ethernet Cable Connector

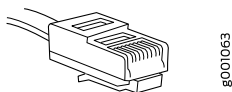
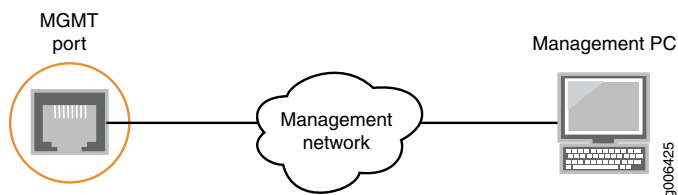


Figure 6: Ethernet Port



Connect the Router to a Management Console Device

1. Turn off the power to the console or auxiliary device.

2. Plug the RJ-45 end of the serial cable into the **CONSOLE** port on the Routing Engine ([Figure 7 on page 13](#) shows the connector. [Figure 8 on page 13](#) shows the ports.)
3. Plug the female DB-9 end into the device's serial port.

NOTE:

For console devices, configure the serial port to the following values:

- Baud rate—9600
- Parity—N
- Data bits—8
- Stop bits—1
- Flow control—none

Figure 7: Routing Engine Console Cable Connector

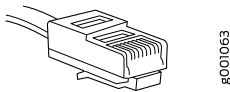
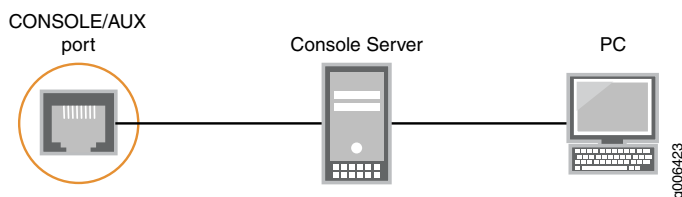


Figure 8: Console Connections



Connect MIC Cables to the MX104 Router

1. Have ready a length of the type of cable used by the component. For MIC cable specifications, see the [MX Series Interface Module Reference](#).
2. Remove the rubber safety plug from the cable connector port.



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 a transceiver emit laser light that can damage your eyes.



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

3. Insert the cable connector into the cable connector port on the faceplate.

NOTE: The XFP cages and optics on the components are industry standard parts that have limited tactile feedback for insertion of optics and fiber. You need to insert the optics and fiber firmly until the latch is securely in place.

4. Use the equipment frame to support cables and prevent them from dislodging or developing stress points. Secure the cable so that it is not supporting its own weight as it hangs to the floor. Place excess cable out of the way in the cable routing channel.



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



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

Step 5: Connect Power to the MX104 Router

IN THIS SECTION

- [Connect AC Power to an AC-Powered MX104 Router | 15](#)
- [Connect DC Power to a DC-Powered MX104 Router | 16](#)

Depending on your configuration, your router uses either AC or DC power supplies. Perform the appropriate procedures for each power supply in your router.



WARNING: You must ground the router before connecting the router to power.

Connect AC Power to an AC-Powered MX104 Router

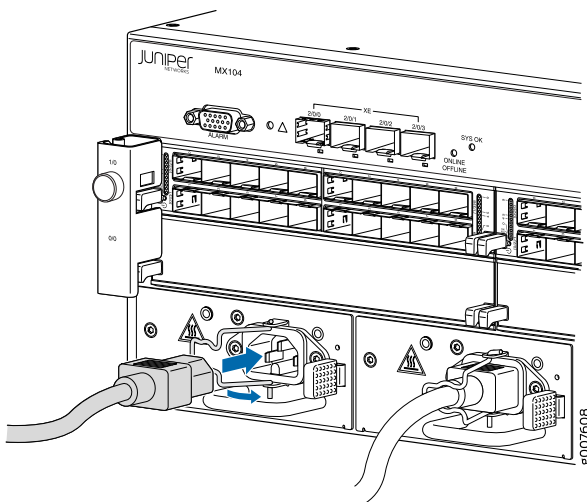
To connect power to the AC-powered router, you need the following tools:

- AC power cords with C15 plugs
 - ESD grounding wrist strap
1. Locate power cords that have a plug appropriate for your geographical location. For more information, see the *MX104 Universal Routing Platform Hardware Guide*.
 2. Attach an ESD grounding strap to your bare wrist, and connect the other end of the strap to an ESD grounding point.
 3. Insert the appliance coupler end of the power cord into the appliance inlet on the power supply.
 4. Insert the power cord plug into an external AC power source receptacle.

NOTE: Each power supply must be connected to a dedicated AC power feed and a dedicated customer site circuit breaker. We recommend that you use a dedicated customer site circuit breaker rated for 10 A (100 VAC), or as required by local code.

5. Secure the power cord with the power cord retainer clip.
6. Dress the power cord appropriately. Verify that the power cord does not block the air exhaust and access to router components, or drape where people could trip on it.
7. Repeat Step 1 through Step 6 for the remaining power supply.
8. Observe the LED on the power supply. The LED blinks green as it transitions online. If the power supply is functioning normally, the LED lights green steadily.
If the LED is red or not lit, the power supply is not functioning normally. Repeat the cabling procedures.

Figure 9: Connecting an AC Power Cord to an MX104 AC Power Supply



Connect DC Power to a DC-Powered MX104 Router

To connect power to the DC-powered router, you need the following tools:

- Phillips (+) screwdriver, number 2
- ESD grounding wrist strap

- Grounding ring lug with hole sized for an M5 screw
- M5 nut and washer (one per DC power supply, attached)
- DC power source cables, minimum 14 AWG or as required by local code (not provided)
- DC power ring lugs, Panduit PV12-14HDRB-2k (two per DC power supply)
- M6 screws and washers (two per DC power supply, attached)
- Grounding cable, use 6-AWG (13.3 mm²) 60° C wire for 24V DC (not provided)

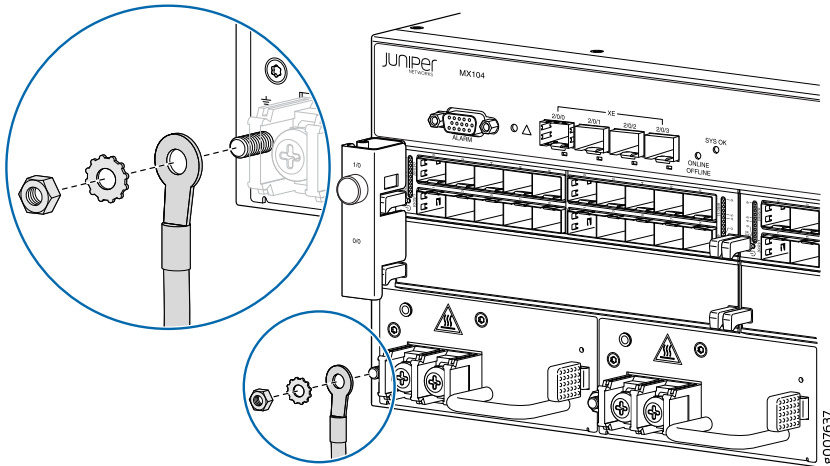
The DC power supply has two terminals on each power supply, covered by a clear plastic cover.

Table 1: MX104 DC Power System Input Voltage

Nominal Voltage	Specification
+24	Operating range: +18 to +30 VDC
-48	Operating range: -39 to -56 VDC
-60	Operating range: -39 to -72 VDC

1. Switch off the dedicated customer site circuit breakers. Ensure that the voltage across the DC power source cable leads is 0 V and that there is no chance that the cable leads might become active during installation.
2. Ground the DC power supply (see [Figure 10 on page 18](#)):
 - a. Remove the nut and washer from the grounding point on the power supply.
 - b. Secure each grounding cable lug to the grounding point with the washer and nut.

Figure 10: Connecting the Ground Cable to the MX104 DC Power Supply



3. Remove the plastic cover protecting the terminal on the faceplate.
4. Verify that the DC power cables are correctly labeled before making connections 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 multimeter to verify the resistance of the -48V and return DC cables to chassis ground:
 - For -48V and -60V:
 - a. The cable with very high resistance (indicating an open circuit) to chassis ground is the DC input cable (-).
 - b. The cable with very low resistance (indicating a closed circuit) to chassis ground is the return cable (+).
 - For +24V:
 - a. The cable with very low resistance (indicating a closed circuit) to chassis ground is the DC input cable (-).
 - b. The cable with very high resistance (indicating an open circuit) to chassis ground is the return cable (+).
5. Remove the screws and washers from the DC terminals.
6. Secure each power cable lug to the terminal with the washers and screw (see [Figure 11 on page 20](#)). Apply 27.4 lb-in. (3.1 Nm) of torque to each screw. Do not overtighten the screw. (Use a number 2 Phillips screwdriver.)
 - a. Secure the positive DC source power cable lug to the return (+) terminal.
 - b. Secure the negative DC source power cable lug to the input (-) terminal.



CAUTION: Ensure that each power cable lug seats flush against the surface of the terminal block as you are tightening the screws. Ensure that each screw is properly threaded into the terminal. Applying installation torque to the screw when improperly threaded may result in damage to the terminal.



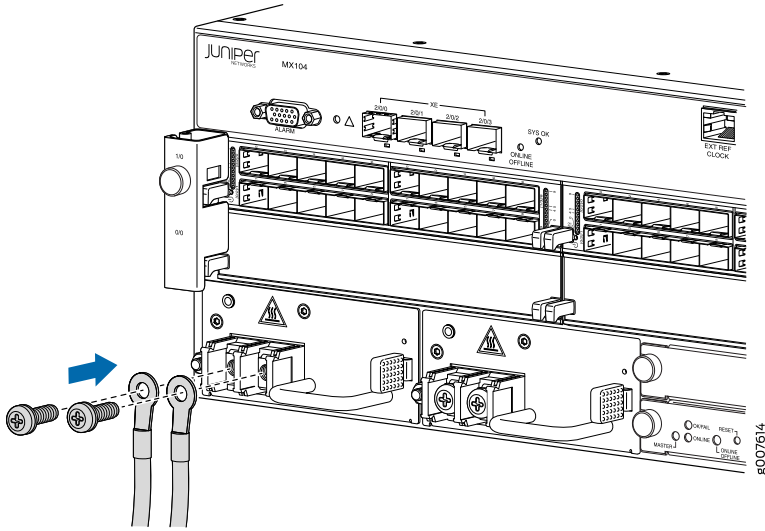
CAUTION: The maximum torque rating of the terminal screws on the DC power supply is 27.4 lb-in. (3.1 Nm). The terminal screws may be damaged if excessive torque is applied. Use only a torque-controlled driver to tighten screws on the DC power supply terminals. Use an appropriately-sized driver, with a maximum torque capacity of 27.4 lb-in. or less. Ensure that the driver is undamaged and properly calibrated and that you have been trained in its use. You may wish to use a driver that is designed to prevent overtorque when the preset torque level is achieved.

7. Replace the plastic cover over the terminals on the faceplate.
8. Connect each DC power cable to the appropriate external DC power source.

NOTE: For information about connecting to external DC power sources, see the instructions for your site.

9. Switch on the external circuit breakers to provide voltage to the DC power source cable leads.
10. Repeat Step 2 through Step 9 for the remaining power supply.
11. Observe the LED on the power supply. The LED blinks green as it transitions online. If the power supply is functioning normally, the LED lights green steadily.
If the LED is red or not lit, the power supply is not functioning normally. Repeat the cabling procedures.

Figure 11: Connecting a DC Power Cable to an MX104 DC Power Supply



Step 6: Perform Initial Software Configuration

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- Enter Configuration Mode | 21
- Configure User Accounts and Passwords | 22
- Configure System Attributes | 22
- Commit the Configuration | 23

This procedure connects the router to the network but does not enable it to forward traffic. For complete information about configuring the router to forward traffic, including examples, see the Junos OS configuration guides.

To configure the software:

Enter Configuration Mode

1. Verify that the router is powered on.
2. Log in as the “root” user. There is no password.
3. Start the CLI.

```
root# cli
root@>
```

4. Enter configuration mode.

```
cli> configure
[edit]
root@#
```

Configure User Accounts and Passwords

For information about using an encrypted password or an SSH public key string (DSA or RSA), see the *Junos OS Administration Library*.

1. Add a password to the root administration user account. Enter a clear-text password.

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

2. Create a management console user account.

```
[edit]
root# set system login user user-name authentication plain-text-password
New Password: password
Retype new password: password
```

3. Set the user account class to **super-user**.

```
[edit]
root@# set system login user user-name class super-user
```

Configure System Attributes

1. Configure the name of the router. If the name includes spaces, enclose the name in quotation marks (" ").

```
[edit]
root@# set system host-name host-name
```

2. Configure the router's domain name.

```
[edit]
root@# set system domain-name domain-name
```

3. Configure the IP address and prefix length for the router's Ethernet interface.

```
[edit]
root@# set interfaces fxp0 unit 0 family inet address address/prefix-length
```

4. Configure the IP address of a backup router, which is used only while the routing protocol is not running.

```
[edit]
root@# set system backup-router address
```

5. Configure the IP address of a DNS server.

```
[edit]
root@# set system name-server address
```

6. (Optional) Configure the static routes to remote subnets with access to the management port. Access to the management port is limited to the local subnet. To access the management port from a remote subnet, you need to add a static route to that subnet within the routing table. For more information about static routes, see the *Junos OS Administration Library*.

```
[edit]
root@# set routing-options static route remote-subnet next-hop destination-IP retain no-readvertise
```

7. Configure the telnet service at the **[edit system services]** hierarchy level.

```
[edit]
root@# set system services telnet
```

Commit the Configuration

1. (Optional) Display the configuration to verify that it is correct.

```
[edit]
root@# show
system {
  host-name host-name;
}
```

```
domain-name domain-name;  
backup-router address;  
root-authentication {  
    authentication-method (password | public-key);  
}  
name-server {  
    address;  
}  
}  
interfaces {  
    fxp0 {  
        unit 0 {  
            family inet {  
                address address/prefix-length;  
            }  
        }  
    }  
}
```

2. Commit the configuration to activate it on the router.

```
[edit]  
root@# commit
```

3. (Optional) Configure additional properties by adding the necessary configuration statements. Then commit the changes to activate them on the router.

```
[edit]  
root@host# commit
```

4. When you have finished configuring the router, exit configuration mode.

```
[edit]  
root@host# exit  
root@host>
```

Safety Warnings



WARNING: See installation instructions before connecting the router to a power source. This is a summary of safety warnings. For a complete list of warnings for this router, including translations, see the *MX104 Universal Routing Platform Hardware Guide* at <https://www.juniper.net/documentation/>.



WARNING: The intrabuilding port(s) of the router is suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding port(s) of the router **MUST NOT** be metallically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE, Issue 6) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.



CAUTION: Before removing or installing components of a router, attach an ESD strap to an ESD point, and place the other end of the strap around your bare wrist. Failure to use an ESD strap could result in damage to the router.



CAUTION: Use an external surge protective device (SPD) at the AC input of the router.

- Only trained and qualified personnel should install or replace the router.
- Perform only the procedures described in this Quick Start or the *MX104 Universal Routing Platform Hardware Guide*. Other services should be performed by authorized service personnel only.
- Before installing the router, read the guidelines for site preparation in the *MX104 Universal Routing Platform Hardware Guide* to make sure that the site meets power, environmental, and clearance requirements for the router.
- When installing the router, do not use a ramp inclined more than 10 degrees.
- To prevent injury, keep your back straight and lift with your legs, not your back.
- Mount the router at the bottom of the rack if it is the only unit in the rack.

- When mounting the router in a partially filled rack, load the rack from the bottom to the top, with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the router in the rack.
- When removing or installing an electrical component, always place it component-side up on a flat antistatic surface or in an electrostatic bag.
- When you install the router, always make the ground connection first and disconnect it last.
- Wire the DC power supply using the appropriate lugs.
- Do not work on the system 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.
- Failure to observe these safety warnings can result in serious physical injury.
- AC power cable warning (Japan):



WARNING: The attached power cable is only for this product. Do not use the cable for another product.

注意

附属の電源コードセットはこの製品専用です。
他の電気機器には使用しないでください。

9017253

Compliance Statements for NEBS

- The equipment is suitable for installation as part of the Common Bonding Network (CBN).
- The equipment is suitable for installation in locations where the National Electrical Code (NEC) applies.
- The battery return connection is to be treated as an isolated DC return (that is, DC-I), as defined in GR-1089-CORE.
- You must provision a readily accessible device outside of the equipment to disconnect power. The device must also be rated based on local electrical code practice.

Compliance Statements for EMC Requirements

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Canada

CAN ICES-3 (A)/NMB-3(A)

European Community

This is a Class A product. In a domestic environment, this product might cause radio interference in which case the user might be required to take adequate measures.

Israel



Translation from Hebrew—Warning: This product is Class A. In residential environments, the product might cause radio interference, and in such a situation, the user might be required to take adequate measures.

Japan

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

The preceding translates as follows:

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this product is used near a radio or television receiver in a domestic environment, it might cause radio interference. Install and use the equipment according to the instruction manual. VCCI-A.

United States

The hardware 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 harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, might cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Junos OS Documentation and Release Notes

For a list of related Junos OS documentation, see <https://www.juniper.net/documentation/software/junos/>.

If the information in the latest release notes differs from the information in the documentation, follow the *Junos OS Release Notes*.

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <https://www.juniper.net/documentation/>.

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <https://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes: <https://www.juniper.net/customers/csc/software/>

- Search technical bulletins for relevant hardware and software notifications:
<https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool:
<https://entitlementsearch.juniper.net/entitlementsearch/>

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://myjuniper.juniper.net>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see
<https://support.juniper.net/support/requesting-support/>.

Revision History

April 11, 2016—530-062013. Revision 2. Updates grounding information.

January 2015—530-062013. Revision 1. Minor updates.

November 2013—530-053224. Revision 1. Initial release.

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