

MX204 3D Universal Edge Router Quick Start

January 2018
Part Number: 530-083413
Revision 04

This document describes how to install the Juniper Networks® MX204 3D Universal Edge Router.

Contents

MX204 Quick Start Description	3
Step 1: Prepare the Site for MX204 Installation	4
MX204 Router Rack Requirements	5
Router Clearance Requirements	6
Router Cooling and Airflow Requirements	6
Tools Required to Prepare the MX204 Router for Installation	7
Step 2: Install the MX204 Chassis in the Rack	7
Step 3: Connect the Grounding Cable	10
Step 4: Connect External Devices and Cables	11
Connect the Router to a Network for Out-of-Band Management	12
Connect the Router to a Console Device	12
Connect the Router to External Clocking and Timing Devices	14
Connect 1-PPS and 10-MHz Timing Devices to the Router	14
Connect a Time-of-Day Device to the Router	14
Connect a BITS External Clocking Device to the Router	15
Step 5: Connect Power Cables	15
Connect Power to an AC Router	16
Connect Power to a DC Router	17
Step 6: Perform Initial Software Configuration	19
Enter Configuration Mode	19
Configure User Accounts and Passwords	20
Configure System Attributes	20
Commit the Configuration	21
Safety Warnings	22
Compliance Statements for NEBS	24
Compliance Statements for EMC Requirements	24
Canada	24
European Community	24

Israel	24
Japan	25
United States	25
Junos OS Documentation and Release Notes	25
Requesting Technical Support	25
Self-Help Online Tools and Resources	26
Opening a Case with JTAC	26
Revision History	26

MX204 Quick Start Description

This Quick Start contains information you need to install and configure the router quickly. For complete installation instructions, see the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>.



WARNING: This Quick Start contains a summary of safety warnings in “[Safety Warnings](#)” on [page 22](#). For a complete list of warnings for this router, including translations, see the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>.

The Juniper Networks MX204 3D Universal Edge Router is an Ethernet-optimized edge router with 400-Gbps capacity that provides both switching and carrier-class Ethernet routing. The MX204 router runs Junos operating system (Junos OS), enabling a wide range of business and residential applications and services, including high-speed transport and virtual private network (VPN) services, next-generation broadband multiplay services, and high-volume Internet data center internetworking. Each router provides full duplex, high-density Ethernet interfaces and high-capacity switching throughput and uses the Junos Trio chipset for increased scalability of Layer 2 and Layer 3 packet forwarding, buffering, and queuing.

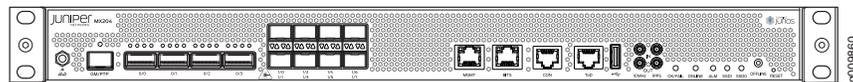
The MX204 router is compact and one rack unit (1 U) tall. Several routers can be stacked in a single floor-to-ceiling rack for increased port density per unit of floor space.

The MX204 router is a fixed-configuration router, and supports one built-in Routing Engine. The router runs on AC or DC power, with two dedicated power supply modules on each device. Cooling is handled by three fan modules.

The MX204 has four rate-selectable ports that can be configured as 100-Gigabit Ethernet ports or 40-Gigabit Ethernet ports, or each port can be configured as four 10-Gigabit Ethernet ports (by using a breakout cable). The MX204 also has eight 10-Gigabit Ethernet ports. The four rate-selectable ports support QSFP28 and QSFP+ transceivers, whereas the eight 10-Gigabit Ethernet ports support SFP+ transceivers.

[Figure 1 on page 3](#) shows the front of the MX204 router.

Figure 1: Front View of the MX204 Router



[Figure 2 on page 4](#) and [Figure 3 on page 4](#) shows the rear of the fully configured routers.

Figure 2: Rear View of the AC-Powered MX204 Router

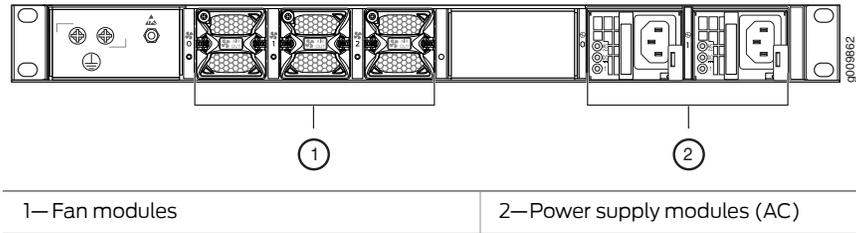
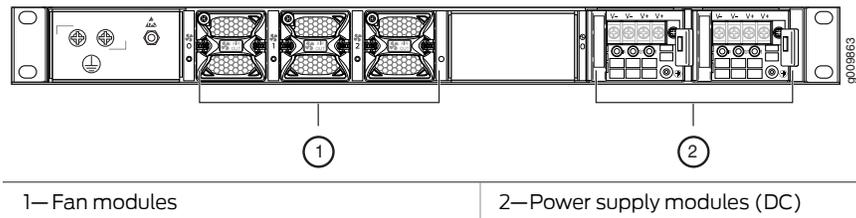


Figure 3: Rear View of the DC-Powered MX204 Router

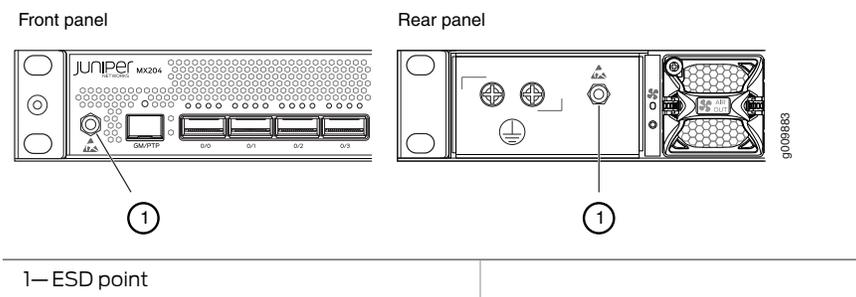


The electrostatic discharge (ESD) points on the router are located both on the front and on the rear of the chassis. [Figure 4 on page 4](#) shows the electrostatic discharge (ESD) point on the router.



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

Figure 4: ESD Points on the MX204 Router



Step 1: Prepare the Site for MX204 Installation

- [MX204 Router Rack Requirements on page 5](#)
- [Router Clearance Requirements on page 6](#)
- [Router Cooling and Airflow Requirements on page 6](#)
- [Tools Required to Prepare the MX204 Router for Installation on page 7](#)

MX204 Router Rack Requirements

The MX204 router can be installed in a standard 19-in. rack. Many types of racks are acceptable, including four-post (telco) racks and open-frame racks. [Table 1 on page 5](#) summarizes rack requirements and specifications for the router.

Table 1: Rack Requirements and Specifications for an MX204 Router

Rack Requirement	Guidelines
Rack type and mounting bracket hole spacing	<p>Use a four-post rack. You can mount the router on any four-post rack that provides bracket holes or hole patterns spaced at 1 U (1.75-in./4.44-cm) increments and that meets the size and strength requirements specified in this table.</p> <p>A U is the standard rack unit defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310–D) published by the Electronics Components Industry Association (http://www.ecianow.org/).</p>
Rack size and strength	<ul style="list-style-type: none"> • Ensure that the rack is a 19-in. rack as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310–D) published by the Electronics Components Industry Association (http://www.ecianow.org/). • Ensure that the rack is one of the following standard lengths: <ul style="list-style-type: none"> • 23.6 in. (600 mm) • 30.0 in. (762 mm) • 31.5 in. (800 mm) • The rack rails must be spaced widely enough to accommodate the router chassis's external dimensions (see <i>MX204 Router Physical Specifications</i>). The outer edges of the mounting brackets extend the width to 19 in. (48.3 cm). The spacing of rails and adjacent racks must also allow for the clearances around the router and rack. • The router ships with the front-mounting brackets fixed in the front-mount position on the chassis. You can move the rear-mounting brackets based on the depth of the rack. • The chassis height of 1.72 in. (4.37 cm) is approximately 1 U (rack unit). • The rack must be strong enough to support the weight of the fully configured router, up to 22.7 lb (10.3 kg). • Either end of the router must be mounted flush with the rack and still be adjustable for racks with different depths. The front and rear rack rails must be spaced between 23.62 in. (600 mm) and 31.5 in. (800 mm) front to back. • Ensure that the spacing of rails and adjacent racks allows for the proper clearance around the router and rack.
Rack connection to the building structure	<ul style="list-style-type: none"> • Secure the rack to the building structure. • If earthquakes are a possibility in your geographic area, secure the rack to the floor. • Secure the rack to the ceiling brackets as well as wall or floor brackets for maximum stability.

- See Also**
- *MX204 Site Preparation Checklist*
 - *MX204 Installation Summary*
 - *MX204 Router Physical Specifications*

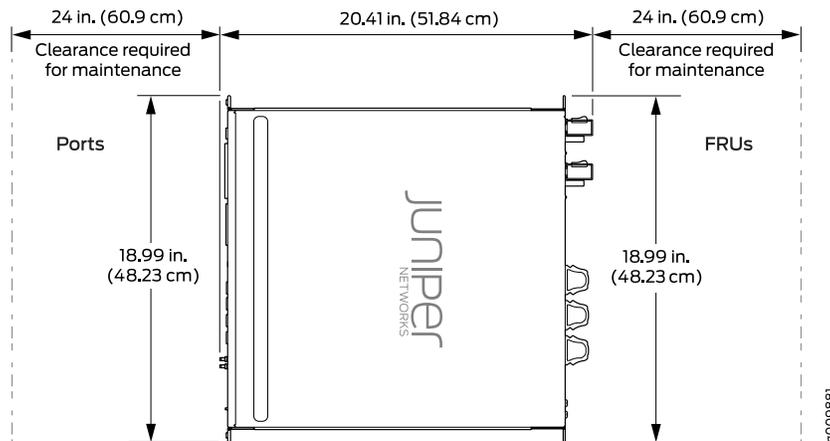
Router Clearance Requirements

For the cooling system to function properly, the airflow around the chassis must be unrestricted. You must allow sufficient clearance around the installed chassis for cooling and maintenance.

If you are mounting an MX204 in a rack with other equipment, ensure that the exhaust from the other equipment does not blow into the intake vents of the MX204 chassis.

For service personnel to remove and install hardware components, and to accommodate the interface and power cable bend radius, there must be adequate space at the front and rear of the router. Allow at least 24 in. (61 cm) space in the front and rear of the router. See [Figure 5 on page 6](#).

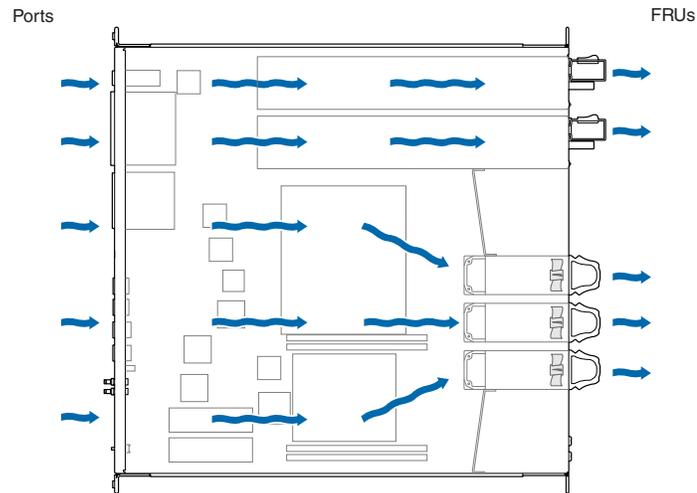
Figure 5: Clearance Requirements for Airflow and Hardware Maintenance for the MX204



Router Cooling and Airflow Requirements

- The router has front-to-back or airflow out (AFO) cooling system. Air is pulled through the front of the chassis toward the fan tray, from where it is exhausted out of the system. The power supplies are self-cooling and are located in the rear of the router.
- 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 routers. Allow 2.8 in. (7 cm) between the side of the chassis and any non-heat-producing surface such as a wall.
- The power supplies are self-cooling and are located in the rear of the router. The exhaust for the power supplies are also located on the rear of the chassis.
- The rack or cabinet must have an adequate supply of cooling air. See [Figure 6 on page 7](#).

Figure 6: Airflow Through the MX204 Router



Tools Required to Prepare the MX204 Router for Installation

- Blank panels to cover any slots not occupied by a component
- Mounting brackets, supplied with the router
- Sixteen screws for securing the mounting brackets to the chassis, supplied with the router
- Phillips (+) screwdriver, number 2, not supplied
- Four mounting screws, supplied with the router

Step 2: Install the MX204 Chassis in the Rack

To install the router in a rack or cabinet:

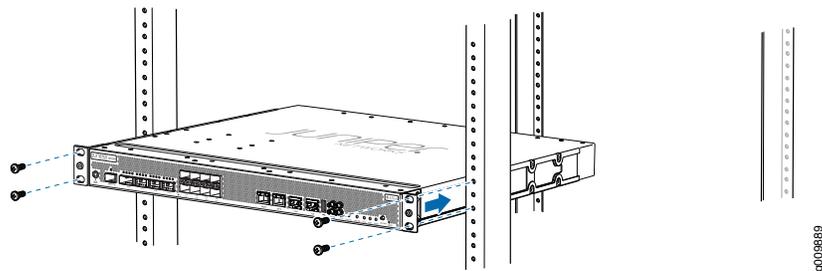
1. Position the router in front of the rack or cabinet.
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and to a site ESD point.
3. Align the holes in the front mounting brackets with the holes on the side of the chassis (see [Figure 7 on page 7](#)).

Figure 7: Attaching the Mounting Brackets



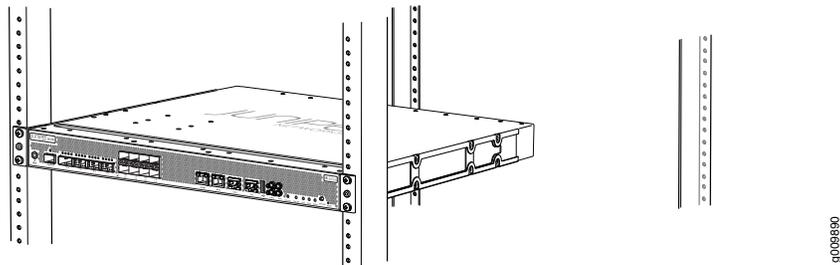
- Using a Phillips (+) number 2 screwdriver, secure the mounting brackets to the router using the mounting screws.
- With one person on each side, hold on to the bottom of the chassis and carefully lift it so that the mounting brackets contact the rack rails.
- Carefully slide the router onto the mounting brackets until the front-mounting brackets attached to the chassis contact the rack rails (see [Figure 8 on page 8](#)).

Figure 8: Installing the Router in a Four-Post Rack



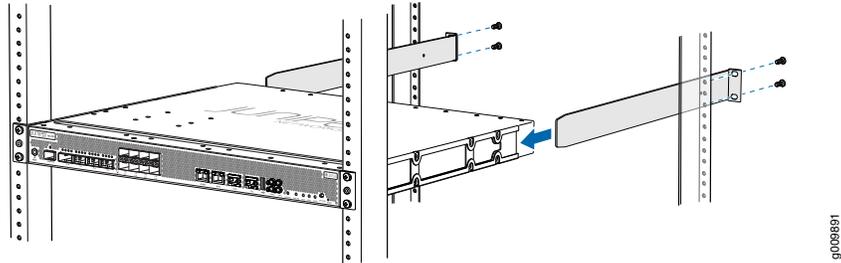
- Install mounting screws into each of the open front-mounting holes aligned with the rack, starting from the bottom, and secure them tightly. [Figure 9 on page 8](#) shows the router fully secured to the front rails of the four-post rack.

Figure 9: Router Secured by Front-Mounting Brackets



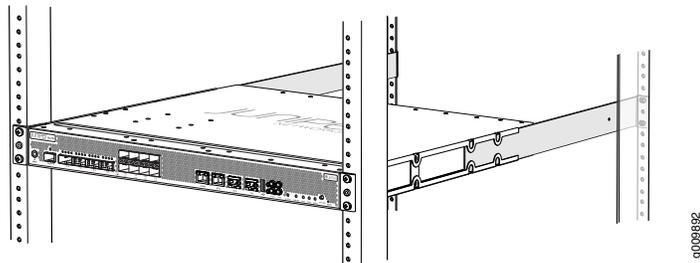
- On the rear of the chassis, slide the rear-mounting brackets on either side of the chassis until the rear-mounting brackets contact the rack rails (see [Figure 10 on page 9](#)).
The rear-mounting brackets on each side of the chassis are movable. You can adjust the brackets according to the depth of the rack.

Figure 10: Installing the Rear-Mounting Brackets



9. Install mounting screws into each of the open rear-mounting holes aligned with the rack, starting from the bottom, and secure them tightly.
10. Visually inspect the alignment of the chassis. If the chassis is installed properly in the rack, all the mounting screws on one side of the rack are aligned with the mounting screws on the opposite side and the router is level. [Figure 11 on page 9](#) shows the router fully secured and installed in a four-post rack.

Figure 11: Router Installed in the Rack



Step 3: Connect the Grounding Cable

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, the router must be adequately grounded before power is connected.

A protective earthing terminal bracket is required for connecting the chassis to earth ground. This two-holed bracket attaches on the side of the chassis through the mounting rail and provides a protective earthing terminal for the router. The grounding points are in the form of studs sized for M5 Pan Head screws. The M5 Pan Head screws with integrated washers are provided in the accessory kit. The grounding points are spaced at 0.75-in. (19.1-mm) centers.

You ground the router by connecting a grounding cable to earth ground and then attaching it to the chassis grounding points by using two M5 Pan Head screws. You must provide the grounding cables (the cable lugs are supplied with the router).



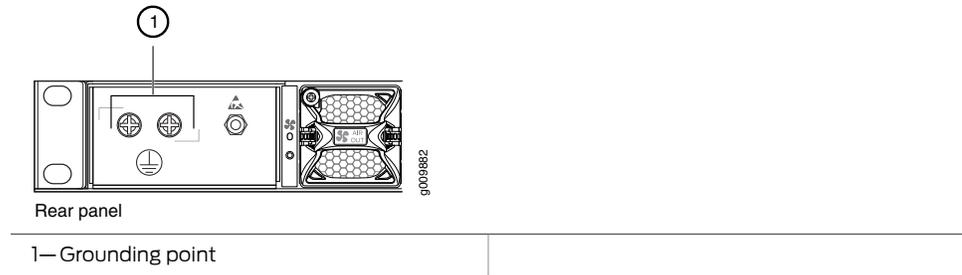
NOTE: The grounding lug required is a Panduit LCD10-10A-L or equivalent (not provided). The grounding lug accommodates 14–10 AWG (2–5.3 mm²) stranded wire. The grounding cable that you provide for the chassis must be the same size or heavier than the input wire of each power supply. Minimum recommendations are 14–10 AWG (2–5.3 mm²) stranded wire, 60° C wire, or as permitted by local code.

To ground the MX204 router:

1. Verify that a licensed electrician has attached the cable lug provided with the router to the grounding cable.
2. Attach an electrostatic discharge (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. Connect the grounding strap to one of the ESD points on the chassis.
[Figure 4 on page 4](#) shows the ESD point on the router.
7. Place the grounding cable lug over the grounding point on the side of the chassis (see [Figure 12 on page 11](#)).

8. Secure the grounding cable lug with the screws. The holes are sized to accommodate M5 Pan Head screws.
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.

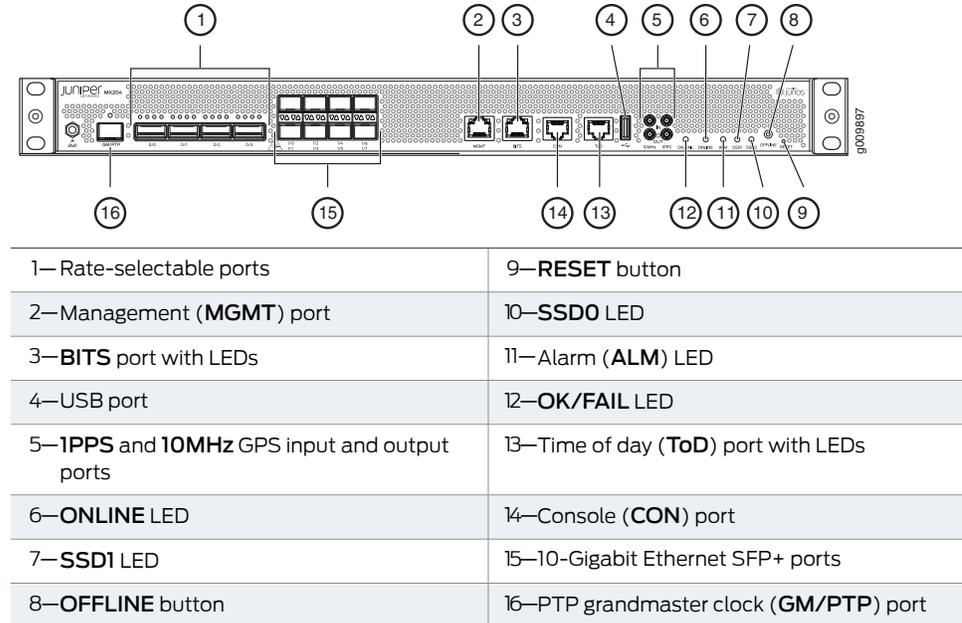
Figure 12: Grounding Point on the MX204 Router



Step 4: Connect External Devices and Cables

Figure 13 on page 11 shows the front panel of the MX204 router. All the connections to the router are made through the front panel.

Figure 13: MX204 Front Panel Ports, LEDs, and Button



- [Connect the Router to a Network for Out-of-Band Management on page 12](#)
- [Connect the Router to a Console Device on page 12](#)
- [Connect the Router to External Clocking and Timing Devices on page 14](#)

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

To connect the router to a network for out-of-band management, connect an Ethernet cable with RJ-45 connectors to the **MGMT** port on the router. One Ethernet cable is provided with the router. To connect to the **MGMT** port on the router faceplate:



NOTE: Use shielded CAT5e cable for the **CON** and **MGMT** ports on the router.

1. Turn off power to the management device.
2. Plug one end of the Ethernet cable (Figure 14 on page 12 shows the connector) into the **MGMT** port on the router.
3. Plug the other end of the cable into the network device.

Figure 14: Out-of-Band Management Cable Connector

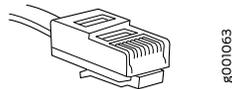


Table 2: Out-of-Band Management Port on the MX204 Router

Callout	Label	Description
2 (See Figure 13 on page 11)	MGMT	Dedicated management channel for device maintenance. It is also used by system administrators to monitor and manage the router remotely.

Connect the Router to a Console Device

To use a system console to configure and manage the router, connect it to the appropriate **CON** port on the router. The console port is used to connect a laptop or console terminal to configure the router (see Figure 16 on page 13 and Figure 17 on page 13). The console port accepts a cable with an RJ-45 connector. One serial cable with an RJ-45 connector and a DB-9 connector is provided with the router.



NOTE: Use shielded CAT5e cable for connecting the **CON** and **MGMT** ports on the router.

To connect a management console:

1. Turn off power to the console device.

2. Plug the RJ-45 end of the serial cable (see [Figure 15 on page 13](#)) into the **CON** port on the router.
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 15: Console and Auxiliary Cable Connector

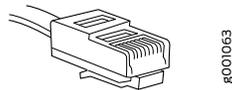


Figure 16: Connecting the MX204 Router to a Management Console Through a Console Server

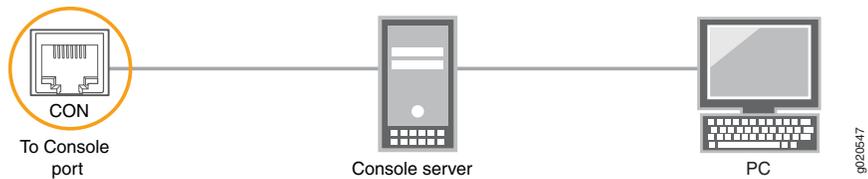


Figure 17: Connecting the MX204 Router Directly to a Management Console



Table 3: Console Port on the MX204 Router

Callout	Label	Description
14 (See Figure 13 on page 11)	CON	Connect a laptop or console terminal to configure the router.

Connect the Router to External Clocking and Timing Devices

- [Connect 1-PPS and 10-MHz Timing Devices to the Router on page 14](#)
- [Connect a Time-of-Day Device to the Router on page 14](#)
- [Connect a BITS External Clocking Device to the Router on page 15](#)

Connect 1-PPS and 10-MHz Timing Devices to the Router

The router has four SubMiniature B (SMB) connectors that support 1-PPS and 10-MHz timing devices.



NOTE: Ensure that a cable of 3 m or less in length is used for the 10-MHz and 1-PPS connectors.

To connect the SMB coaxial cable to the external clocking input port:

1. Connect one end of the SMB coaxial cable to either the 1-PPS SMB connector or the 10-MHz SMB connector on the router.
2. Connect the other end of the SMB coaxial cable to the 10-MHz or 1-PPS source network equipment.



NOTE: Ensure that the 10-MHz or 1-PPS source network equipment contains low voltage complementary metal oxide semiconductor (LVCMOS) or is compatible with low-voltage (3.3 V) transistor–transistor logic (LVTTTL).

Table 4: Clocking Port on the MX204 Router

Callout	Label	Description
5	10MHz	GPS input and output ports.
(See Figure 13 on page 11)	1PPS	

Connect a Time-of-Day Device to the Router

A time-of-day port—labeled **ToD**—on the front panel of the router enables you to connect external timing devices.

To connect the router to a ToD external timing device:

1. Attach an electrostatic discharge (ESD) grounding trap on your bare wrist, and connect the strap to one of the ESD points on the chassis.
2. Plug one end of the RJ-45 cable into the **ToD** port on the front panel of the router.

3. Plug the other end of the RJ-45 cable into the ToD timing device.
4. Verify that the LEDs for the **ToD** port on the router are lit steadily green.
5. Configure the port. See *Configuring Clock Synchronization Interface on MX Series Routers*.

Table 5: Time-of-Day Port on the MX204 Router

Callout	Label	Description
13	ToD	ToD RJ-45 port with LED.

(See [Figure 13 on page 11](#))

Connect a BITS External Clocking Device to the Router

The router has an external building-integrated timing supply (BITS) port—labeled **BITS**—on the front panel of the router.

To connect the router to a BITS external clocking device:

1. Attach an electrostatic discharge (ESD) grounding trap on your bare wrist, and connect the strap to one of the ESD points on the chassis.
2. Plug one end of the RJ-45 cable into the internal clock port on the router.
3. Plug the other end of the RJ-45 cable into the BITS external clocking device.
4. Verify that the LEDs for the **BITS** port are lit steadily green.
5. Configure the port. See *Configuring Clock Synchronization Interface on MX Series Routers*.

Table 6: BITS Port on the MX204 Router

Callout	Label	Description
3	BITS	BITS clock interface port with LED.

(See [Figure 13 on page 11](#))

Step 5: Connect Power Cables

Depending on the configuration, your router uses either AC or DC power supplies. Perform the appropriate procedures for each power supply in your router. The power supplies are hot-insertable and are field-replaceable units (FRUs). MX204 supports two power supply modules. The power supplies install in the rear of the chassis in the slots provided.



WARNING: You must ground the router before connecting either the AC power cord or the DC power cable.



CAUTION: Do not mix AC and DC power supplies in the same chassis.

- [Connect Power to an AC Router on page 16](#)
- [Connect Power to a DC Router on page 17](#)

Connect Power to an AC Router

Table 7: MX204 AC Power System Input Voltage

Item	Specification
AC input voltage	Operating range: 90–264 VAC

1. Locate power cords that have a plug appropriate for your geographical location.
2. Attach an ESD grounding strap to your bare wrist and connect the strap to one of the ESD points on the chassis.
3. Connect the power cord to the power supply.
4. Insert the power cord plug into an external AC power source receptacle.



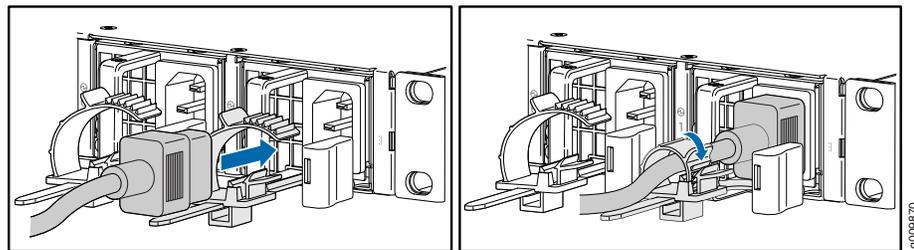
NOTE: Each power supply must be connected to a dedicated AC power feed and a dedicated customer-site circuit breaker. We recommend that you use a dedicated customer-site circuit breaker rated for either 20 A (110 VAC) minimum or 16 A (220 VAC) minimum, or as required by local code.

5. Push the end of the AC power cord retainer strip into the hole next to the inlet on the power supply faceplate until it snaps into place. Ensure that the loop in the retainer strip faces toward the power cord.
6. Press the small tab on the retainer strip to loosen the loop. Slide the loop until you have enough space to insert the power cord coupler into the inlet.
7. Insert the power cord coupler firmly into the inlet.
8. Slide the loop toward the power supply until it is snug against the base of the coupler.

9. Press the tab on the loop and draw out the loop into a tight circle (see [Figure 18 on page 17](#)).
10. 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.
11. Repeat Step 1 through Step 10 for the remaining power supply.
12. Power on the power supply at source. Observe the power status LED on the router. If an AC power supply is installed correctly and functioning normally, the status LED lights green steadily.

If the status LED indicates that the power supply is not functioning normally, repeat the installation and cabling procedures.

Figure 18: Connecting an AC Power Cord to an MX204 AC Power Supply



Connect Power to a DC Router

Table 8: MX204 DC Power System Input Voltage

Item	Specification
DC input voltage	Operating range: -44 through -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. Remove the clear plastic cover protecting the terminal on the faceplate.
3. 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 -48 V and RTN DC cables to chassis ground:
 - The cable with very large resistance (indicating an open circuit) to chassis ground is -48 V.

- The cable with very low resistance (indicating a closed circuit) to chassis ground is **RTN**.
4. Remove the screws from the terminals.
 5. Secure each power cable lug to the terminal with the screw (see [Figure 19 on page 19](#)). Apply between 5 lb-in. (0.6 Nm) and 6 lb-in. (0.7 Nm) of torque to the screw. Do not overtighten the nut. (Use a number Phillips 2 screwdriver.)
 - a. Secure the positive (+) DC source power cable lug to the **RTN** (return) terminal.
 - b. Secure the negative (-) DC source power cable lug to the **-48V** (input) terminal.



NOTE: The DC power source cables required is 14–16 AWG with ring lug (Molex 190700069 or equivalent) (not provided).



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 might result in damage to the terminal.



CAUTION: The maximum torque rating of the terminal screws on the DC power supply is 6 lb-in. (0.7 Nm). The terminal screws might 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 6 lb-in. or less. Ensure that the driver is undamaged and properly calibrated and that you have been trained in its use. You might want to use a driver that is designed to prevent overtorque when the preset torque level is achieved.

6. Replace the clear plastic cover over the terminals on the faceplate.
7. Repeat Step 3 through Step 5 for the remaining power supply.
8. 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.
9. Connect each DC power cable to the appropriate external DC power source.

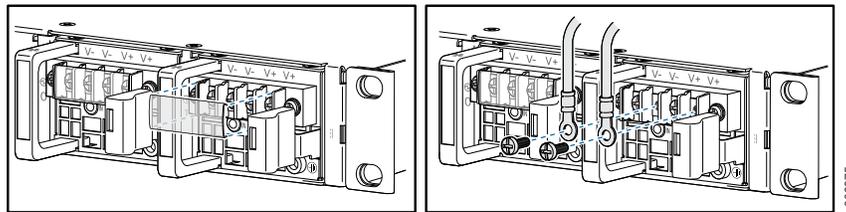


NOTE: For information about connecting to external DC power sources, see the instructions for your site.

10. Switch on the external circuit breakers to provide voltage to the DC power source cable leads.
11. Power on the power supply at source. Observe the power status LED on the router. If a DC power supply is installed correctly and functioning normally, the status LED lights green steadily.

If the status LED indicates that the power supply is not functioning normally, repeat the installation and cabling procedures.

Figure 19: Connecting a DC Power Cable to an MX204 DC Power Supply



Step 6: Perform Initial Software Configuration

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 on page 19](#)
- [Configure User Accounts and Passwords on page 20](#)
- [Configure System Attributes on page 20](#)
- [Commit the Configuration on page 21](#)

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@host>
```

4. Enter configuration mode.

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

Configure User Accounts and Passwords

For information about using an encrypted password or an SSH public key string (DSA or RSA), see *Configuring the Root Password and authentication (Login)* in the *User Access and Authentication Feature Guide for Routing Devices*.

1. Add a password to the root administration user account. Enter a cleartext password.

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

2. Create a management console user account.

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

2. Configure the router's domain name.

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

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

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

5. Configure the IP address of a DNS server.

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

- (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@host# set routing-options static route remote-subnet next-hop destination-IP
retain no-readvertise
```

- Configure the Telnet service at the `[edit system services]` hierarchy level.

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

Commit the Configuration

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

```
[edit]
root@host# 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;
      }
    }
  }
}
}
```

- Commit the configuration to activate it on the router.

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

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

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

- 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. This is a summary of safety warnings. For a complete list of warnings for this router, including translations, see the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>.



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 metallicly 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 4) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallicly 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 must install or replace the router.
- Perform only the procedures described in this quick start or the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>. Other services should be performed by authorized service personnel only.
- Read the installation instructions before you connect the router to a power source.
- Before installing the router, read the guidelines for site preparation in the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/> to make sure that the site meets power, environmental, and clearance requirements for the router.
- 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 routers. Allow 2.8 in. (7 cm) between the side of the chassis and any non-heat-producing surface such as a wall.

- When installing the router, do not use a ramp inclined more than 10 degrees.
- Manually installing the router requires two people for an empty chassis and three people for a fully configured router to lift the chassis. Before lifting the chassis with only two people, remove the components as described in the *MX204 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>. To prevent injury, keep your back straight and lift with your legs, not your back. Do not attempt to lift the chassis by the power supply handles.
- 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. When connecting power, the proper wiring sequence is ground to ground, +RTN to +RTN, then –48 V to –48 V. When disconnecting power, the proper wiring sequence is –48 V to –48 V, +RTN to +RTN, then ground to ground. Always connect the ground wire first and disconnect it last.
- 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。

g017253

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

- [Canada on page 24](#)
- [European Community on page 24](#)
- [Israel on page 24](#)
- [Japan on page 25](#)
- [United States on page 25](#)

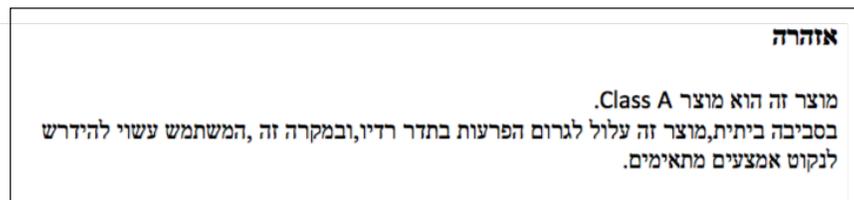
Canada

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 <http://www.juniper.net/techpubs/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 <http://www.juniper.net/techpubs/>.

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 <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://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: <http://www.juniper.net/customers/support/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- 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, visit us at <http://www.juniper.net/support/requesting-support.html>

Revision History

January 2018—Revision 04

Copyright © 2018 Juniper Networks, Inc. All rights reserved.

Juniper Networks, the Juniper Networks logo, Juniper, and Junos are registered trademarks of Juniper Networks, Inc. and/or its affiliates in the United States and other countries. All other trademarks may be property of their respective owners.

Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.