

MX5, MX10, MX40, and MX80 3D Universal Edge Router Quick Start

January 2015
Part Number: 530-062012
Revision 01

This document describes how to install the Juniper Networks® MX5, MX10, MX40, and MX80 3D Universal Edge Router.

Contents

MX5, MX10, MX40, and MX80 Quick Start Description	3
Step 1: Prepare the Site for MX5, MX10, MX40, or MX80 Installation	4
MX5, MX10, MX40, and MX80 Router Rack Requirements	4
Tools Required to Prepare the MX5, MX10, MX40, and MX80 Router for Installation	5
Move the Mounting Brackets for Center-Mounting the MX5, MX10, MX40, or MX80 Router, If Needed	5
Step 2: Install the Router	7
Tools Required to Install the MX5, MX10, MX40, or MX80 Router	7
Install the MX5, MX10, MX40, or MX80 Chassis in the Rack	7
Install the MX5, MX10, MX40, or MX80 Cable Management Bracket	8
Step 3: Connect the Grounding Cable	10
Step 4: Connect External Devices and Cables	11
Connect the MX5, MX10, MX40, or MX80 Router to a Network for Out-of-Band Management	11
Connect the MX5, MX10, MX40, or MX80 Router to a Management Console or Auxiliary Device	11
Connect MIC Cables to the MX5, MX10, MX40, or MX80 Router	11
Step 5: Connect Power Cables	13
Connect Power to an AC Router	13
Connect Power to a DC Router	14
Step 6: Perform Initial Software Configuration	16
Enter Configuration Mode	16
Configure User Accounts and Passwords	16
Configure System Attributes	17

Commit the Configuration	17
Safety Warnings	19
Compliance Statements for NEBS	20
Compliance Statements for EMC Requirements	21
Canada	21
European Community	21
Israel	21
Japan	21
United States	22
Junos OS Documentation and Release Notes	23
Requesting Technical Support	23
Self-Help Online Tools and Resources	23
Opening a Case with JTAC	24
Revision History	24

MX5, MX10, MX40, and MX80 Quick Start Description

This Quick Start contains information you need to install and configure the router quickly. For complete installation instructions, see the *MX5, MX10, MX40, and MX80 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 19. For a complete list of warnings for this router, including translations, see the *MX5, MX10, MX40, and MX80 3D Universal Edge Router Hardware Guide* at <http://www.juniper.net/techpubs/>.

The MX5, MX10, MX40, and MX80 routers are available as a modular chassis with two dedicated slots for Modular Interface Cards (MICs) that provide scalable configuration options. Software licenses allow you to upgrade from one router to another without a hardware upgrade. The ports are restricted based on the router’s associated license as follows:

- MX5 router: allows usage of the MIC slot labeled **1/MIC 0** which comes pre-populated with the *Gigabit Ethernet MIC with SFP*.
- MX10 router: allows usage of the MIC slot labeled **1/MIC 0** which comes pre-populated with the *Gigabit Ethernet MIC with SFP* and the second MIC slot labeled **1/MIC 1**.
- MX40 router: allows usage of both MIC slots and ports **0** and **1** of the built-in 10-Gigabit Ethernet MIC (labeled **0/MIC 0**).
- MX80 router: allows usage of both MIC slots and all four ports of the built-in 10-Gigabit Ethernet MIC (labeled **0/MIC 0**).

A fixed version of the MX80 router (model number: MX80-48T) has 48 fixed 10/100/1000Base-T RJ45 ports in place of the MIC slots.

For a list of MICs supported on the MX5, MX10, MX40, and modular MX80 routers, see *MICs Supported by MX Series Routers* in the *MX Series Interface Module Reference*.

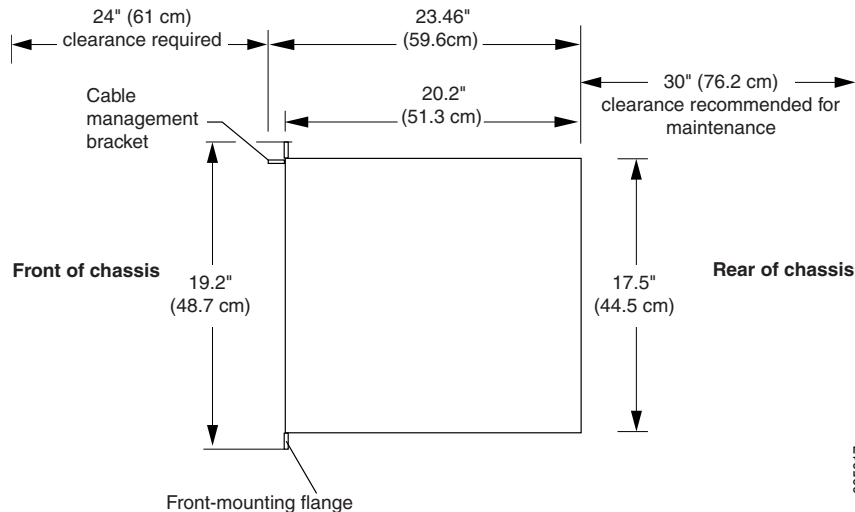
Step 1: Prepare the Site for MX5, MX10, MX40, or MX80 Installation

- [MX5, MX10, MX40, and MX80 Router Rack Requirements on page 4](#)
- [Tools Required to Prepare the MX5, MX10, MX40, and MX80 Router for Installation on page 5](#)
- [Move the Mounting Brackets for Center-Mounting the MX5, MX10, MX40, or MX80 Router, If Needed on page 5](#)

MX5, MX10, MX40, and MX80 Router Rack Requirements

- 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 router chassis's external dimensions: 3.5 in. (8.9 cm) high, 21.75 in. (55.2 cm) deep, and 17.4 in. (44.2 cm) wide. The outer edges of the mounting brackets extend the width to 19.2 in. (48.7 cm).
- The rack must be strong enough to support the weight of the fully configured router, up to 30 lb (13.6 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 routers. 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.
- The router must be installed 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.

Figure 1: MX5, MX10, MX40, and MX80 Rack Clearance and Router Dimensions



Tools Required to Prepare the MX5, MX10, MX40, and MX80 Router for Installation

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

Move the Mounting Brackets for Center-Mounting the MX5, MX10, MX40, or MX80 Router, If Needed

Two removable mounting brackets are attached to the mounting holes closest to the front of the chassis (see [Figure 2 on page 6](#)). You can move the pair of brackets to another position on the side of the chassis for center-mounting the router.

To move the mounting brackets from the front of the chassis toward the center of the chassis (see [Figure 3 on page 6](#)):

1. Remove the four screws at the top and bottom of the bracket.
2. Pull the bracket away from the chassis.
3. Align the bracket with the two sets of mounting holes located toward the center of the chassis.
4. Insert the four screws at the top and bottom of the bracket and tighten each partially.
5. Tighten the four screws completely.
6. Repeat the procedure for the other bracket.

Figure 2: Front-Mount the Brackets on the MX5, MX10, MX40, or MX80 Router

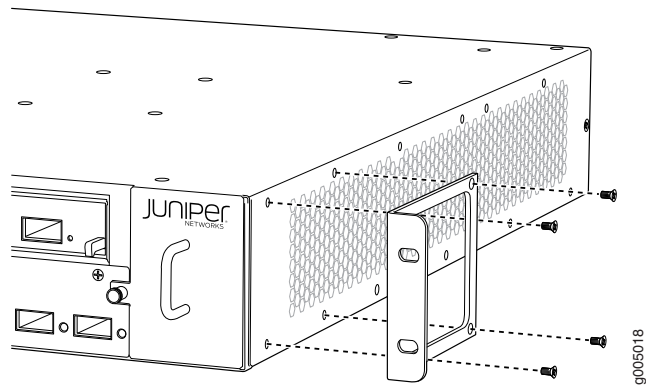
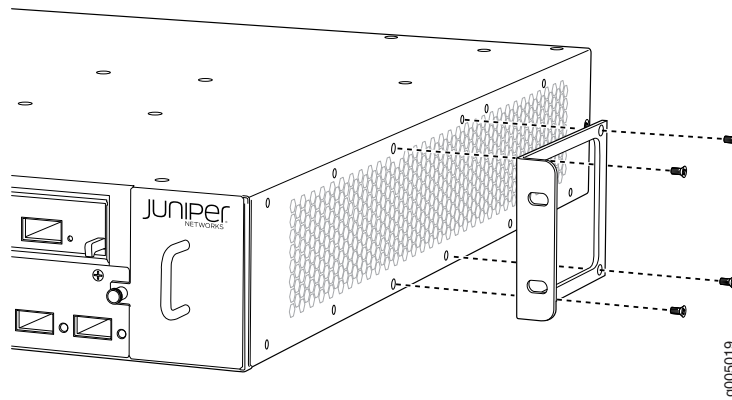


Figure 3: Center-Mount the Brackets on the MX5, MX10, MX40, or MX80 Router



Step 2: Install the Router

- [Tools Required to Install the MX5, MX10, MX40, or MX80 Router on page 7](#)
- [Install the MX5, MX10, MX40, or MX80 Chassis in the Rack on page 7](#)
- [Install the MX5, MX10, MX40, or MX80 Cable Management Bracket on page 8](#)

Tools Required to Install the MX5, MX10, MX40, or MX80 Router

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

- Phillips (+) screwdriver, number 2
- ESD grounding wrist strap
- Four mounting screws, supplied with the chassis
- Cable management bracket, supplied with the router
- Two screws for securing the cable management bracket, supplied with the router

Install the MX5, MX10, MX40, or MX80 Chassis in the Rack

Lifting the chassis and mounting it in a rack requires two people. The chassis weighs approximately 30 lb (13.6 kg).

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. With one person on each side, hold onto the bottom of the chassis and carefully lift it so that the mounting brackets contact the rack rails.
4. Align the mounting brackets with the holes in the rack rails.
5. Install a mounting screw into each of the open mounting holes aligned with the rack, starting from the bottom.
6. 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 4: Install the Front-Mounted Router in the Rack

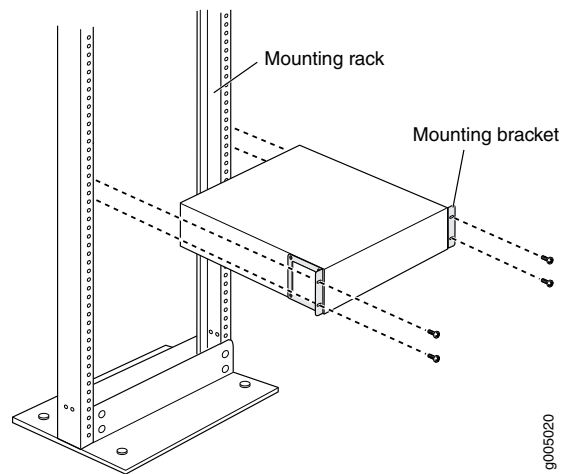
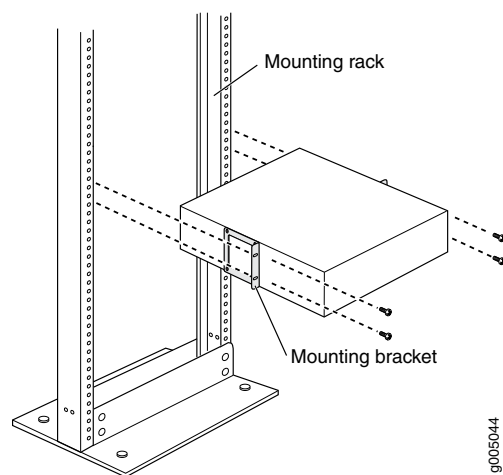


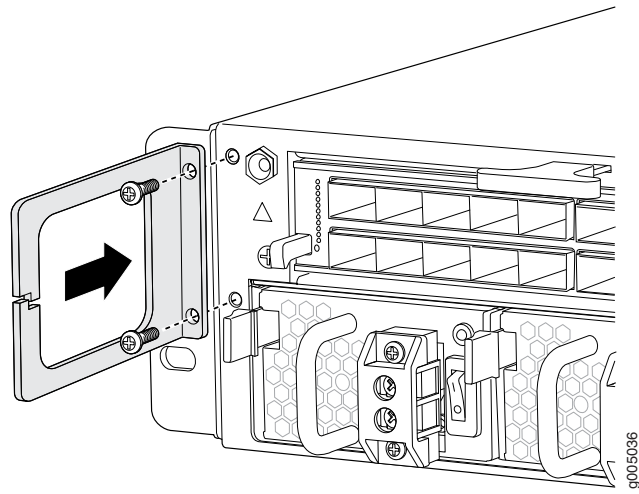
Figure 5: Install the Center-Mounted Router in the Rack



Install the MX5, MX10, MX40, or MX80 Cable Management Bracket

1. Position the cable management bracket on the left side of the front of the chassis.
2. Tighten the screws at the bottom and top of the bracket.

Figure 6: Install the Cable Management Bracket

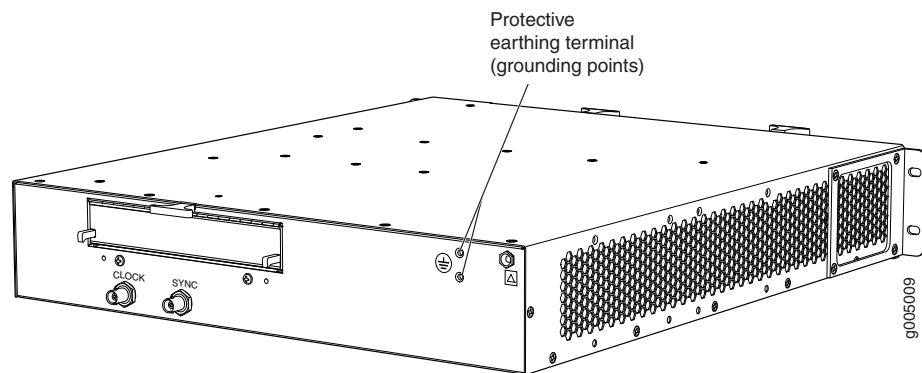


Step 3: Connect the Grounding Cable

You ground the router by connecting a grounding cable to earth ground and then attaching it to the chassis grounding points using two SAE 10-32 screws. You must provide the grounding cables (the cable lugs are supplied with the router). To ground the MX5, MX10, MX40, or MX80 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 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 strap to one of the ESD points on the chassis.
7. Place the grounding cable lug over the grounding points on the upper rear of the chassis (see [Figure 7 on page 10](#)).
8. Secure the grounding cable lug with the screws. The holes are sized for SAE 10-32 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 7: Grounding Points on the MX5, MX10, MX40, or MX80 Router



Step 4: Connect External Devices and Cables

Figure 8: Routing Engine Ethernet Cable Connector

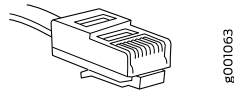
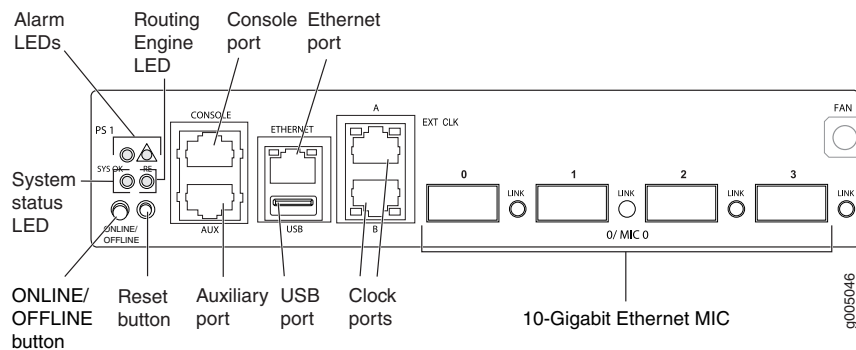


Figure 9: Front Panel Ports



- Connect the MX5, MX10, MX40, or MX80 Router to a Network for Out-of-Band Management on page 11
- Connect the MX5, MX10, MX40, or MX80 Router to a Management Console or Auxiliary Device on page 11
- Connect MIC Cables to the MX5, MX10, MX40, or MX80 Router on page 11

Connect the MX5, MX10, MX40, or MX80 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 (Figure 8 on page 11 shows the connector) into the **ETHERNET** port on the Routing Engine. Figure 9 on page 11 shows the port.
3. Plug the other end of the cable into the network device.

Connect the MX5, MX10, MX40, or MX80 Router to a Management Console or Auxiliary Device

1. Turn off the power to the console or auxiliary device.
2. Plug the RJ-45 end of the serial cable (Figure 8 on page 11 shows the connector) into the **AUX** port or **CONSOLE** port on the front panel. Figure 9 on page 11 shows the ports.
3. Plug the female DB-9 end into the device's serial port.

Connect MIC Cables to the MX5, MX10, MX40, or MX80 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 cable 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 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. Arrange the cable to prevent it 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 a neatly coiled loop.
.....



.....
CAUTION: Avoid bending 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 cable hang free from the connector. Do not allow fastened loops of cable to dangle, which stresses the cable at the fastening point.
.....

Step 5: Connect Power Cables

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 either the AC power cord or the DC power cables.

- [Connect Power to an AC Router on page 13](#)
- [Connect Power to a DC Router on page 14](#)

Connect Power to an AC Router

1. Locate power cords that have a plug appropriate for your geographical location. For more information, see the *MX5, MX10, MX40, and MX80 3D Universal Edge Router Hardware Guide*.
2. Attach an ESD grounding strap to your bare wrist and connect the strap to one of the ESD points on the chassis.
3. Move the AC input switch next to the appliance inlet on the power supply to the off (O) position.
4. Connect the power cord to the power supply.
5. 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 15 A (110 VAC) minimum or 10 A (220 VAC) minimum, or as required by local code.

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. Switch the AC switch on each power supply to the on position (I) and observe the status LED on each power supply faceplate. If an AC power supply is correctly installed 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.

Connect Power to a DC Router

Table 1: MX5, MX10, MX40, and MX80 DC Power System Input Voltage

Item	Specification
DC input voltage	Operating range: –40 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. Switch the DC circuit breaker on the power supply faceplate to the off (O) position.
3. Remove the clear 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 RTN DC cables to chassis ground:
 - The cable with very large resistance (indicating an open circuit) to chassis ground is –48V.
 - The cable with very low resistance (indicating a closed circuit) to chassis ground is RTN.
5. Remove the screws from the terminals.
6. Secure each power cable lug to the terminal with the screw (see [Figure 10 on page 15](#)). Apply between 5 lb-in. (0.6 Nm) and 6 lb-in. (0.7 Nm) of torque to screw. Do not overtighten the nut. (Use a number 2 Phillips 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.



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 6 lb-in. (0.7 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 6 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 clear plastic cover over the terminals on the faceplate.
8. Repeat Step 2 through Step 7 for the remaining power supplies.
9. 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.
10. Connect each DC power cable to the appropriate external DC power source.

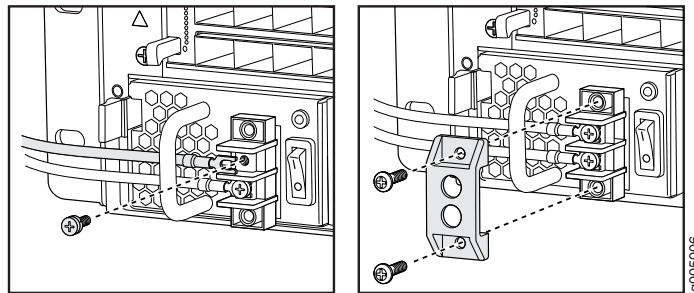


NOTE: For information about connecting to external DC power sources, see the instructions for your site.

11. Switch on the external circuit breakers to provide voltage to the DC power source cable leads.
12. Switch on the circuit breakers on each power supply to the on position (I). Observe the status LED on each power supply faceplate. If a DC power supply is correctly installed 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 10: Connecting DC Power to the Router



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 16](#)
- [Configure User Accounts and Passwords on page 16](#)
- [Configure System Attributes on page 17](#)
- [Commit the Configuration on page 17](#)

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 *authentication*.

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 for Routing Devices*.

```
[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. This is a summary of safety warnings. For a complete list of warnings for this router, including translations, see the *MX5, MX10, MX40, and MX80 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 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 4) 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 *MX5, MX10, MX40, and MX80 3D Universal Edge Router Hardware Guide*. 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 *MX5, MX10, MX40, and MX80 3D Universal Edge Router Hardware Guide* 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 *MX5, MX10, MX40, and*

MX80 3D Universal Edge Router Hardware Guide. 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

付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 (i.e. DC-I), as defined in GR-1089-CORE.
- For Juniper systems with AC power supplies, an external surge protective device (SPD) must be used at the AC power source.

Compliance Statements for EMC Requirements

- [Canada on page 21](#)
- [European Community on page 21](#)
- [Israel on page 21](#)
- [Japan on page 21](#)
- [United States on page 22](#)

Canada

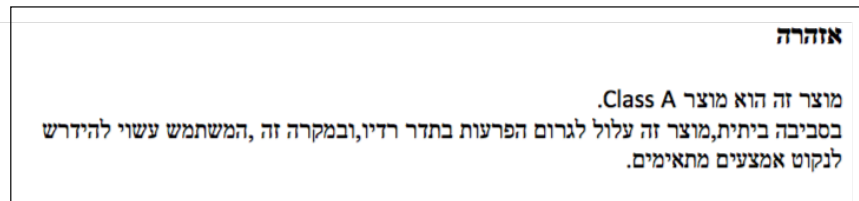
This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Community

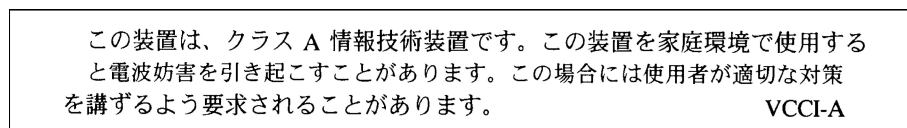
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Israel



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

Japan



Translation from Japanese—This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. 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, may 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 JNASC 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://tools.juniper.net/SerialNumberEntitlementSearch/>

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 2015—530-062012. Revision 1. Minor updates.

December 2011—530-038841. Revision 1. Added MX5, MX10, and MX40 routers.

August 2010—530-036363. Revision 1. Minor updates.

May 2010—530-034538. Revision 1. Initial release.

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