

# M7i Internet Router

## Quick Start

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**Revision 2**

This document describes how to install the M7i Internet router.

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## Quick Start Description

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This Quick Start contains information you need to install and configure the router quickly. For complete installation instructions, see the *M7i Internet Router Hardware Guide* at <http://www.juniper.net/techpubs/hardware/>.



**WARNING:** This Quick Start contains a summary of safety warnings in “Safety Warnings” on page 15. For a complete list of warnings for this router, including translations, see the *M7i Internet Router Hardware Guide* at <http://www.juniper.net/techpubs/hardware/>.

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The M7i Internet Router is a complete routing system that provides ATM, channelized, Ethernet, IP services, and SONET/SDH interfaces for large networks and network applications, such as those supported by Internet service providers (ISPs). Application-specific integrated circuits (ASICs), a definitive part of the router design, enables the router to forward data at the high speeds demanded by current network media.

The router accommodates up to four Physical Interface Cards (PICs). In addition to the PICs, the Fixed Interface Card (FIC) provides two Fast Ethernet ports or one Gigabit Ethernet port, depending on your configuration. The built-in tunnel interface on the Compact Forwarding Engine Board (CFEB) provides tunnel services, and the optional Adaptive Services Module (ASM) on the CFEB allows one or more services to be configured on this interface.

The router provides very high throughput for any combination of PICs that does not exceed 3.2 Gbps full duplex. A combination that exceeds this number is supported, but constitutes oversubscription.

The router is shipped in a cardboard carton, secured with foam packing material. The carton contains:

- One accessory box (the box to which this Quick Start is taped)
- One Juniper Networks router
- One Quick Start (this document)

## Step 1: Prepare the Site

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Before installing the router, read the site preparation guidelines in the *M7i Internet Router Hardware Guide* to make sure that the site meets power, environmental, and clearance requirements for the router.

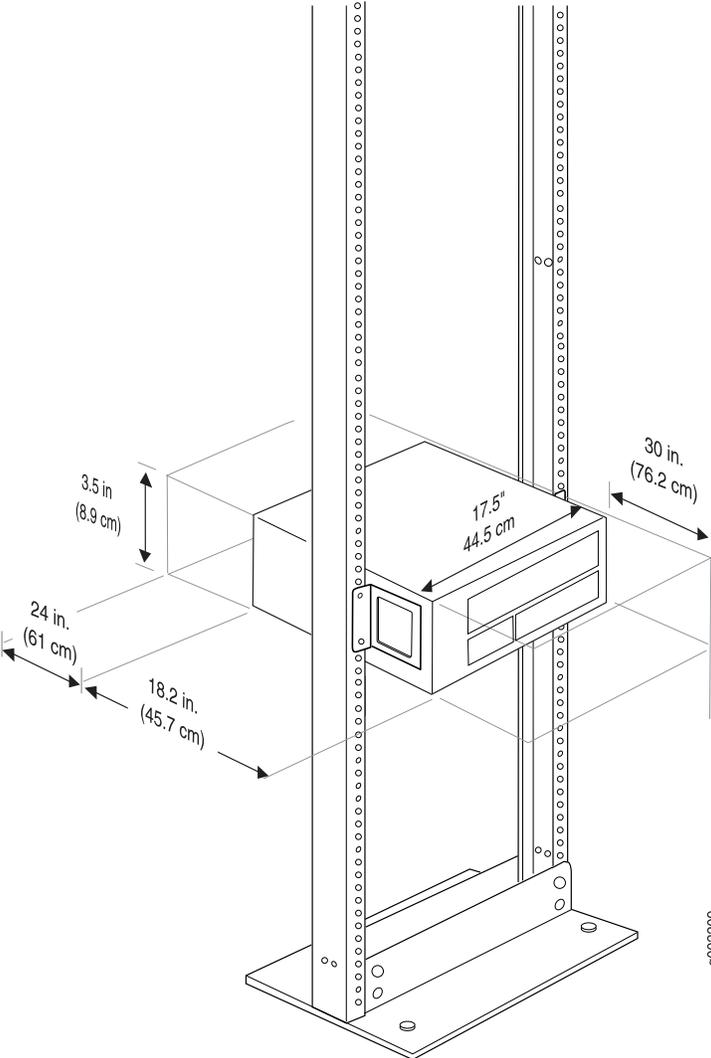
### Rack-Mounting Requirements

- You can install the router in a four-post rack or cabinet or an open-frame rack.
- The rack must be strong enough to support the weight of the fully configured router, up to about 36.5 lb (16.6 kg). You can mount up to 21 M7i routers in a

floor-to-ceiling rack. If you do so, the rack must be capable of supporting a combined weight of over 766 lb (347 kg).

- The rack rails must be spaced widely enough to accommodate the router chassis's external dimensions: 3.5 in. (8.9 cm) high, 18.2 in. (45.7 cm) deep, and 17.5 in. (44.5 cm) wide. The mounting hardware extends the width to fit into standard 19-in. racks.
- For service personnel to remove and install hardware components, there must be adequate space at the front and back of the router. At least 24 in. (61.0 cm) both in front of and behind the rack or cabinet is required. NEBS GR-63 recommends at least 30 in. in front of the rack or cabinet.
- The rack or cabinet must have an adequate supply of cooling air:
  - 6 in. (15.2 cm) is required between the side of the router and any equipment that produces heat.
  - 2.8 in. (7.1 cm) is required between the side of the router and any large surface that does not produce heat, such as a wall.
  - In a closed cabinet, there must be a minimum of 6 in. (15.2 cm) of unobstructed airflow behind the router, or airflow baffles must be installed to prevent recirculation of hot air and overheating.
- If the router is the only unit in the rack, mount it at the bottom of 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: Rack Clearances and Router Dimensions**



**Tools Required**

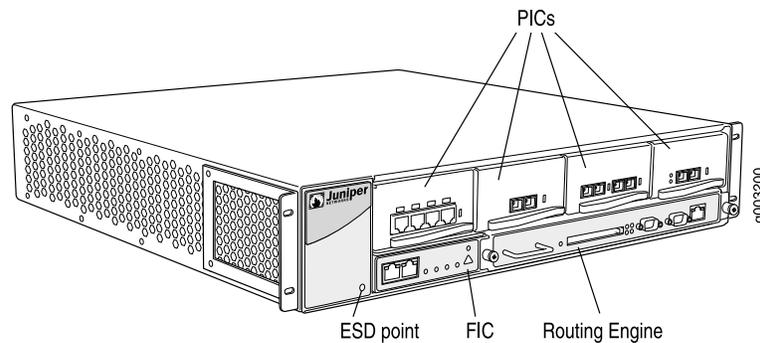
- Phillips (+) screwdriver, numbers 1 and 2
- Electrostatic discharge wrist strap
- Antistatic mat
- Blank panels to cover any slots not occupied by a component

## Step 2: Prepare for Front or Center Mounting

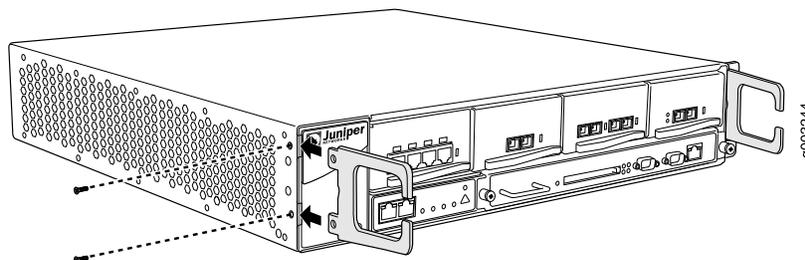
The cable management system organizes and supports the PIC cables to prevent damage. The mounting brackets are shipped installed in the front-mounting position, but must be removed to install the cable management system.

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to one of the ESD points on the chassis.
2. Use a number 2 Phillips screwdriver to remove the screws from the front and rear of the mounting brackets on the chassis. Remove the mounting brackets.
3. Locate the cable management racks and appropriate screws in the accessory box.
4. Slide the cable management racks into the slots at the front of the chassis.
5. Use a number 2 Phillips screwdriver to tighten the screws that secure the cable management system to the chassis.
6. Reinstall the mounting brackets.
  - Front-mount: Reinstall the mounting bracket in the position shown in Figure 2 on page 6 and replace the screws.
  - Center-mount: Install the mounting brackets in the center-mounting position and replace the screws.

**Figure 2: Mounting Bracket in Front-Mounting Position**



**Figure 3: Cable Management System**

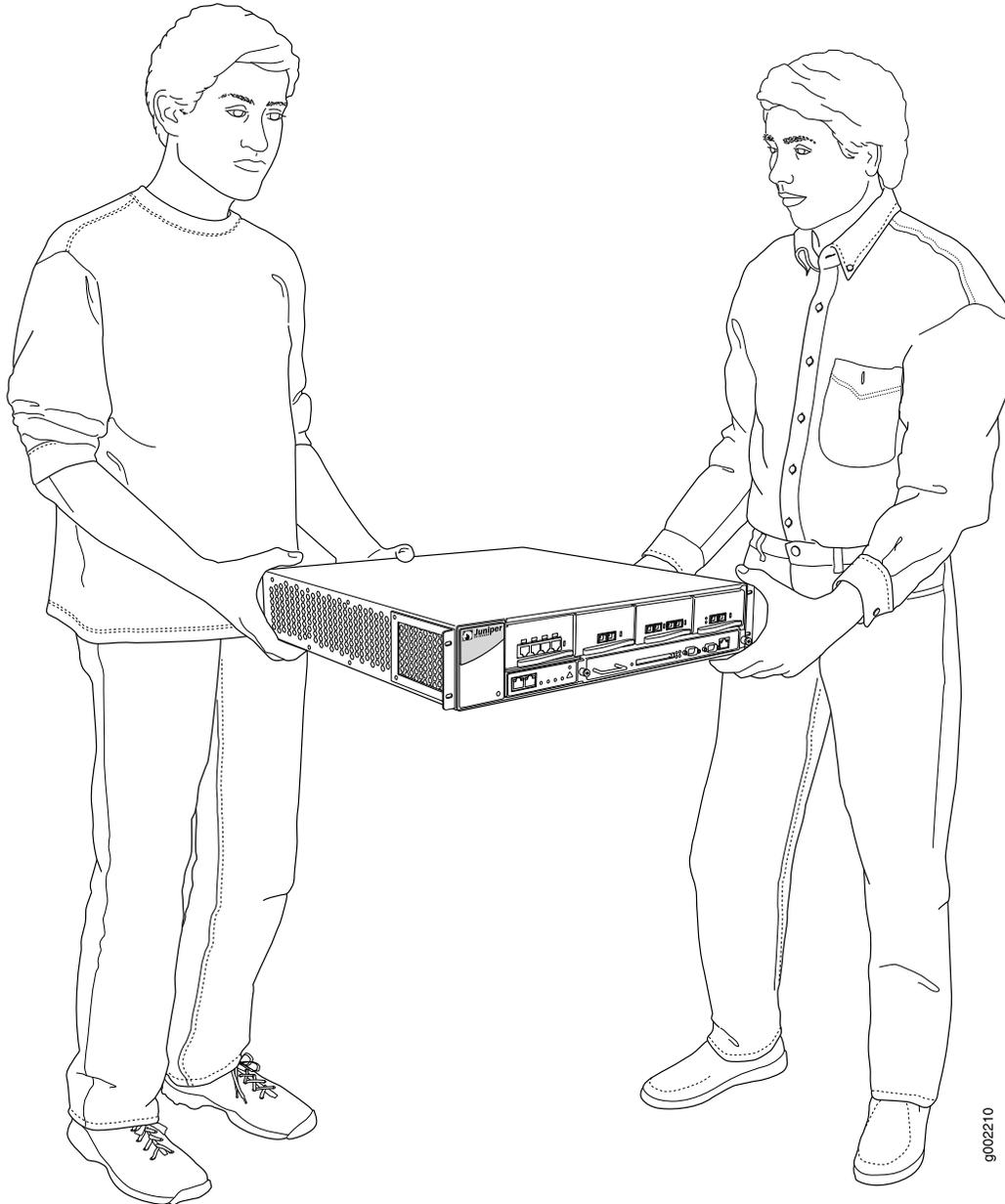


### Step 3: Install the Router

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1. Have one person grasp each side of the router, lift the router, and position it in the rack. See Figure 4 on page 8.
2. Align the bottom hole in each mounting bracket with a hole in each rack rail, making sure the chassis is level.
3. Install a mounting screw (provided in the accessory box shipped with the router) into each hole. Use a Phillips screwdriver to tighten the screws.
4. Install a screw into the second hole in each mounting bracket.
5. Verify that all the mounting screws on one side of the rack are aligned with the mounting screws on the opposite side and that the router is level.

**Figure 4: Lift the Router into the Rack**



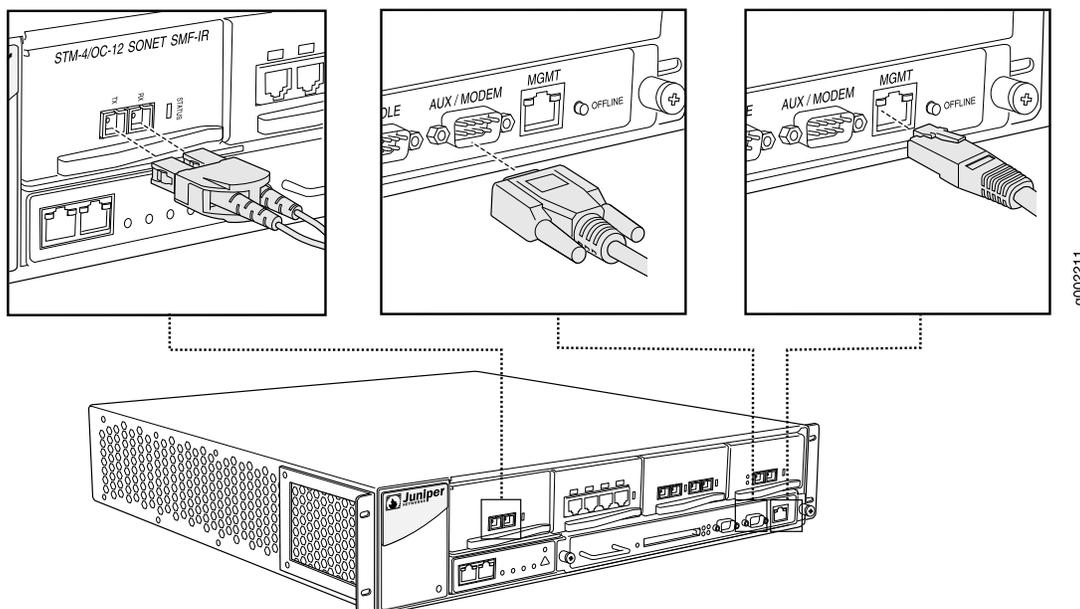
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## **Step 4: Connect External Devices and PIC Cables**

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To connect external devices and PIC or FIC cables, perform the following procedures:

- Connect a Management Console or Auxiliary Device on page 9
- Connect to a Network for Out-of-Band Management on page 9
- Connect FIC and PIC Cables on page 9

**Figure 5: Connect External Devices and PIC Cables to Router**

### Connect a Management Console or Auxiliary Device

1. Turn off the power to the console or auxiliary device.
2. Plug the female end of the RS-232 serial connector into the **CONSOLE** or **AUX/MODEM** port.
3. Use a 2.5 mm flat-blade screwdriver to tighten the screws on the connector.
4. Connect the other end of the cable to the console or auxiliary device.

### Connect to a Network for Out-of-Band Management

1. Turn off the power to the networking device.
2. Plug one end of the Ethernet cable (with RJ-45/RJ-45 connectors) into the **MGMT** port on the Routing Engine.
3. Plug the other end into the networking device.

### Connect FIC and PIC Cables



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



**CAUTION:** To prevent damage to fiber-optic transceivers and fiber-optic cables, observe the following precautions:

- Do not leave a fiber-optic transceiver uncovered except when inserting or removing cable. The safety plug keeps the port clean and prevents accidental exposure to laser light.
- Do not bend fiber-optic cable beyond the maximum bend radius. An arc smaller than a few inches in diameter can damage the cable and cause problems that are difficult to diagnose.
- 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.

- 
1. Make sure you have the appropriate cable for the FIC or PIC.
  2. If you are connecting to a FIC or PIC with removable transceivers, make sure the transceiver is installed.
  3. If the transceiver is covered by a rubber safety plug, remove the plug.
  4. If the cable connector is covered by a rubber safety cap, remove the cap.
  5. Insert the appropriate cable connector into the cable connector port on the FIC or PIC faceplate.
  6. Arrange the cable in the cable management system 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 in the cable management system. Placing fasteners on the loop helps to maintain its shape.

## Step 5: Connect Ground and Power Cables

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**NOTE:** Connect each power supply to a separate external power source.

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The M7i router uses either AC or DC power supplies. Perform the appropriate procedure for each power supply in your router.

- Connect AC Power on page 10
- Connect DC Power on page 11

### Connect AC Power

1. Locate the power cords shipped with the router, which should have a plug appropriate for your geographical location.
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to one of the ESD points on the chassis.

3. Verify that the switch on each power supply faceplate is in the **OFF (O)** position.
4. For each power supply:
  - a. Insert the appliance coupler end of a power cord into the appliance inlet on a power supply faceplate.
  - b. Insert the plug into an AC power source receptacle.
  - c. Verify that the power cord does not block access to router components or drape where people could trip on it.

## Connect DC Power

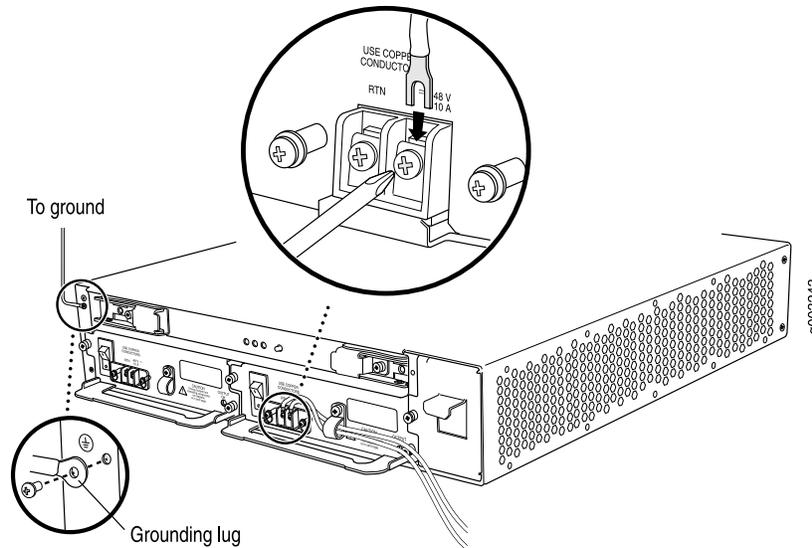


**CAUTION:** You must ensure that power connections maintain the proper polarity. The power source cables might be labeled (+) and (-) to indicate their polarity. There is no standard color coding for DC power cables. The color coding used by the external DC power source at your site determines the color coding for the leads on the power cables that attach to the terminal studs on the power faceplate.

1. Make sure that there is no power flowing from the external power source, so that the voltage across the leads of the power cables is 0 V. Ensure that there is no chance that the cable leads might become active during the procedure.
2. For each power supply, verify that the power switch on the power supply faceplate is in the **OFF (O)** position.
3. Connect the grounding cable to a proper earth ground for each external DC power source, if it is not already connected.
4. Verify that a licensed electrician has attached the cable lug provided with the router to the grounding cable.
5. Using a number 2 Phillips screwdriver, remove the screw next to the grounding symbol above the power supplies on the chassis rear. Secure the grounding cable lug to the grounding point by reinstalling and tightening the screw.
6. Verify that a licensed electrician has attached a listed power cable lug to each power source cable.
7. Loop the power cables through the hook located on the faceplate to the right of the field-wiring terminals.
8. Depending on the type of power cable lugs used, loosen or remove the screws on the field-wiring terminals.
9. Insert each power cable lug into the appropriate field-wiring terminal. Use a number 1 Phillips screwdriver to secure the power cable lug. Turn the screw on each field-wiring terminal clockwise, and apply between 8 lb-in. (0.9 Nm) and 9 lb-in. (1.02 Nm) of torque to each screw.
  - a. Insert the positive (+) source cable into the return terminal (labeled **RTN**).
  - b. Insert the negative (-) source cable into the input terminal (labeled **-48**).
10. Verify that the DC source power cabling and the grounding cabling are correct,

11. Verify that the power cables are not touching or blocking access to router components, and that they do not drape where people could trip on them.
12. Switch on the external circuit breakers to provide voltage to the DC power source cable leads.

**Figure 6: Connect the Power Cables to a DC Router**



## Step 6: Power On the Router

1. Verify that an external management device is connected to one of the Routing Engine ports on the Routing Engine (AUX/MODEM, CONSOLE, or MGMT).
2. Turn on the power to the external management device.
3. Verify that the power supply is fully inserted in the chassis and the thumbscrews on their faceplates are tightened.
4. Verify that the power cord or cables are properly connected:
  - Verify that the ends of the AC power cord are firmly plugged into the appliance inlet on the power supply faceplate and the external power source receptacle.
  - Verify that the source DC power cables are connected to the appropriate terminal on the power supply faceplate: the positive (+) source cable to the return terminal (labeled RTN) and the negative (-) source cable to the input terminal (labeled -48V).
5. Press the power switch on the power supply faceplate to the ON (I) position.
6. Monitor the startup procedure on the external management device to ensure that the system boots properly.

7. Verify that the OUPUT OK LED lights steadily. If the LED does not light after 60 seconds, repeat Steps 3 through 6. If necessary, reinstall the AC power cord or DC power cables.
8. For routers with two power supplies, repeat Steps 3 through 7 for the second power supply.

## Step 7: Perform Initial Software Configuration

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This procedure connects the router to the network but does not enable it to forward traffic. For complete information about enabling the router to forward traffic, including examples, see the JUNOS Internet software configuration guides.

To configure the software, follow this procedure:

1. Verify that the router is powered on as described in “Step 6: Power On the Router” on page 12.
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@#
```

5. 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
```

6. Configure the router's domain name.

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

7. 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
```

8. 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
```

9. Configure the IP address of a DNS server.

```
[edit]
```

```
root@# set system name-server address
```

10. Set the root authentication password by entering either a clear-text password, an encrypted password, or an ssh public key string (DSA or RSA).

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

or

```
[edit]
root@# set system root-authentication encrypted-password encrypted-password
```

or

```
[edit]
root@# set system root-authentication ssh-dsa public-key
```

or

```
[edit]
root@# set system root-authentication ssh-rsa public-key
```

11. Optionally, 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;
      }
    }
  }
}
}
```

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

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

13. Optionally, configure additional properties by adding the necessary configuration statements. Then commit the changes to activate them on the router.

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

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

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

## Safety Warnings

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**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 *M7i Internet Router Hardware Guide* at <http://www.juniper.net/techpubs/>.

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**WARNING:** The intra-building port(s) of the router is suitable for connection to intrabuilding or unexposed wiring or cabling only. The intra-building port(s) of the router **MUST NOT** be metalically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building 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 in order to connect these interfaces metalically to OSP wiring.

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**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.

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**CAUTION:** An external Surge Protective Device (SPD) should be used at the AC input of the router.

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- Only trained and qualified personnel should install or replace the router.
- Perform only the procedures described in this quick start or the *M7i Internet 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 *M7i Internet Router 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 at more than 10 degrees.
- Manually installing the router requires two people to lift. 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.
- The router should be mounted 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, the ground connection must always be made first and disconnected 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. The ground wire should always be connected first and disconnected 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。

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## **Compliance Statements for NEBS**

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This product complies with the following standards:

- GR-63-Core: NEBS, Physical Protection
- GR-1089-Core: EMC and Electrical Safety for Network Telecommunications Equipment
- SR-3580 NEBS Criteria Levels (Level 3 Compliance)

## **Compliance Statements for EMC Requirements**

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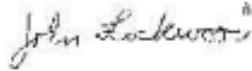
### ***Canada***

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 Union***

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.

## Declaration of Conformity

	DOC 0008	
<h1>Declaration of Conformity</h1>		
<p>Juniper Networks, Inc. 1194 N. Mathilda Ave Sunnyvale, CA. 94089 USA</p>		
<p>declares that under our sole responsibility the product(s)</p>		
<p><b>Internet Router Model M7i</b></p>		
<p>are in conformity with the provisions of the following EC Directives, including all amendments, and with national legislation implementing these directives:</p>		
<p><b>Low Voltage Directive 73/23/EEC EMC Directive 89/336/EEC</b></p>		
<p>and that the following harmonized standards have been applied</p>		
<p><b>EN 60950:1992+A1+A2+A3+A4+A11 EN 60825-1:1994+A11 EN 60825-2:1994</b></p>		
<p><b>EN 300 386 V1.3.1:2001 EN 55024:1998 EN 55022:1991+A1+A2 EN 61000-3-2, EN 61000-3-3 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11</b></p>		
<p>Place Sunnyvale, CA</p>	<p> Signature John Lockwood</p>	<p>Date 08/09/2005</p>

## List of Technical Publications

Table 1 on page 19 lists the software and hardware guides and release notes for Juniper Networks J-series, M-series, MX-series, and T-series routing platforms and describes the contents of each document. Table 2 on page 22 lists the books included in the *Network Operations Guide* series.

**Table 1: Technical Documentation for Supported Routing Platforms**

Book	Description
<b>JUNOS Internet Software for Supported Routing Platforms</b>	
<i>Class of Service</i>	Provides an overview of the class-of-service (CoS) functions of the JUNOS software and describes how to configure CoS features, including configuring multiple forwarding classes for transmitting packets, defining which packets are placed into each output queue, scheduling the transmission service level for each queue, and managing congestion through the random early detection (RED) algorithm.
<i>CLI User Guide</i>	Describes how to use the JUNOS command-line interface (CLI) to configure, monitor, and manage Juniper Networks routing platforms. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<i>Feature Guide</i>	Provides a detailed explanation and configuration examples for several of the most complex features in the JUNOS software.
<i>High Availability Guide</i>	Provides an overview of hardware and software resources that ensure a high level of continuous routing platform operation and describes how to configure high availability (HA) features such as nonstop routing (NSR) and graceful Routing Engine switchover (GRES).
<i>MPLS Applications</i>	Provides an overview of traffic engineering concepts and describes how to configure traffic engineering protocols.
<i>Multicast Protocols</i>	Provides an overview of multicast concepts and describes how to configure multicast routing protocols.
<i>Network Interfaces</i>	Provides an overview of the network interface functions of the JUNOS software and describes how to configure the network interfaces on the routing platform.
<i>Network Management</i>	Provides an overview of network management concepts and describes how to configure various network management features, such as SNMP and accounting options.
<i>Policy Framework</i>	Provides an overview of policy concepts and describes how to configure routing policy, firewall filters, and forwarding options.
<i>Routing Protocols</i>	Provides an overview of routing concepts and describes how to configure routing, routing instances, and unicast routing protocols.

**Table 1: Technical Documentation for Supported Routing Platforms (continued)**

Book	Description
<i>Secure Configuration Guide for Common Criteria and JUNOS-FIPS</i>	Provides an overview of secure Common Criteria and JUNOS-FIPS protocols for the JUNOS Internet software and describes how to install and configure secure Common Criteria and JUNOS-FIPS on a routing platform.
<i>Services Interfaces</i>	Provides an overview of the services interfaces functions of the JUNOS software and describes how to configure the services interfaces on the router.
<i>Software Installation and Upgrade Guide</i>	Provides a description of JUNOS software components and packaging, and includes detailed information about how to initially configure, reinstall, and upgrade the JUNOS system software. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<i>System Basics</i>	Describes Juniper Networks routing platforms, and provides information about how to configure basic system parameters, supported protocols and software processes, authentication, and a variety of utilities for managing your router on the network.
<i>VPNs</i>	Provides an overview and describes how to configure Layer 2 and Layer 3 virtual private networks (VPNs), virtual private LAN service (VPLS), and Layer 2 circuits. Provides configuration examples.
<b>JUNOS References</b>	
<i>Hierarchy and RFC Reference</i>	Describes the JUNOS configuration mode commands. Provides a hierarchy reference that displays each level of a configuration hierarchy, and includes all possible configuration statements that can be used at that level. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<i>Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot interfaces.
<i>Routing Protocols and Policies Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot routing policies and protocols, including firewall filters.
<i>System Basics and Services Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot system basics, including commands for real-time monitoring and route (or path) tracing, system software management, and chassis management. Also describes commands for monitoring and troubleshooting services such as class of service (CoS), IP Security (IPSec), stateful firewalls, flow collection, and flow monitoring.
<i>System Log Messages Reference</i>	Describes how to access and interpret system log messages generated by JUNOS software modules and provides a reference page for each message.
<b>J-Web User Guide</b>	
<i>J-Web Interface User Guide</i>	Describes how to use the J-Web graphical user interface (GUI) to configure, monitor, and manage Juniper Networks routing platforms.

**Table 1: Technical Documentation for Supported Routing Platforms** (continued)

Book	Description
<b>JUNOS API and Scripting Documentation</b>	
<i>JUNOScript API Guide</i>	Describes how to use the JUNOScript application programming interface (API) to monitor and configure Juniper Networks routing platforms.
<i>JUNOS XML API Configuration Reference</i>	Provides reference pages for the configuration tag elements in the JUNOS XML API.
<i>JUNOS XML API Operational Reference</i>	Provides reference pages for the operational tag elements in the JUNOS XML API.
<i>NETCONF API Guide</i>	Describes how to use the NETCONF API to monitor and configure Juniper Networks routing platforms.
<i>JUNOS Configuration and Diagnostic Automation Guide</i>	Describes how to use the commit script and self-diagnosis features of the JUNOS software. This guide explains how to enforce custom configuration rules defined in scripts, how to use commit script macros to provide simplified aliases for frequently used configuration statements, and how to configure diagnostic event policies.
<b>Hardware Documentation</b>	
<i>Hardware Guide</i>	Describes how to install, maintain, and troubleshoot routing platforms and components. Each platform has its own hardware guide.
<i>PIC Guide</i>	Describes the routing platform's Physical Interface Cards (PICs). Each platform has its own PIC guide.
<b>JUNOScope Documentation</b>	
<i>JUNOScope Software User Guide</i>	Describes the JUNOScope software graphical user interface (GUI), how to install and administer the software, and how to use the software to manage routing platform configuration files and monitor routing platform operations.
<b>J-series Routing Platform Documentation</b>	
<i>Getting Started Guide</i>	Provides an overview, basic instructions, and specifications for J-series routing platforms. The guide explains how to prepare your site for installation, unpack and install the router and its components, install licenses, and establish basic connectivity. Use the Getting Started Guide for your router model.
<i>Basic LAN and WAN Access Configuration Guide</i>	Explains how to configure the interfaces on J-series Services Routers for basic IP routing with standard routing protocols, ISDN backup, and digital subscriber line (DSL) connections.
<i>Advanced WAN Access Configuration Guide</i>	Explains how to configure J-series Services Routers in virtual private networks (VPNs) and multicast networks, configure data link switching (DLSw) services, and apply routing techniques such as policies, stateless and stateful firewall filters, IP Security (IPSec) tunnels, and class-of-service (CoS) classification for safer, more efficient routing.

**Table 1: Technical Documentation for Supported Routing Platforms** *(continued)*

Book	Description
<i>Administration Guide</i>	Shows how to manage users and operations, monitor network performance, upgrade software, and diagnose common problems on J-series Services Routers.
<b>Release Notes</b>	
<i>JUNOS Release Notes</i>	Summarize new features and known problems for a particular software release, provide corrections and updates to published JUNOS, JUNOScript, and NETCONF manuals, provide information that might have been omitted from the manuals, and describe upgrade and downgrade procedures.
<i>Hardware Release Notes</i>	Describe the available documentation for the routing platform and summarize known problems with the hardware and accompanying software. Each platform has its own release notes.
<i>JUNOScope Release Notes</i>	Contain corrections and updates to the published JUNOScope manual, provide information that might have been omitted from the manual, and describe upgrade and downgrade procedures.
<i>J-series Services Router Release Notes</i>	Briefly describe Services Router features, identify known hardware problems, and provide upgrade and downgrade instructions

**Table 2: JUNOS Internet Software Network Operations Guides**

Book	Description
<i>Baseline</i>	Describes the most basic tasks for running a network using Juniper Networks products. Tasks include upgrading and reinstalling JUNOS software, gathering basic system management information, verifying your network topology, and searching log messages.
<i>Interfaces</i>	Describes tasks for monitoring interfaces. Tasks include using loopback testing and locating alarms.
<i>MPLS</i>	Describes tasks for configuring, monitoring, and troubleshooting an example MPLS network. Tasks include verifying the correct configuration of the MPLS and RSVP protocols, displaying the status and statistics of MPLS running on all routing platforms in the network, and using the layered MPLS troubleshooting model to investigate problems with an MPLS network.
<i>MPLS Log Reference</i>	Describes MPLS status and error messages that appear in the output of the show mpls lsp extensive command. The guide also describes how and when to configure Constrained Shortest Path First (CSPF) and RSVP trace options, and how to examine a CSPF or RSVP failure in a sample network.
<i>Hardware</i>	Describes tasks for monitoring M-series and T-series routing platforms.

## Requesting Support

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For technical support, open a support case with the Case Manager link at <http://www.juniper.net/support/> or call 1-888-314-JTAC (from the United States, Canada, or Mexico) or 1-408-745-9500 (from elsewhere).

## Revision History

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30 April 2007—530-017640-01. Revision 2. Added NEBs requirements and other safety warnings. Corrected DC connect procedure. Added list of technical publications.

12 January 2007—530-017640-01. Revision 1. Added EMC requirements and the Declaration of Conformity. Minor edits.

28 June 2006—530-016682-01. Revision 1.

4 June 2004—530-010961-01. Revision 1.

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