

ACX710 Universal Metro Router Quick Start Guide

Published
2023-10-18

RELEASE

Table of Contents

ACX710 Description

Step 1: Prepare the Site for ACX710 Installation

Rack Requirements for ACX710 Routers | 3

Cabinet Requirements for ACX710 Routers | 4

Router Clearance Requirements | 5

Router Cooling and Airflow Requirements | 6

Tools and Parts Required to Prepare the ACX710 Router for Installation | 7

Step 2: Install the ACX710 Chassis in the Rack

Step 3: Connect the Grounding Cable

Step 4: Connect to Power

Step 5: Connect External Devices and Cables

Connect an ACX710 Router to a Network for Out-of-Band Management | 12

Connect an ACX710 Router to a Management Console | 13

Step 6: Perform Initial Software Configuration

Enter Configuration Mode | 15

Configure User Accounts and Passwords | 16

Configure System Attributes | 17

Commit the Configuration | 18

Safety Warnings

Compliance Statements for EMC Requirements

Contact Customer Support

ACX710 Description

This Quick Start Guide contains information that you need to install and configure an ACX710 router quickly. For complete installation instructions, see the [ACX710 Universal Metro Router Hardware Guide](https://www.juniper.net/documentation/) at <https://www.juniper.net/documentation/>.

The ACX710 router provides an aggregation solution that is cost-effective and compact, and that supports emerging deployments such as segment routing and Ethernet VPN (EVPN). The ACX710 includes support for numerous features such as modern network management using NETCONF and YANG, and precise synchronization that helps address the increasing demands of high-speed networks.

The ACX710 router is a 1-U compact and fixed-configuration model with high-density 1GbE, 10GbE, and 100GbE ports. ACX710 routers provide full-duplex throughput of 320 Gbps and 24 Gbit DRAM packet buffer.

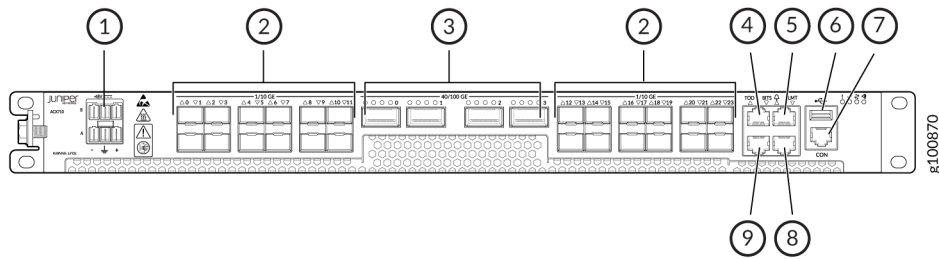
We ship these routers with a DC power supply module that has dual power feeds and a fan tray with five high-performance fans that can effectively cool the chassis.

The port panel of the ACX710 router has the following port configurations:

- Twenty-four 10GbE or 1GbE ports (ports **0** through **23**) that operate at 10-Gbps speed when you use small form-factor pluggable plus (SFP+) transceivers or at 1-Gbps speed when you use small form-factor pluggable (SFP) optics. Ports **0** through **15** also support 1000-Mbps speed when you use tri-rate SFP optics. Ports **16** through **23** support 100-Mbps and 1000-Mbps speeds when you use tri-rate SFP optics.
- Four 100GbE ports (ports **0** through **3**) that support quad small form-factor pluggable 28 (QSFP28) transceivers. You can channelize these ports into four 25-Gbps interfaces using breakout cables and channelization configuration. These ports also support 40-Gbps speed when you use quad small form-factor pluggable plus (QSFP+) optics. You can channelize these 40-Gbps ports into four 10-Gbps interfaces using breakout cables and channelization configuration.

[Figure 1 on page 2](#) shows the front panel of an ACX710 router.

Figure 1: ACX710 Router Front Panel



1– Power supply unit

4– TOD (RJ-45), I/O(RJ-45), LMT (RJ-45), and BITS (RJ-48) ports

2– 1GbE/10GbE ports (24 SFP or SFP+ ports)

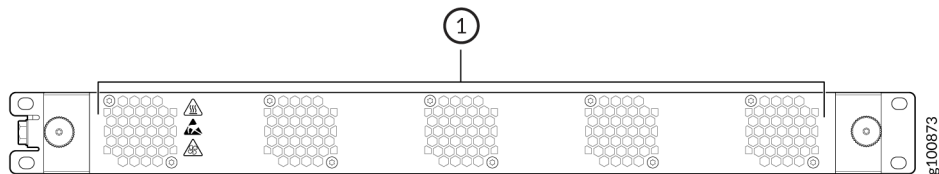
5– USB port

3– 40GbE/100GbE ports (4 QSFP+ or QSFP28 ports)

6– Console port

Figure 2 on page 2 shows the rear view of an ACX710 router.

Figure 2: Rear View of the ACX710 Router



1– Fan tray

Step 1: Prepare the Site for ACX710 Installation

IN THIS SECTION

- Rack Requirements for ACX710 Routers | 3
- Cabinet Requirements for ACX710 Routers | 4
- Router Clearance Requirements | 5
- Router Cooling and Airflow Requirements | 6

Rack Requirements for ACX710 Routers

The ACX710 routers are designed to be installed on two or four-post racks.

[Table 1 on page 3](#) provides the rack requirements and specifications for ACX710 routers.

Table 1: Rack Requirements for ACX710 Routers

Rack Requirement	Guidelines
Rack type	<p>Use a four-post rack that provides bracket holes or hole patterns spaced at 1-U increments (1.75 in. or 4.45 cm), and ensure that the rack meets the size and strength requirements to support the weight of the router.</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 Industry Association.</p>
Mounting bracket hole spacing	<p>Ensure that the holes in the mounting brackets are spaced at 1 U (1.75 in. or 4.45 cm) so that the router can be mounted in any rack that provides holes spaced at that distance.</p>

Table 1: Rack Requirements for ACX710 Routers (Continued)

Rack Requirement	Guidelines
Rack size and strength	<ul style="list-style-type: none"> • Ensure that the rack complies with the standards for a 19-in. rack as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310-D) published by the Electronics Industry Association. • Use an 800-mm rack as defined in the four-part <i>Equipment Engineering (EE) European telecommunications standard for equipment practice</i> (document numbers ETS 300 119-1 through 119-4) published by the European Telecommunications Standards Institute (http://www.etsi.org). <p>The horizontal spacing between the rails in a rack that complies with this standard is usually wider than the device's mounting brackets, which measure 19 in. (48.26 cm) from outer edge to outer edge. Use approved wing devices to narrow the opening between the rails as required.</p> <ul style="list-style-type: none"> • Ensure that the rack rails are spaced widely enough to accommodate the external dimensions of the router chassis. The outer edges of the front-mounting brackets extend the width to 19 in. (48.26 cm). • Ensure that the rack is strong enough to support the weight of the router. A fully configured ACX710 router weighs about 17.64 lb (8 kg). • Ensure that the spacing of rails and adjacent racks allows for proper clearance around the router and rack.
Rack connection to building structure	<ul style="list-style-type: none"> • Secure the rack to the building structure. • If earthquakes are a possibility in your geographical area, secure the rack to the floor. • Secure the rack to the ceiling brackets and to the wall or floor brackets for maximum stability.

Cabinet Requirements for ACX710 Routers

You can mount an ACX710 router in an enclosure or cabinet that contains a four-post 19-in. open rack as defined in *Cabinets, Racks, Panels, and Associated Equipment* (document number EIA-310-D) published by the Electronics Industry Association.

[Table 2 on page 5](#) provides the cabinet requirements and specifications for an ACX710 router.

Table 2: Cabinet Requirements for ACX710 Routers

Cabinet Requirement	Guidelines
Cabinet size and clearance	The minimum cabinet size for accommodating an ACX710 router is 19.5 in. (49.5 cm) deep. Large cabinets improve airflow and reduce the chance of overheating.
Cabinet airflow requirements	<p>When you mount the router in a cabinet, ensure that ventilation through the cabinet is sufficient to prevent overheating.</p> <ul style="list-style-type: none"> • Ensure that the cool air supply you provide through the cabinet adequately dissipates the thermal output of the router (or routers). • Ensure that the cabinet allows the chassis hot exhaust air from the chassis to exit the cabinet without recirculating into the router. An open cabinet (without a top or doors) that employs hot air exhaust extraction from the top allows the best airflow through the chassis. If the cabinet contains a top or doors, perforations in these elements assist with removing the hot exhaust air. • In the ACX710 router, air is pulled through the front of the chassis towards the fan tray, from where it is exhausted out of the chassis. Install the router in the cabinet in a way that maximizes the open space on the rear side of the chassis. This maximizes the clearance for critical airflow. • Route and dress all cables to minimize the blockage of airflow to and from the chassis. • Ensure that the spacing of rails and adjacent cabinets allows for proper clearance around the router and cabinet.

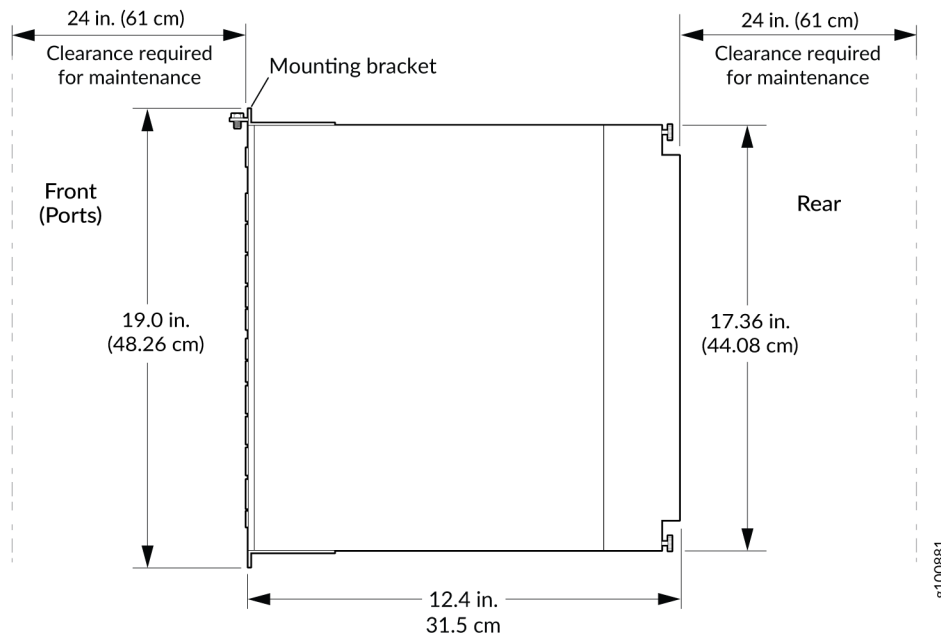
Router Clearance Requirements

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 ACX710 in a rack with other equipment, ensure that the exhaust from the other equipment does not blow into the intake vents of the ACX710 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) of space both at the front and rear of the router. See [Figure 3 on page 6](#) for the clearance requirements for ACX710 routers.

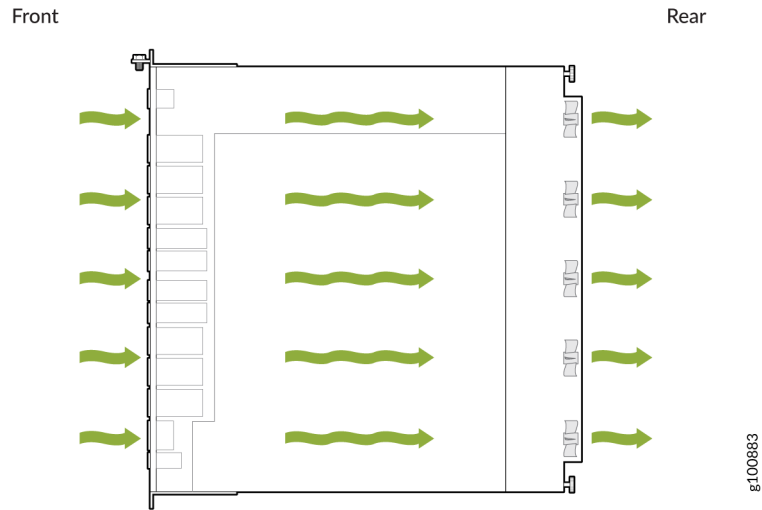
Figure 3: Clearance Requirements for Hardware Maintenance of ACX710 Routers



Router Cooling and Airflow Requirements

- In ACX710 routers, cool air is pulled through the front of the chassis towards the rear fan tray, and hot air is exhausted out of the chassis through the rear. [Figure 4 on page 7](#) shows the airflow through the ACX710 router.
- For the cooling system to function properly, the airflow around the chassis must be unrestricted.
- The rack or cabinet must have an adequate supply of cool air.
- Leave at least 4 in. (10.16 cm) clearance in front and 2 in. (5.08 cm) behind the chassis for airflow.

Figure 4: Airflow Through the ACX710 Chassis



Tools and Parts Required to Prepare the ACX710 Router for Installation

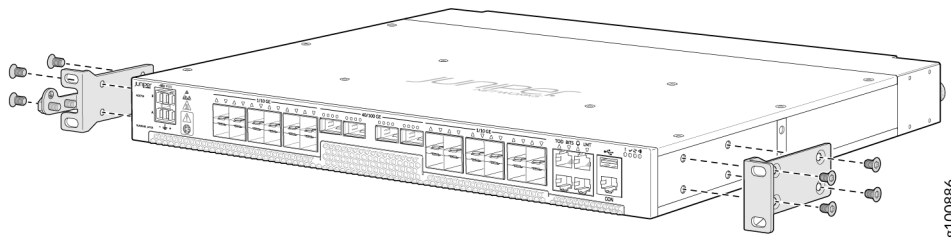
- 19-in. four-post rack with fasteners (provided)
- ESD grounding strap (not provided).
- One pair of front-mounting brackets (provided)
- Four Screws to secure the mounting brackets to the rack (not provided)
- Eight Screws to secure the mounting brackets to the chassis (provided)
- Number 2 Phillips (+) screwdriver (not provided)
- Two DC power cords with plugs appropriate for your geographical location (provided).
- One grounding cable (provided).
- RJ-45 cable and RJ-45 to DB-9 serial port adapter (not provided).
- Management host, such as a PC or laptop, with a serial port (not provided).

Step 2: Install the ACX710 Chassis in the Rack

To install the router in a four-post rack:

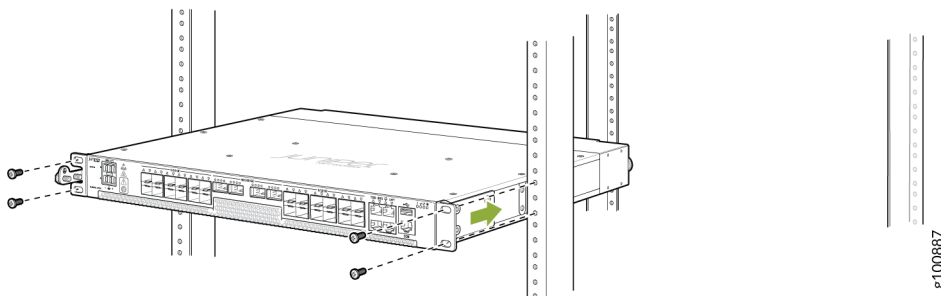
1. Position the router in front of the rack.
2. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end of the strap to a site ESD point.
3. Align the holes in the front-mounting brackets with the holes on the side of the chassis (see [Figure 5 on page 8](#)).

Figure 5: Install the Mounting brackets on an ACX710 Router



4. Using a Phillips (+) number 2 screwdriver, secure the mounting brackets to the chassis using the mounting screws.
5. With one person on each side, hold on to the bottom of the chassis, and carefully lift the chassis so that the mounting brackets are aligned with the rack rails.
6. Carefully slide the chassis with the brackets attached on to the rack rails (see [Figure 6 on page 8](#)).

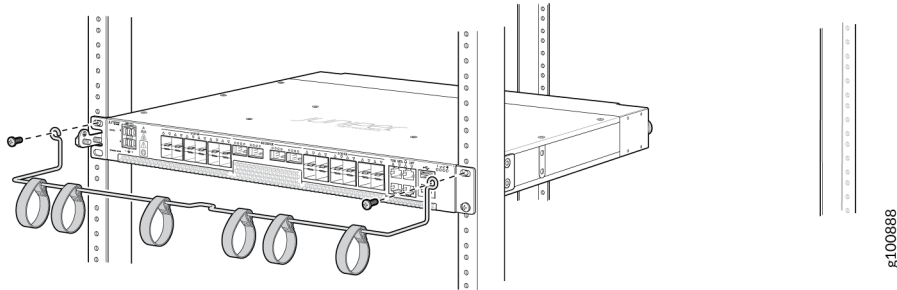
Figure 6: Install the ACX710 Router in a Four-Post Rack



7. Install mounting screws into each of the front-mounting bracket holes aligned with the rack, starting from the bottom, and tighten the screws.

8. Align the holes in the cable bar with the holes at the top of the mounting bracket, and tighten the screws to attach the cable bar.

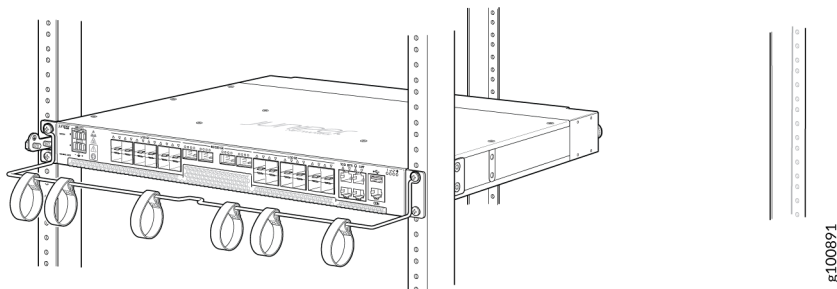
Figure 7: Install the Cable Bar



9. Visually inspect the alignment of the chassis.

If you've installed the chassis 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 8 on page 9](#) shows the router fully secured and installed in a four-post rack.

Figure 8: ACX710 Router Installed in a Four-Post 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.

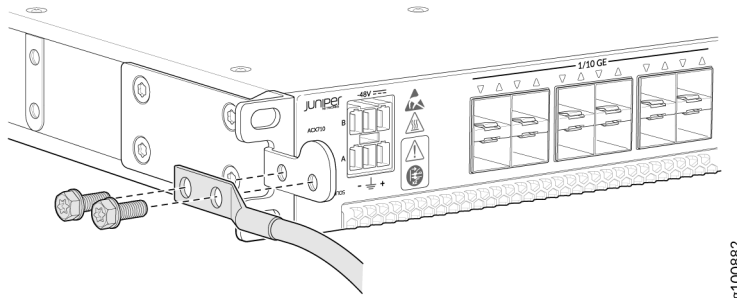
You need a protective earthing terminal bracket for connecting the chassis to earth ground. This two-holed bracket is attached on the side of the chassis through the mounting rail, and provides a protective earthing terminal for the router. The grounding points are in the form of studs that are sized for M6

screws. (You need to provide these screws with integrated washers as we do not ship them in the accessory kit).

To ground the ACX710 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 are brought to a bright finish before you make grounding connections.
4. Connect the grounding cable to a proper earth ground.
5. Place the grounding cable lug over the grounding points on the side of the chassis (see [Figure 9 on page 10](#)).

Figure 9: Connect the Grounding Cable to the ACX710 Router



6. Secure the grounding cable lug with the screws.
7. 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.

Step 4: Connect to Power

Before you begin connecting DC power to the router:

- Ensure that you have taken the necessary precautions to prevent electrostatic discharge (ESD) damage (see *Prevention of Electrostatic Discharge Damage*).
- Ensure that you have connected the router chassis to earth ground.



CAUTION: Before you connect power to the router, a licensed electrician must attach a cable lug to the grounding and power cables that you supply. A cable with an incorrectly attached lug can damage the router (for example, by causing a short circuit). To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must connect the chassis to earth ground before you connect the chassis to power. For installations that require a separate grounding conductor to the chassis, use the protective earthing terminal on the router chassis to connect to the earth ground.

- Ensure that you have the following parts and tools available:
 - DC power source cables
 - Phillips (+) screwdriver, number 2 (not provided)
 - Multimeter (not provided)

The ACX710 router supports a dual feed DC power supply module. [Table 3 on page 11](#) describes the DC power specifications for ACX710 routers. For the 2-pole DC circuit breaker, the recommended maximum value is 32 A and the minimum value is 8 A.

Table 3: DC Power Specifications for ACX710 Routers

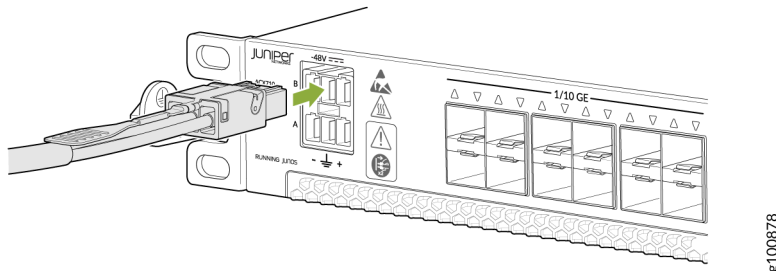
Item	Specifications
Nominal input voltage	-48 V DC
Input voltage range	-38 V DC to -60 V DC
Maximum current	6 A
Typical power consumption	150 W
Maximum power consumption	225 W

To connect DC power to an ACX710 router:

1. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end of the strap to a site ESD point.
2. Power off the DC input appliance inlet on the source power supply.

3. Connect the power cord to the power source outlet.
4. Insert the power cord firmly into the inlet.

Figure 10: Connect a DC Power Cord to an ACX710 Router



5. Route the power cord appropriately. Verify that the power cord does not block the air exhaust or access to router components, or drape where people could trip over it.
6. Power on the source power supply.

Step 5: Connect External Devices and Cables

IN THIS SECTION

- [Connect an ACX710 Router to a Network for Out-of-Band Management | 12](#)
- [Connect an ACX710 Router to a Management Console | 13](#)

All the connections to the router are made through the front panel.

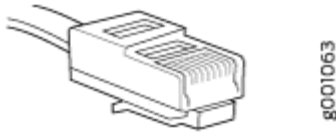
Connect an ACX710 Router to a Network for Out-of-Band Management

Ensure that you have an appropriate cable available. See [No Link Title](#).

You can monitor and manage an ACX710 router by using a dedicated management channel. Use the management port (**LMT**) to connect the ACX710 router to a network for out-of-band management.

Ensure that you have an Ethernet cable that has an RJ-45 connector at either end. [Figure 11 on page 13](#) shows the RJ-45 connector of the Ethernet cable.

Figure 11: RJ-45 Connector on an Ethernet Cable

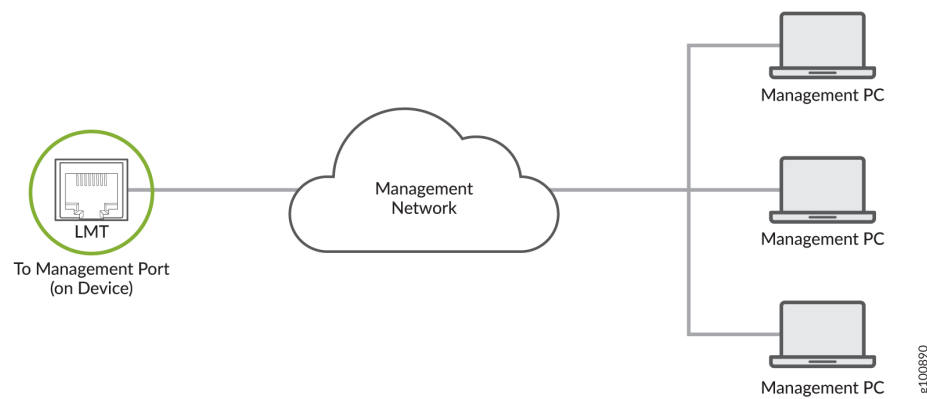


NOTE: You cannot use the management ports to perform the initial configuration of an ACX710 router. You must configure the management ports before you can successfully connect to the ACX710 router using these ports. See [No Link Title](#).

To connect an ACX710 router to a network for out-of-band management (see [Figure 12 on page 13](#)):

1. Connect one end of the Ethernet cable to one of the management ports.
2. Connect the other end of the cable to the management PC (see [Figure 12 on page 13](#)).

Figure 12: Connect an ACX710 Router to a Network for Out-of-Band Management

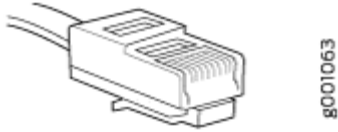


Connect an ACX710 Router to a Management Console

Ensure that you have an RJ-45 to DB-9 rollover cable available.

Figure 13 on page 14 shows the RJ-45 connector of an Ethernet cable.

Figure 13: RJ-45 Connector on an Ethernet Cable



NOTE: If your laptop or PC does not have a DB-9 pin contact and you want to connect your laptop or PC directly to the ACX710 router, use a combination of the RJ-45 cable and RJ-45 to DB-9 adapter and a USB to DB-9 plug adapter.

ACX710 routers have a console (**CON**) port that uses an RJ-45 connector to connect the device to a management console or a console server.

To connect the ACX710 router to a management console (see [Figure 14 on page 14](#) and [Figure 15 on page 15](#)):

1. Connect one end of the Ethernet cable to the console port (labeled **CON**) on the device.
2. Connect the other end of the Ethernet cable into the console server (see [Figure 14 on page 14](#)) or management console (see [Figure 15 on page 15](#)).

Figure 14: Connect an ACX710 Router to a Management Console Through a Console Server

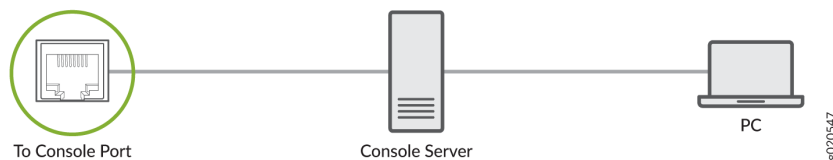


Figure 15: Connect an ACX710 Router Directly to a Management Console



SEE ALSO

No Link Title

No Link Title

Step 6: Perform Initial Software Configuration

IN THIS SECTION

- [Enter Configuration Mode | 15](#)
- [Configure User Accounts and Passwords | 16](#)
- [Configure System Attributes | 17](#)
- [Commit the Configuration | 18](#)

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

To configure the software:

Enter Configuration Mode

1. Verify that the router is powered on.

2. Log in as the **root** user. There is no password.
3. Start the CLI.

```
root# cli
root@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 *user*.

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 domain name of the router.

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

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

```
[edit]
root@host# set interfaces em0 unit 0 family inet address address/prefix-length
```

4. Configure the IP address of a backup router, which is used only when 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
```

6. (Optional) Configure the static routes to remote subnets that have 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 must 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@host# 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@host# set system services telnet
```

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

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

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

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

Commit the Configuration

1. (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 {
    em0 {
        unit 0 {
            family inet {
```

```

        address address/prefix-length;
    }
}
}

```

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

```

[edit]
root@host# 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 [ACX710 Universal Metro Router Hardware Guide](https://www.juniper.net/documentation/) at <https://www.juniper.net/documentation/>.



WARNING: Certain ports on the device are designed for use as intrabuilding (within-the-building) interfaces only (Type 2 or Type 4 ports as described in *GR-1089-CORE*) and require isolation from the exposed outside plant (OSP) cabling. To comply with NEBS requirements and protect against lightning surges and commercial power

disturbances, the intrabuilding ports *must not* be metalically connected to interfaces that connect to the OSP or its wiring. The intrabuilding ports on the device are suitable for connection to intrabuilding or unexposed wiring or cabling only. The addition of primary protectors is not sufficient protection for connecting these interfaces metalically to OSP wiring.



CAUTION: Before removing or installing components of a router, connect an electrostatic discharge (ESD) grounding strap to an ESD point, and wrap and fasten the other end of the strap around your bare wrist. Failure to use an ESD strap could result in damage to the router.

- Only trained and qualified personnel must install or replace the router.
- Perform only the procedures described in this quick start or the [ACX710 Universal Metro Router Hardware Guide](https://www.juniper.net/documentation/) at <https://www.juniper.net/documentation/>. 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 [ACX710 Universal Metro Router Hardware Guide](https://www.juniper.net/documentation/) at <https://www.juniper.net/documentation/> 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 that is inclined more than 10 degrees.
- Manually installing the router requires two people to lift an empty chassis and three people to lift a fully configured router. Before lifting the chassis with only two people, remove the components as described in the [ACX710 Universal Metro Router Hardware Guide](https://www.juniper.net/documentation/) at <https://www.juniper.net/documentation/>. 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。

9517283

Compliance Statements for EMC Requirements

IN THIS SECTION

- [Canada | 22](#)
- [European Community | 22](#)
- [Israel | 22](#)
- [Japan | 22](#)

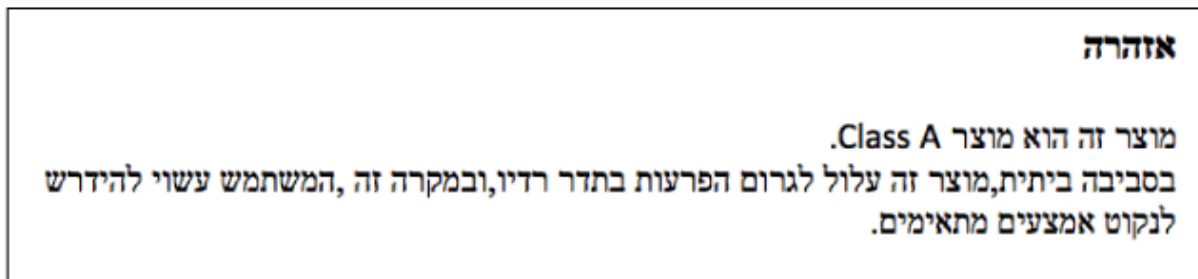
Canada

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

European Community

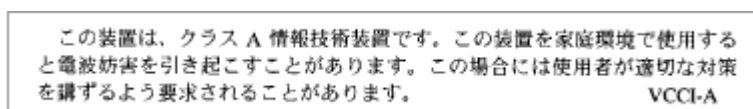
This is a Class A product. In a domestic environment, this product might cause radio interference in which case the user might be required to take adequate measures.

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



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.

Contact Customer Support

You can contact Juniper Networks Technical Assistance Center (JTAC) 24 hours a day, 7 days a week in one of the following ways:

- On the Web, using the Service Request Manager link at:

<https://support.juniper.net/support/>

- By telephone:
 - From the US and Canada: 1-888-314-JTAC
 - From all other locations: 1-408-745-9500

NOTE: If contacting JTAC by telephone, enter your 12-digit service request number followed by the pound (#) key if this is an existing case, or press the star (*) key to be routed to the next available support engineer.

When requesting support from JTAC by telephone, be prepared to provide the following information:

- Your existing service request number, if you have one
- Details of the failure or problem

- Type of activity being performed on the device when the problem occurred
- Configuration data displayed by one or more `show` commands
- Your name, organization name, telephone number, fax number, and shipping address

The support representative validates your request and issues an RMA number for return of the component.