

M20 Internet Router

M20 Internet Router

Perform Initial Software Configuration

1. Turn on the power to the management device connected to the router.
2. Press the power switches on all power supplies to the **ON** position.
3. On the management device, monitor the startup process to verify that the router boots properly.
4. Configure the router as shown in the following table. Text you enter literally is shown in **bold**, and variables for which you substitute specific values are shown in *italics*.

Step	CLI
1. Log in as "root" user. There is no password.	
2. Start the CLI.	root# cli root@>
3. Enter configuration mode.	cli > configure [edit] root@#
4. Configure the name of the router. If the name includes spaces, enclose the entire name in quotation marks (" ").	[edit] root@# set system host-name <i>host-name</i>
5. Configure the router's domain name.	[edit] root@# set system domain-name <i>domain-name</i>
6. Configure the IP address and prefix length for the router's Ethernet management interface.	[edit] root@# set interfaces fxp0 unit 0 family inet address <i>address/prefix-length</i>
7. Configure the IP address of a backup router, which is used only while the routing protocol process is not running.	[edit] root@# set system backup-router <i>address</i>
8. Configure the IP address of a DNS server.	[edit] root@# set system name-server <i>address</i>
9. 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: <i>password</i> Retype new password: <i>password</i> [edit] root@# set system root-authentication encrypted-password <i>"encrypted-password"</i> [edit] root@# set system root-authentication ssh-dsa <i>"public-key"</i> [edit] root@# set system root-authentication ssh-rsa <i>"public-key"</i>
10. Optionally, display the configuration statements to verify that the configuration is correct.	[edit] root@# show system { host-name <i>host-name</i> ; domain-name <i>domain-name</i> ; backup-router <i>address</i> ; name-server { <i>address</i> ; } interfaces { fxp0 { unit 0 { family inet { address <i>address</i> ; } } } } }
11. Commit the configuration. This activates the configuration on the router.	[edit] root@# commit
12. Configure additional properties by adding the necessary configuration statements, then commit the changes to activate them on the router.	[edit] root@host-name# commit
13. When you have finished configuring the router, exit configuration mode.	[edit] root@host-name# exit root@host-name>



Warning

Safety Warnings

This is a summary of safety warnings. For a complete list of warnings for this router, including translations, see the *M20 Internet Router Hardware Guide* at www.juniper.net/techpubs/hardware/.

- Only trained and qualified personnel should install or replace the router.
- Perform only the procedures illustrated on this poster or described in the *M20 Internet Router Hardware Installation 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 in the "Prepare the Site" section of the *M20 Internet Router Hardware Installation 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 and a third person to secure the mounting screws. Before lifting the chassis, remove components and attach the installation lifting handles as described in the *M20 Internet Router Hardware Installation 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 handles on the power supplies.
- 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.

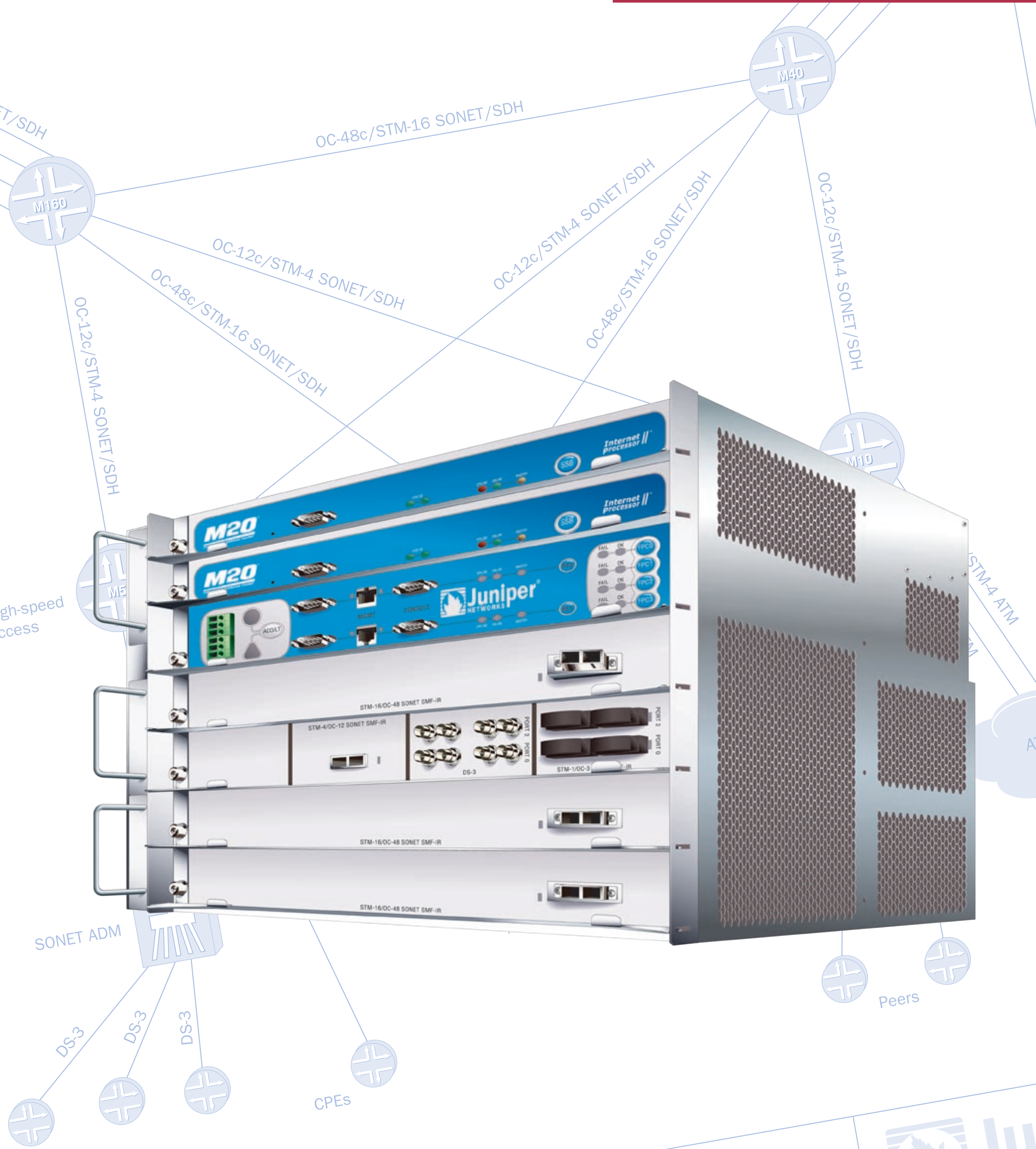
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the router in the rack.
- When installing the router, the ground connection must always be made first and disconnected last.
- When removing or installing an electrical component, always place it component-side up on a flat antistatic surface or in an electrostatic bag.
- Use copper conductors only.
- For routers equipped with DC power supplies, wire the power supplies 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. Note that 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 could result in serious physical injury.

www.juniper.net

For support issues, contact the Juniper Technical Assistance Center (JTAC) at 1-888-314-JTAC (within the United States) or 408-745-9500 (from outside the United States). For other contact information, refer to www.juniper.net/contactus.html.

Juniper Networks is registered in the U.S. Patent and Trademark Office and in other countries as a trademark of Juniper Networks, Inc. ERX, ESP, E-series, Internet Processor, JProtect, JUNOS, JUNOScript, JUNOSe, M5, M7i, M10i, M100, M20, M40, M40e, M160, M-series, NMC-RX, SDX, T320, T640, and T-series are trademarks of Juniper Networks, Inc. All other trademarks, servicemarks, registered trademarks, or registered service marks are the property of their respective owners. All specifications are subject to change without notice.
Copyright © 2003, Juniper Networks, Inc. All rights reserved. Printed in USA.

Part Number 530-010127-01 30 August 2003



Tools You Need to Install the Router

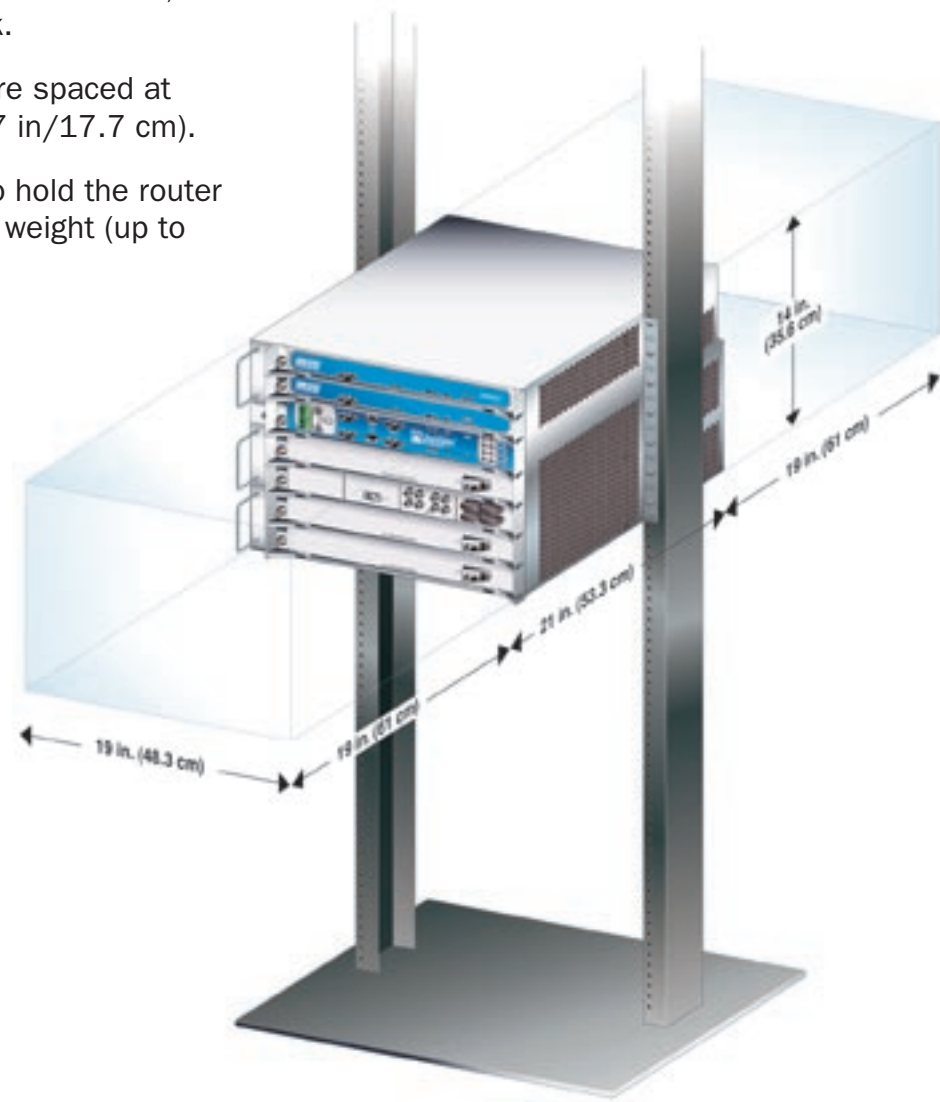
- Mechanical lift – recommended
 - Phillips screwdrivers, numbers 1 and 2
 - Electrostatic discharge wrist strap
- 9/16-in. socket wrench (if you are front-mounting the router)
 - Wire cutters
- Pliers
 - Antistatic mat



Complete documentation available at www.juniper.net/techpubs/

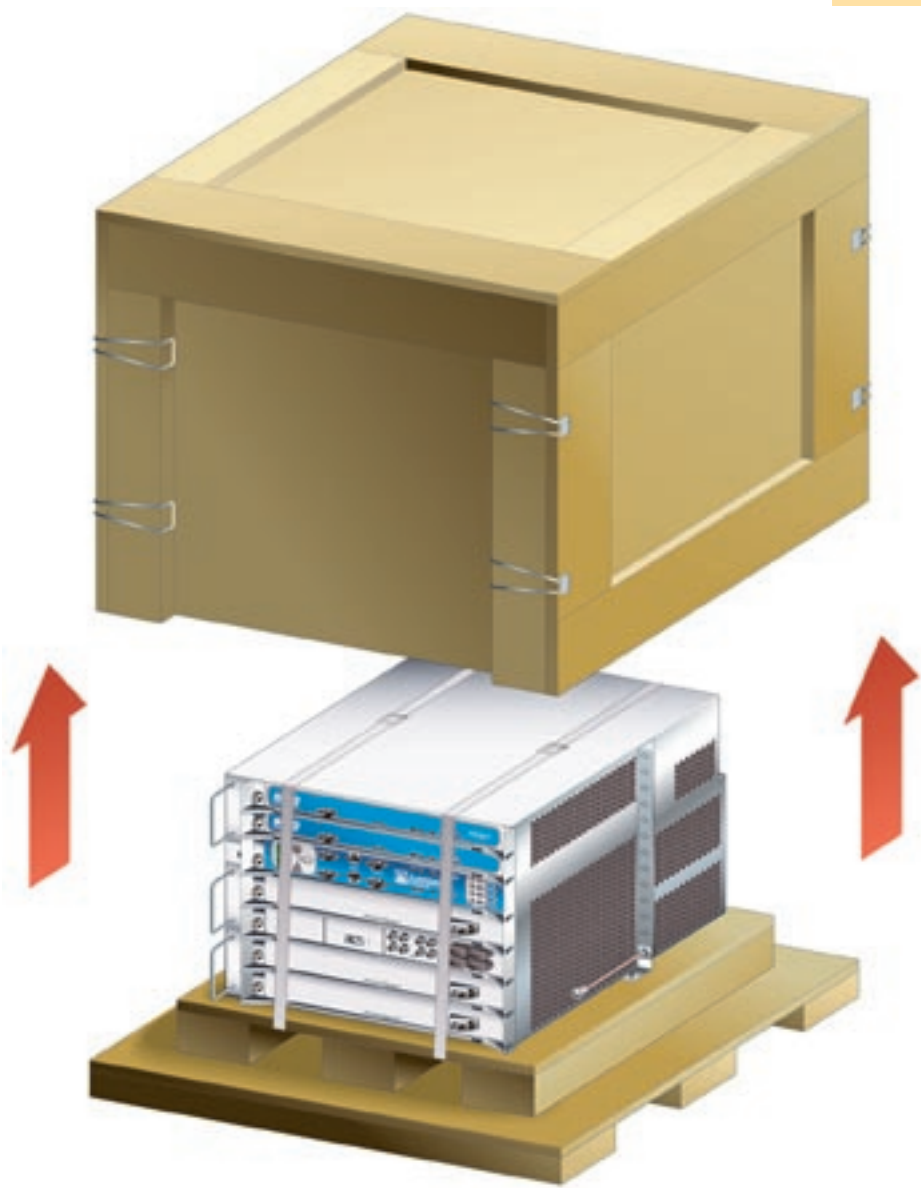
Rack Space Requirements

- You can install the router into a center-mount, front-mount, or telco (4-post) rack.
- The holes in the mounting ears are spaced at 3 U (5.25 in/13.3 cm) and 4 U (7 in/17.7 cm).
- The rack must be large enough to hold the router and strong enough to support its weight (up to 135 lb/62 kg).



Unpack the Router

- Move the shipping crate as close to the installation site as possible.
- Twist the locking tabs to unfasten the crate from the pallet.
- Lift the top and sides of the shipping crate off the pallet.
- Remove the accessory box.
- Verify that you have received all parts on the packing list.
- Use a socket wrench to remove the bolts attaching the router to the pallet.
- Save the shipping crate, packing materials, bolts, and pallet in case you need to move or ship the router.



Install the Router Using a Lift...Or



Because of the router's size and weight, we strongly recommend using a lift to install it.



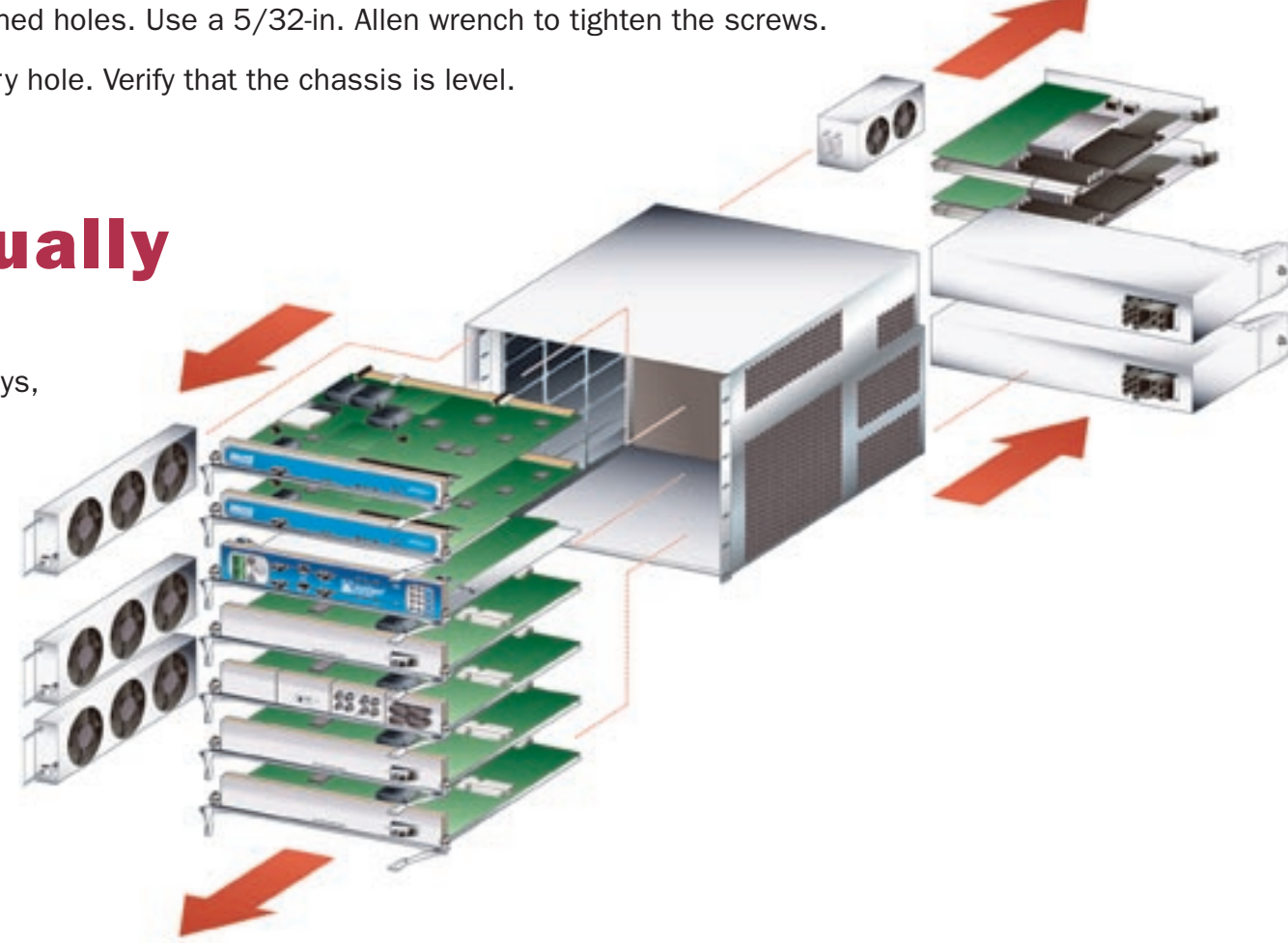
Before installing the router in a front-mount rack, have a qualified technician verify that the rack is strong enough to support the router's weight and is adequately supported at the installation site.

- Make sure the rack is properly secured to the building in its permanent location.
- Load the router onto the lift, making sure it rests securely on the lift platform.
- Use the lift to position the router at the correct height in the rack.
- Align the bottom mounting hole on both front support posts or center-mount ears with a hole in each rack rail, making sure the chassis is level.
- Install a mounting screw (provided) into each of the two aligned holes. Use a 5/32-in. Allen wrench to tighten the screws.
- Moving up each post or mounting ear, install a screw in every hole. Verify that the chassis is level.
- Move the lift away from the rack.

...Install the Router Manually

3a. Remove components:

- Remove power supplies, Routing Engine, FPCs, SSB, fan trays, and the cable management system before lifting the router.
- Slide each component out of the chassis evenly so that it does not become stuck or damaged.
- Label each component as you remove it so you can reinstall it in its correct location.
- As you remove each component, immediately place it in an electrostatic bag or on its own antistatic mat on a flat, stable surface.
- Do not stack removed components. Lay each one on a flat surface.
- For instructions on removing router components, see "Install the Router and Its Components" in the *M20 Internet Router Hardware Installation Guide*.



3b. Lift the router into the rack:

Lifting the chassis and mounting it into the rack requires two people to lift and a third person to secure the mounting screws. The empty chassis weighs over 80 lbs/36 kg.

- Make sure the rack is in its permanent location and is secured to the building.
- If you are front-mounting the router, install the front-mounting brackets.
- One person at each side of the chassis grasps the front and side of the chassis under the card cage. Lift the chassis and position it in the rack.
- Align the bottom mounting holes on the chassis mounting ears with the holes in the rack.
- Install a mounting screw (provided) into each of the two aligned holes.
- Moving up the sides of the router, install screws in every hole on the mounting ears.

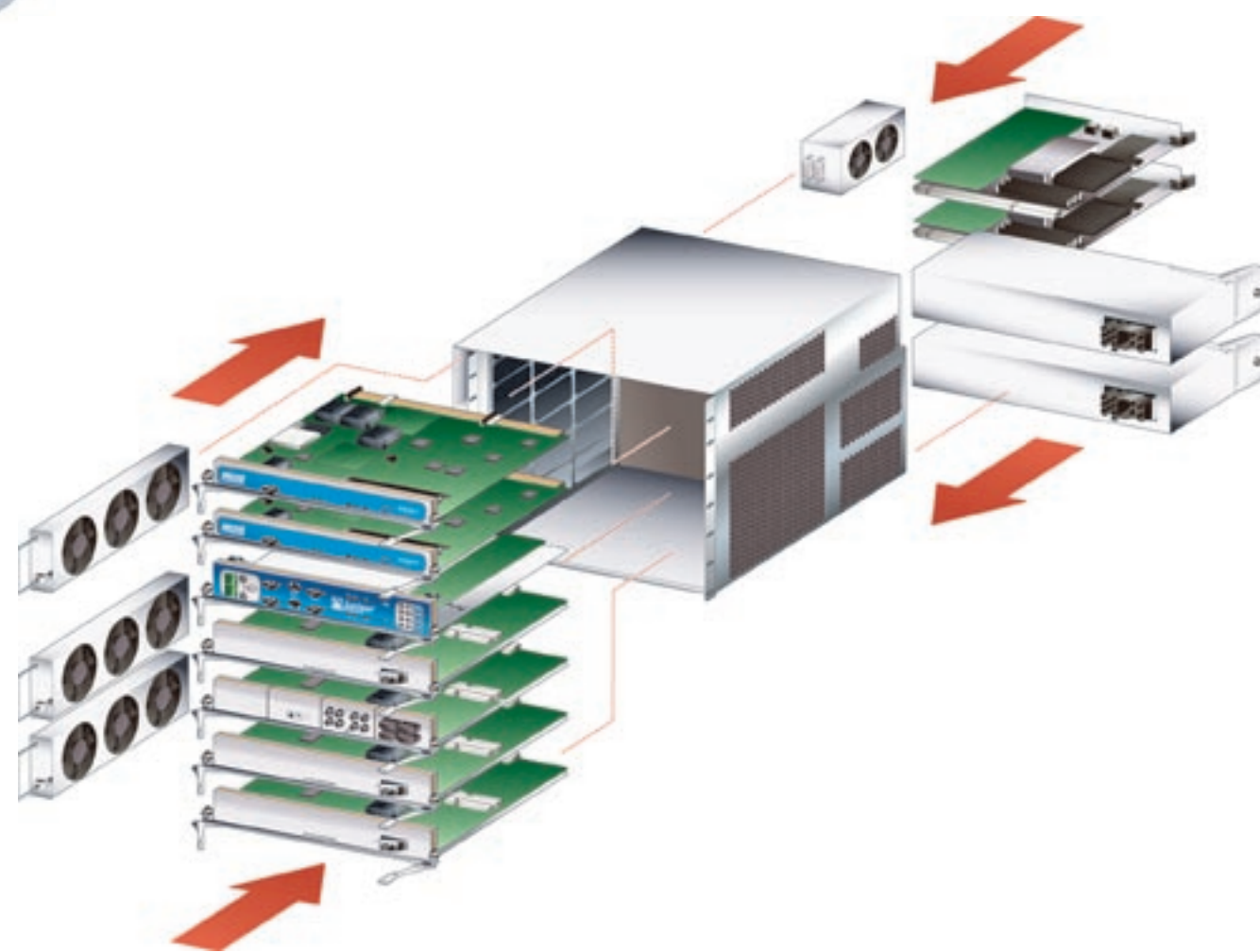


3c. Reinstall components:



Make sure that all empty slots are covered with a blank panel before operating the router.

Slide each component into the chassis evenly so that it does not become stuck or damaged.



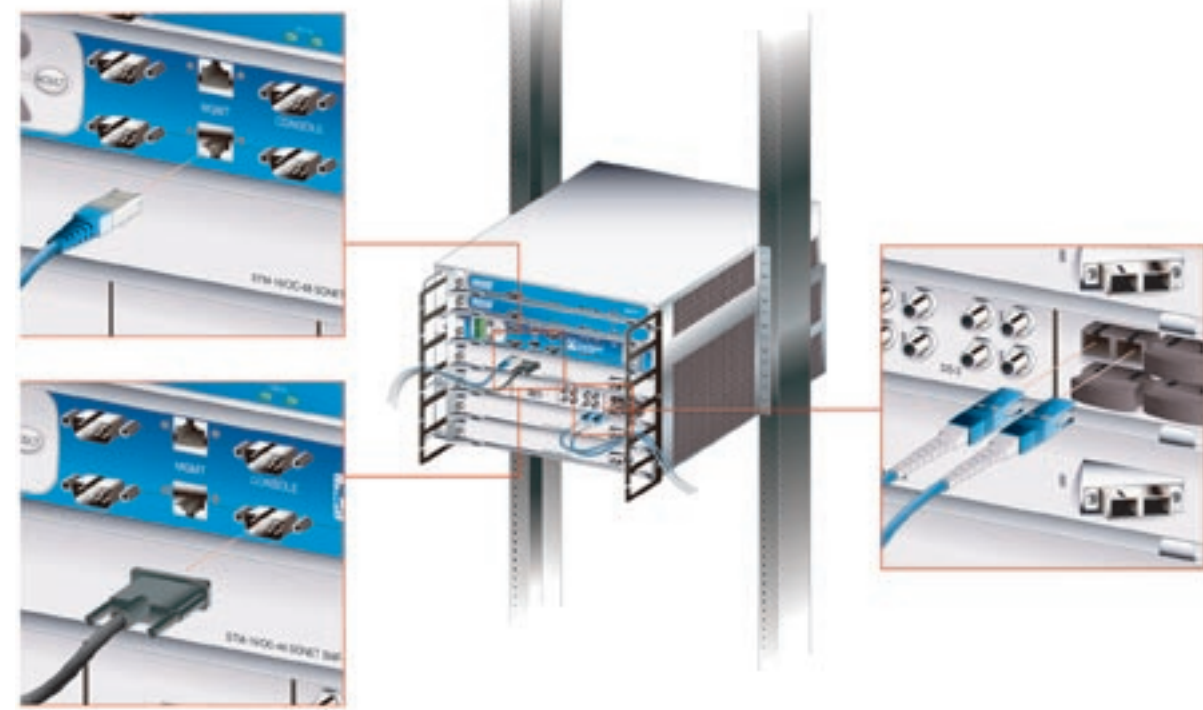
Connect External Devices and PIC Cables

Connect to a network for out-of-band management:

- Plug one of the provided Ethernet cables into the **MGMT** port on the craft interface.
- Plug the other end into the networking device.

Connect to a management console:

- Turn off the power to the management console.
- Plug the provided RS-232 (EIA-232) serial cable into the **CONSOLE** port on the craft interface.
- Tighten the screws on the connector.



Connect the PIC cables:



Do not look directly into the cable connector ports on a PIC or into the ends of fiber-optic cables. Fiber-optic cables emit laser light that can damage your eyes.

- Locate the appropriate cable to be connected to each PIC.
- Insert the cable connector into the cable connector port on the PIC.
- Arrange the cables in the cable management system to protect them from dislodging or bending past their recommended bend radius.

Connect Ground and Power Cables

Connect AC power cords:

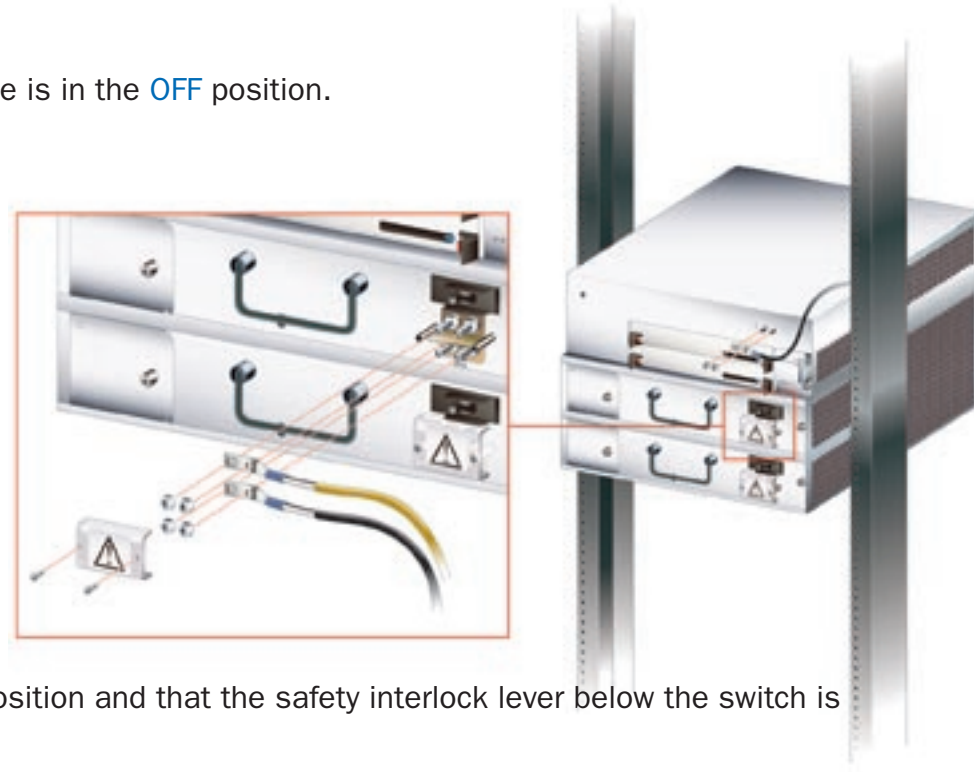


The figure shows a DC-powered router only.

- Verify that the switch on the power supply faceplate is in the **OFF** position.
- Locate the AC power cord provided, which should have a plug appropriate for your location.
- Insert the appliance coupler on the power cord into the faceplate and insert the plug into a power source receptacle.
- Repeat Steps 1 through 3 for the second power supply.

Connect DC power supplies:

- Ensure that the voltage across the DC power source cables is 0 V and that the cable leads will not become active during installation.
- Verify that the power supply switch is in the **OFF** position and that the safety interlock lever below the switch is disengaged.
- Attach the grounding cable to the grounding points on the upper rear of the chassis. Be sure to attach the ground before connecting the power cables.
- Remove the plastic protective shield covering the power supply terminal studs.
- Remove the nut and locking washer from the terminal studs and attach the DC power sources to the terminal studs:
 - Connect the positive (+) cable lugs to the **RTN** (return) terminals.
 - Connect the negative (–) cable lugs to the **–48 V** (input) terminals.
- Secure the power cable lugs to the terminal studs with the washers, then with the nuts.
- Verify that the power and ground cabling are correct. Make sure that the power cables do not cover the Routing Engine or the alternate power supply.
- Replace the plastic shield covering the terminal studs.
- To verify that the power supplies are installed correctly, turn the power switch on one of the power supplies **ON**. The green **OK** LED on the power supply faceplate should blink, then light steadily.



See back cover for safety warnings.