



Installation

This chapter provides the installation procedures for the router. The chapter includes the following sections:

- [Before Installing the Router](#)
- [Mounting the Router in a Rack](#)
- [Connecting the Router to Your Local Network](#)
- [Installing WICs and VICs](#)
- [Connecting Power to the Router](#)
- [Verifying the Installation](#)
- [Optional Installation Steps](#)

Before Installing the Router

The router is shipped ready for rack mounting. Before making the power and network connections, mount the router in a rack, as described in the next section.

Be sure to read the safety information in the *Regulatory Compliance and Safety Information for Cisco 1700 Routers* document that came with your router.



Warning

Read the installation instructions before you connect the system to its power source.

**Warning**

This equipment needs to be grounded. Use a green and yellow 14 AWG ground wire to connect the host to earth ground during normal use.

**Warning**

Do not work on the system or connect or disconnect cables during periods of lightning activity.

Mounting the Router in a Rack

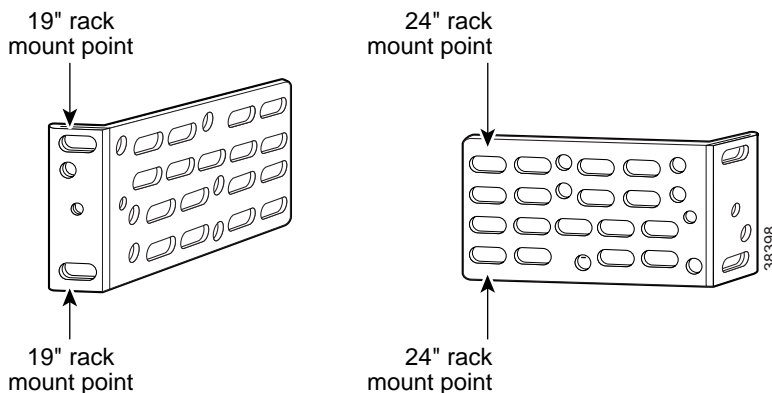
**Warning**

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit 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 unit in the rack.

The rack-mounting brackets supplied with the router can be attached to a 19- or 24-inch rack. Figure 2-1 shows the bracket mounting points that attach to the rack.

Figure 2-1 Bracket Mounting Points



To install the router in a 19-inch or a 24-inch standard rack, follow the instructions described in these procedures:

- [Attaching Brackets to the Router](#)
- [Attaching Brackets to the Rack](#)

Attaching Brackets to the Router

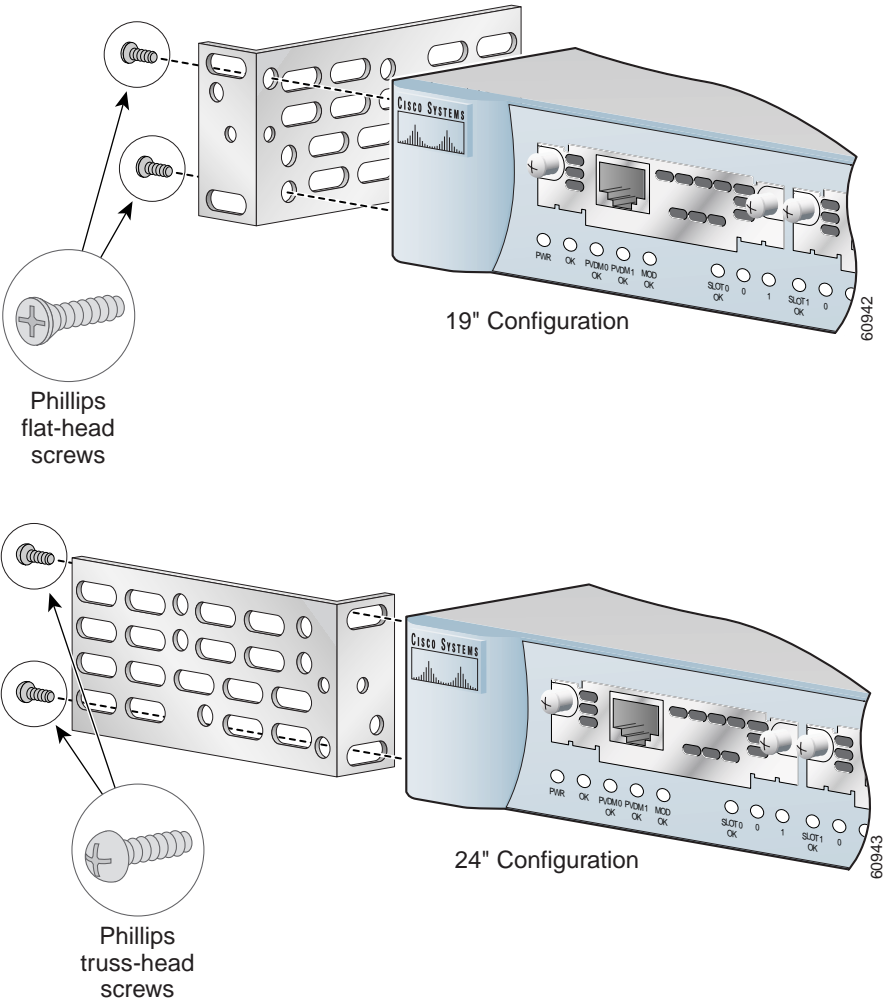
The bracket orientation and the screws you use depend on whether a 19-inch rack or a 24-inch rack will be used. Use two of the supplied screws to attach each bracket, according to the following guidelines:

- For a 19-inch rack, use the supplied number-8 Phillips flat-head screws to attach the long side of the bracket to the router.
- For a 24-inch rack, use the supplied number-8 Phillips truss-head screws to attach the short side of the bracket to the router.

Figure 2-2 shows how to attach the brackets to the two sides of the router with the front panel forward.

■ Mounting the Router in a Rack

Figure 2-2 Attaching Brackets for 19- and 24-Inch Racks



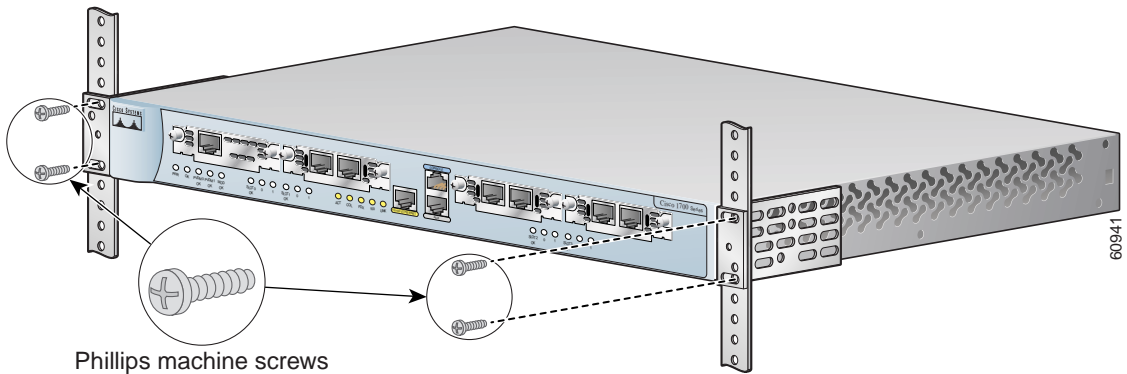
Attaching Brackets to the Rack

After you attach the brackets to the router, use the four supplied number-12 Phillips machine screws to securely attach the brackets to the rack, as shown in Figure 2-3.

**Caution**

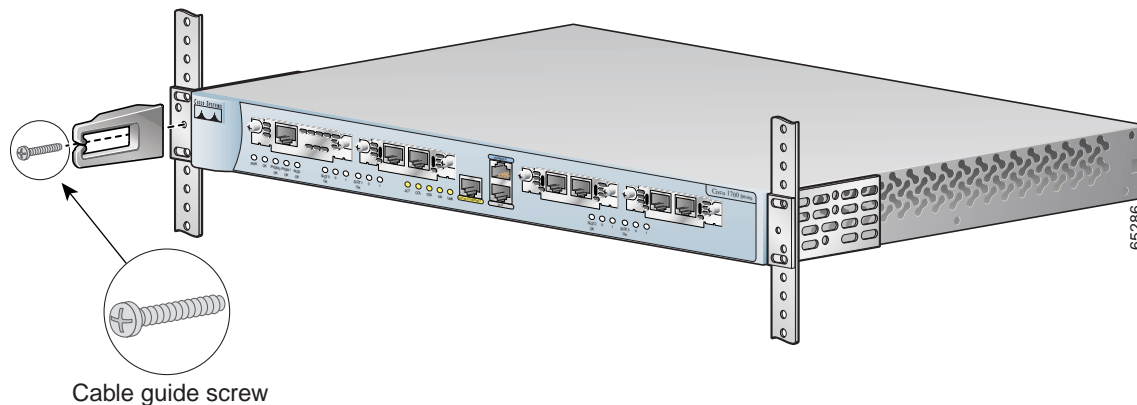
Make sure that the fans on the side of the chassis are not blocked.

Figure 2-3 Attaching Brackets to the Rack



Attaching the Optional Cable Guide

Cisco recommends attaching the cable guide to prevent the cables from obscuring the front panel of the router and the other devices installed in the rack. If the router is in a 19-inch or 24-inch rack, use the supplied black screw, as shown in Figure 2-4, to attach the cable guide to the left or right bracket.

Figure 2-4 Attaching the Cable Guide to the Router

Connecting the Router to Your Local Network

The router is connected to your local Ethernet network through the yellow 10/100 Ethernet port. You must provide the following items for this connection:

- A straight-through, RJ-45-to-RJ-45 Ethernet cable
- A 10/100-Mbps Ethernet hub or switch



Warning

The ports labeled *10/100-Mbps Ethernet port* and *Console port* are safety extra-low voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. Because BRI circuits are treated like telephone-network voltage, avoid connecting the SELV circuits to the telephone network voltage (TNV) circuits. (To see translated versions of this warning, refer to the *Regulatory Compliance and Safety Information for Cisco 1700 Routers* document that came with the router.)



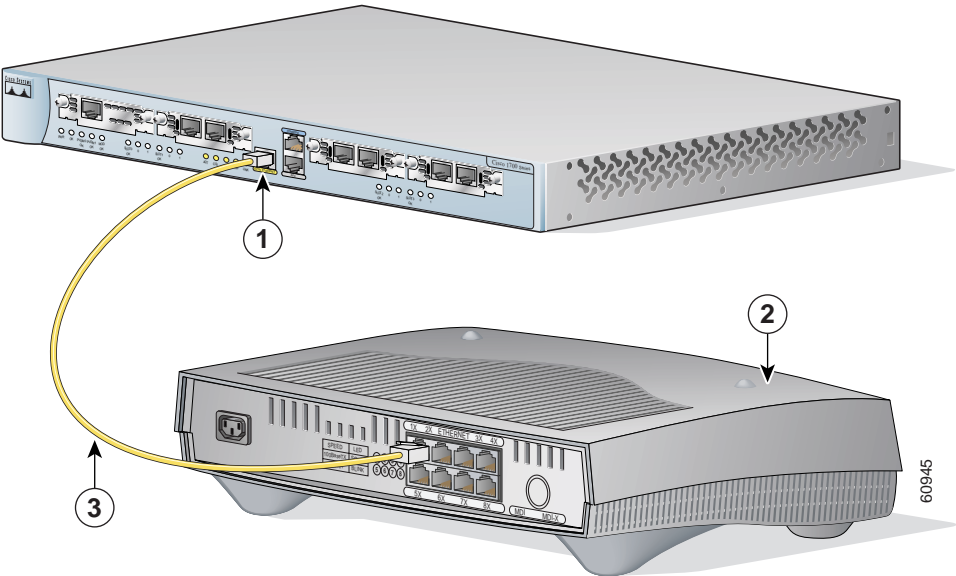
Caution

Always connect the Ethernet cable to the yellow ports on the router. Do not connect the cable to an ISDN S/T or U port on a WIC or to an NT1 that is connected to a WIC. Accidentally connecting the cable to the wrong port can damage your router.

Follow these steps to connect the router to your local network:

- Step 1** Connect one end of the cable to the yellow Ethernet port (labeled *10/100-Mbps Ethernet port*). (See [Figure 2-5](#).)

Figure 2-5 *Connecting the Router to the Local Network*



1	10/100 Ethernet port	3	Straight-through Ethernet cable
2	Ethernet hub or switch		

- Step 2** Connect the other end of the cable to a network port on the hub or switch.

Installing WICs and VICs

The router has four card slots that hold Cisco WICs and VICs. Either one or two WICs may be installed, with the remaining slots holding VICs, as desired. If no WICs are present in the slots, up to four VICs may be installed. Each WIC has one or two WAN ports and each VIC has one or more voice ports. This section describes the procedure for installing a WIC or a VIC in the router.

**Note**

For details on specific WICs and VICs, on connecting a WIC to the WAN line or VIC to the telephone and fax line, and on configuring the interface with Cisco IOS software, refer to the *Cisco WAN Interface Cards Hardware Installation Guide* that came with the cards.

Safety Information

This section lists safety warnings that you should be aware of before installing WICs or VICs in the router. To see translated versions of these warnings, refer to the *Regulatory Compliance and Safety Information for the Cisco 1700 Routers* document that came with the router.

**Warning**

Before working on a system that has an on/off switch, turn off the power and unplug the power cord.

**Warning**

Only trained and qualified personnel should be allowed to install or replace this equipment.

**Warning**

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

**Warning**

Before opening the chassis, disconnect the telephone-network cables (from the card) to avoid contact with the telephone-network voltages.

**Warning**

Do not work on the system or connect or disconnect cables during periods of lightning activity.

**Caution**

Do not connect a WAN, telephone, or fax cable to the card until you have completed the installation procedure.

Follow these steps to remove or insert a card in the router:

Step 1

Make sure that the router is turned off and is disconnected from power.

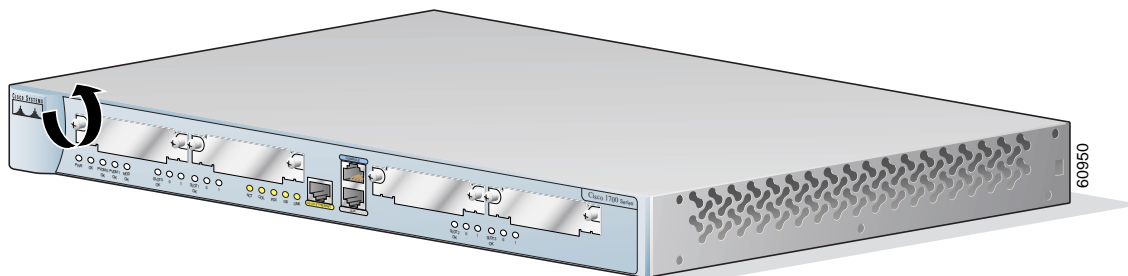
**Caution**

Power must be disconnected from the system before installing or removing WICs or VICs to avoid damaging them. When WICs or VICs are pushed into or pulled out of a router that is powered up, there is a very good chance that they could be damaged electrically and will no longer function.

Step 2

Loosen the thumbscrews on the WIC or VIC slot cover, as shown in [Figure 2-6](#).

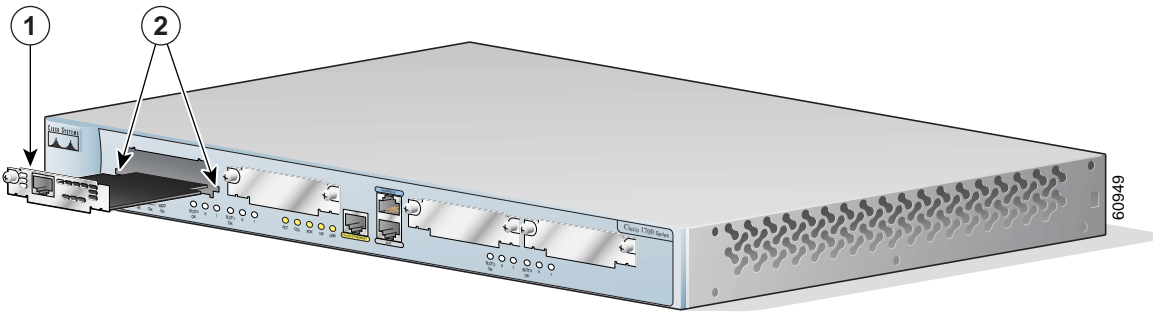
Figure 2-6 Removing a WIC or VIC Slot Cover



You should be able to loosen the screws using your fingers; however, if the screws are very tight, you might need to use a Phillips screwdriver.

- Step 3** Remove the metal plate that covers the card slot.
- Step 4** Hold the card by the edges on either side of the card front panel, and line up the card edges with the guides inside the card slot, as shown in [Figure 2-7](#).

Figure 2-7 Inserting a WIC or VIC in the Router



1	Interface Card	2	Guides
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- Step 5** Insert the card in the slot, and gently push it into the router until the front panel of the card is flush with the router.



Note Slots 2 and 3 accept VICs only. These slots have a small metal tab on the right side that interferes with a similar tab on WICs, preventing WICs from being inserted by mistake.

- Step 6** Tighten the screws.

Connecting Power to the Router

Read the following warnings before connecting the power to the router.



Warning

The power supply is designed to work with TN power systems.



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120VAC, 15AU.S. (240VAC, 16A international) is used on the phase conductors (all current-carrying conductors).



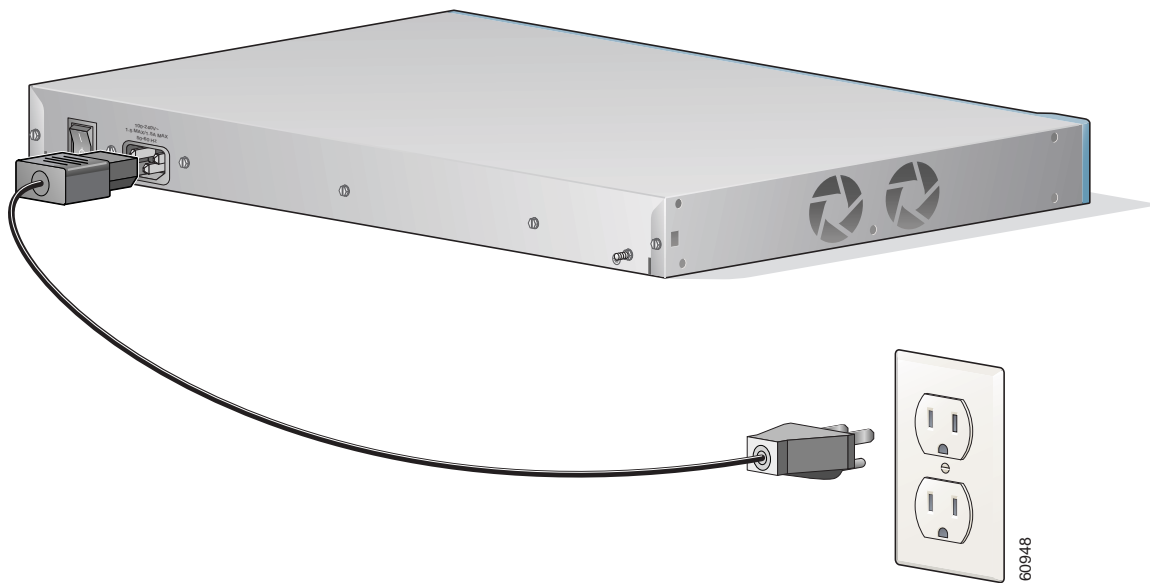
Warning

This equipment needs to be grounded. Use a green and yellow 14 AWG ground wire to connect the host to earth ground during normal use.

Follow these steps to connect power to the router and to turn the router on:

Step 1

Connect the separate power cord to the power socket on the rear panel. (See [Figure 2-8.](#))

Figure 2-8 Connecting Power

- Step 2** Connect the other end of the separate power cord to a power outlet.
- Step 3** Turn the power switch on (|).
- Step 4** Confirm that the router has power by checking that the PWR LED is on.
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Verifying the Installation

You can verify that you have correctly installed the router by checking the following LEDs:

- **PWR**—On when power is being supplied to the router.
- **OK**—On when the router software is loaded and functional. Blinking means that the router is performing a power-on self-test (POST).
- **ETH ACT**—Blinking when there is network traffic on the local Ethernet LAN.

- SLOT 0 and SLOT 1 OK—On when a WIC or VIC is correctly installed in the slot.
- SLOT 2 and SLOT 3 OK—On when a VIC is correctly installed in the slot.
- SLOT 0, SLOT 1, SLOT 2, and SLOT 3—Activity on ports 0 and 1 of each of these slots varies, depending on the type of WIC or VIC installed. See [Table 1-5](#) in Chapter 1, “[Cisco 1760 Router Overview](#),” for detailed information on activity at different ports.
- LINK—On when the router is correctly connected to the local Ethernet LAN through the 10/100-Mbps Ethernet port.

Optional Installation Steps

This section describes the following installation steps that you might or might not use, depending on your site and how you are configuring the router:

- [Connecting a PC](#)
- [Connecting a Modem](#)

Connecting a PC

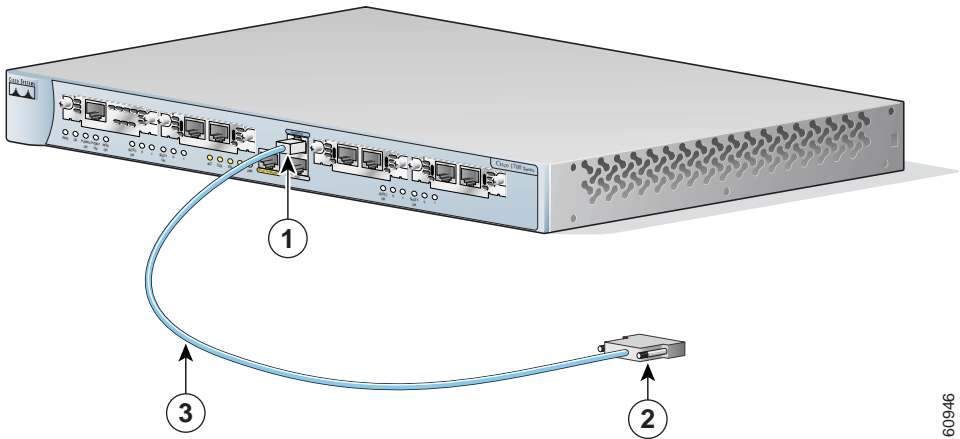
If you want to configure the router through the Cisco IOS command-line interface (CLI), you must connect the router console port to a terminal or PC. The cable required for this connection is included with the router.

The PC must have some type of terminal emulation software installed. The software should be configured with the following parameters: 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control. Refer to the *Cisco 1700 Router Software Configuration Guide* for detailed information about configuring the router using Cisco IOS software.

Follow these steps to connect the router to a terminal or PC:

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- Step 1** Connect the end of the light blue console cable with the RJ-45 connector to the blue console port on the router, as shown in [Figure 2-9](#).

Figure 2-9 Connecting the Console Cable to the Router



1	Blue console port	3	Light blue console cable
2	To PC or terminal		

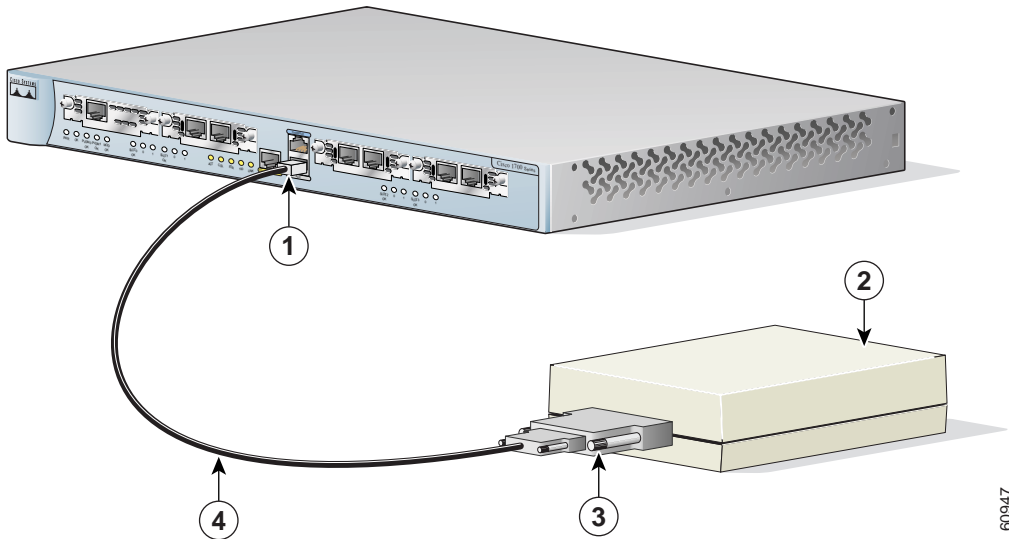
Step 2 Connect the end of the cable with the DB-9 connector to the terminal or PC. If your terminal or PC has a console port that does not fit a DB-9 connector, you must provide a correct adapter for that port.

Connecting a Modem

When a modem is connected to the auxiliary port, a remote user can dial into the router and configure it. You can use the light blue console cable that came in the accessory kit. If you are using the light blue cable with the console port, you can use any crossover RJ-45-to-RJ-45 cable, along with an RJ-45-to-DB-25 adapter that you must provide.

Follow these steps to connect a modem to the router:

Step 1 Connect the RJ-45 end of the console cable to the black AUX port on the router. (See [Figure 2-10](#).)

Figure 2-10 Connecting a Modem to the Router

1	Aux port (RJ-45)	3	DB-9-to-DB-25 adapter
2	Modem	4	Console cable

Step 2 Connect the DB-9-to-DB-25 adapter to the DB-9 end of the console cable.

Step 3 Connect the DB-25 end of the adapter to the modem.

