



Installation

This chapter provides information on the following topics:

- [Preparing for Installation](#)
- [Preventing Router Damage](#)
- [Installing Your Router](#)
- [Verifying Router Operation](#)
- [Mounting Your Router](#)
- [Connecting to a Website](#)
- [What to Do If You Cannot Connect to a Website](#)

Preparing for Installation

This section provides information on safety, mounting of the router, and unpacking the router box.

Safety

This section provides the safety warnings and electrostatic and router damage information applicable to the router.

Warnings

Before installing the router, read the following warnings:



Warning

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



Warning

No operator serviceable parts inside. Refer servicing to qualified personnel.



Warning

Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.



Warning

This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).



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

The ports labeled "10BaseT", "100BaseTX", and "10/100" are safety extra-low voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. Avoid connecting these circuits to telephone network voltage (TNV) circuits.

**Warning**

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.

**Warning**

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

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) is a transfer of electrostatic charge between bodies of different electrostatic potentials, such as an operator and a piece of electrical equipment. It occurs when electronic components are improperly handled, and it can damage equipment and impair electrical circuitry. Electrostatic discharge is more likely to occur in the presence of synthetic fibers and dry atmosphere.

Always use the following ESD-prevention procedures when removing and replacing components:

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- Step 1** Wear an ESD-preventive wrist strap that you provide, ensuring that it makes good skin contact.

**Caution**

To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. Always follow the guidelines in the preceding section, “[Warnings](#).”

- Step 2** Do not touch any exposed contact pins or connector shells of interface ports that do not have a cable attached.

If cables are connected at one end only, do not touch the exposed pins at the unconnected end of the cable.

This device is intended for use in residential and commercial environments only.

**Caution**

Periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

Unpacking the Box

Table 2-1 lists the items that come with your router. All these items are in the accessory kit that is inside the box that your router came in. If any of the items is missing or damaged, contact your customer service representative.

Table 2-1 Router Box Contents

• Power cord (black)
• Desktop power supply
• Console cable, RJ-45-to-DB-9
• Two Ethernet cables (yellow)
• Product documentation

To prepare for installation, follow these steps:

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- Step 1** Obtain a broadband or Ethernet connection from your service provider.
- Step 2** Remove the yellow Ethernet cables, light blue console cable, and product documentation from the Open Me First bag. Remove the desktop power supply and the black power cord from the accessory kit. Gather the Ethernet devices to be connected to the router: hub, servers, workstations, or PCs.
- Step 3** If you plan to configure the software using IOS commands via the console port, provide a terminal or PC to connect to the console port.
- Step 4** If you plan to use the cable-lock feature, provide a Kensington or equivalent locking cable.
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Preventing Router Damage

Follow these guidelines when connecting devices to your router:

- Connect the color-coded cables supplied by Cisco Systems to the color-coded ports on the back panel.
- If you must supply your own cable, see Appendix A for cabling specifications. If this appendix does not provide specifications for a particular cable, we strongly recommend ordering the cable from Cisco Systems.

Installing Your Router

To install the router, you need to perform these tasks in the following order:

- Connect the Ethernet devices to the router.
- Connect the router to a broadband modem or Ethernet switch.
- Connect a terminal or PC to the router (for software configuration using the command-line interface [CLI] or troubleshooting).
- Connect the router to the power source.
- Verify the router installation.
- Mount the router.

Connecting Ethernet Devices

Table 2-2 lists the Ethernet devices you can connect to the router, the connections for each device, and the settings of the router TO HUB/TO PC button (the default setting is IN).

Table 2-2 Connecting Ethernet Devices

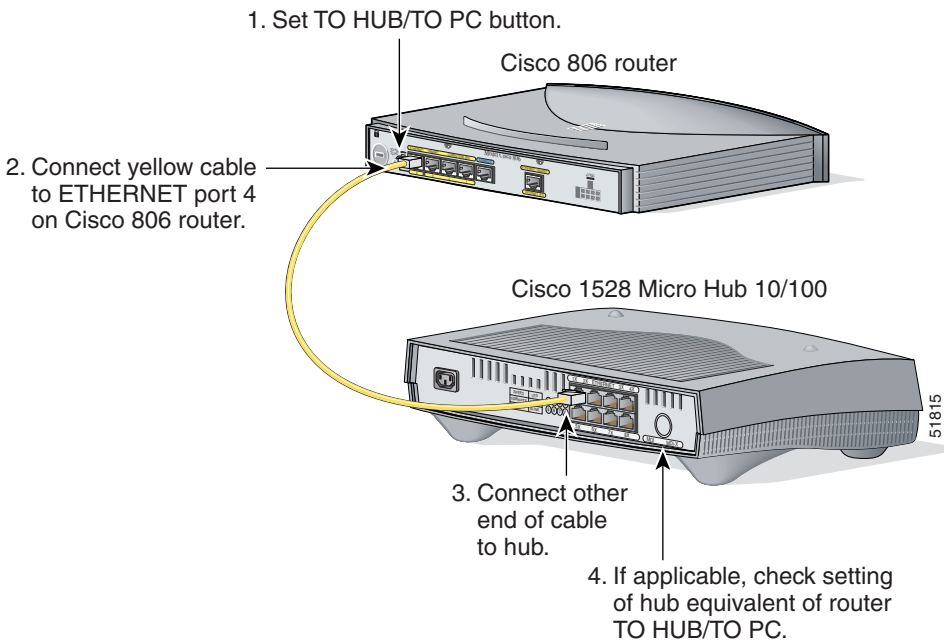
Network Device Connected to Router	Network Device Button Setting ¹	Router Port	Ethernet Cable Type ²	Router HUB/NO HUB Button Setting
Hub with equivalent to router TO HUB/TO PC button	MDI (IN)	ETHERNET port 4	Straight-through	IN
Hub with equivalent to router TO HUB/TO PC button	MDI-X (OUT)	ETHERNET port 4	Straight-through	OUT
Hub without equivalent to router TO HUB/TO PC button	MDI-X (OUT)	ETHERNET port 4	Straight-through	OUT
Server, PC, or workstation	–	ETHERNET port 4	Straight-through	OUT

1. Hub vendors use different names for the button controlling the cable selections. This table uses the Cisco 1528 Micro Hub 10/100 with an MDI/MDI-X button as an example. Determine the button name and setting for your particular hub. Refer to your hub documentation for details.
2. Cisco provides a yellow straight-through cable. You must provide additional straight-through cables. For details on cables, see Appendix A.

Connecting a Hub

Before connecting a hub to the router, see [Table 2-2](#) for information on setting the TO HUB/TO PC button. To connect a hub, follow the steps in [Figure 2-1](#). ([Figure 2-1](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

Figure 2-1 Connecting a Hub



To verify your hub connection, ensure that the COMPUTERS 4 LED on the front panel is on after you have connected all cables and turned the router on. If the LED does not turn on, see [Table 3-2](#) in Chapter 3 for troubleshooting information.

**Note**

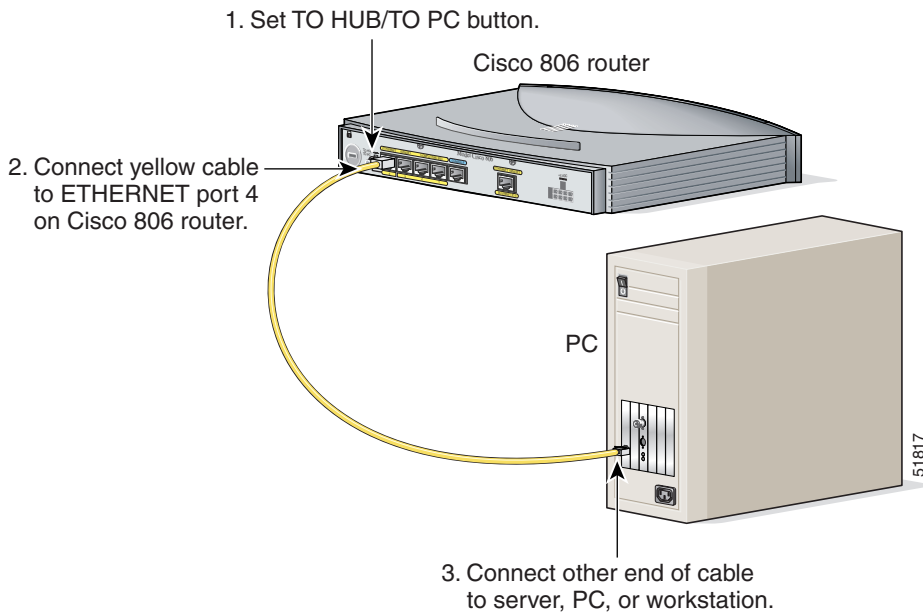
Leave PCs attached to the hub turned off until you have completed router installation.

Connecting a Server, PC, or Workstation

Before connecting the server, PC, or workstation, see [Table 2-2](#) to determine how to set the router TO HUB/TO PC button.

To connect one of these devices to ETHERNET port number 4, follow the steps in [Figure 2-2](#). ([Figure 2-2](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

Figure 2-2 Connecting a Server, PC, or Workstation



Note

Leave the PCs you connect to the router turned off until you have completed router installation.

You can connect additional servers, PCs, or workstations to ETHERNET ports 1, 2, and 3.

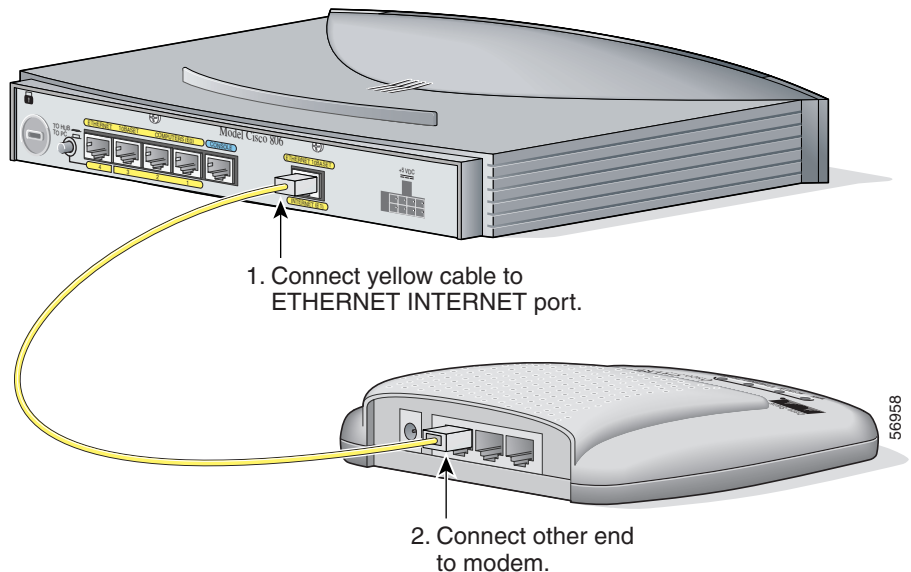
Connecting to the Internet

You can use an installed broadband modem or Ethernet switch to connect to the Internet.

Connecting a Broadband Modem

To connect to an installed DSL, cable, or long-reach Ethernet modem, follow the steps in [Figure 2-3](#). ([Figure 2-3](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

Figure 2-3 Connecting to a Broadband Modem

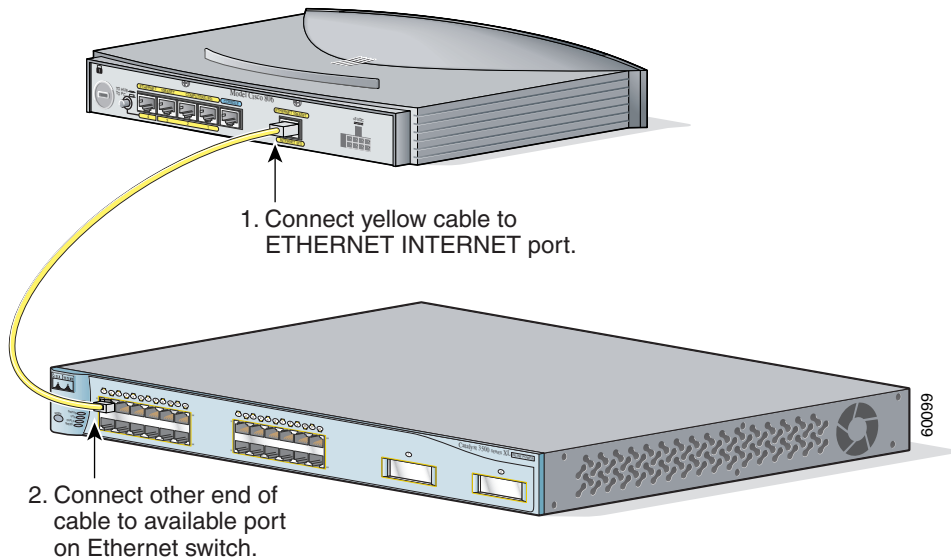


Follow the instructions provided with your broadband modem to determine which port on the modem to connect to. Turn on the broadband modem if it is not already turned on.

Connecting an Ethernet Switch

To connect an installed Ethernet switch to the router, follow the steps in [Figure 2-4](#). ([Figure 2-4](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

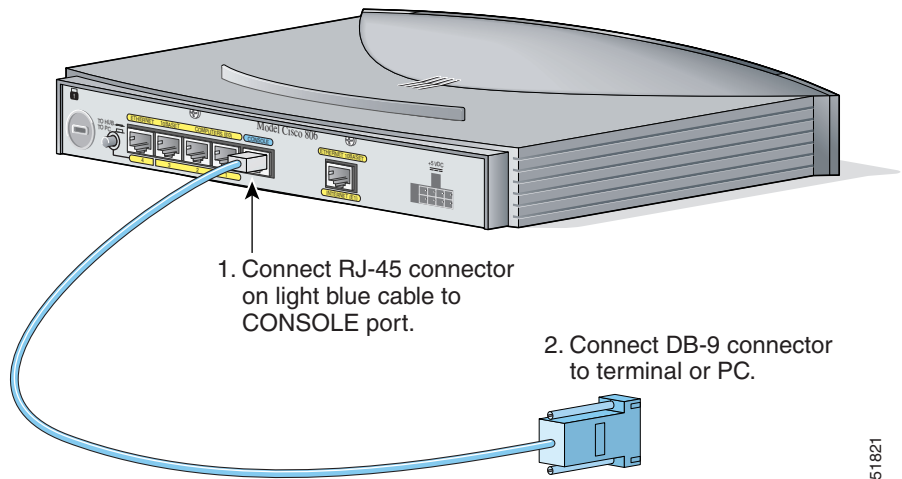
Figure 2-4 Connecting to an Ethernet Switch



Turn on the Ethernet switch if it is not already turned on.

Connecting a Terminal or PC to the Console Port

The CONSOLE port is a service port to which you can connect a terminal or PC in order to configure the software via the command-line interface (CLI) or to troubleshoot problems with the router. To connect a terminal or PC to the CONSOLE port, follow the steps in [Figure 2-5](#). ([Figure 2-5](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

Figure 2-5 Connecting a Terminal or PC**Note**

If the factory default configuration does not allow you to connect to the Internet, it is recommended that you configure your router using the Cisco Router Web Setup (CRWS) software. The CRWS software is installed on your router at the factory. See the [“What to Do If You Cannot Connect to a Website”](#) section on page 2-17 for instructions on starting the CRWS software.

Connecting the AC Adapter

To connect the AC adapter, follow the steps in [Figure 2-6](#). ([Figure 2-6](#) shows a Cisco 806 router, but the process is the same for a SOHO 71 router.)

**Warning**

The device is designed to work with TN power systems.

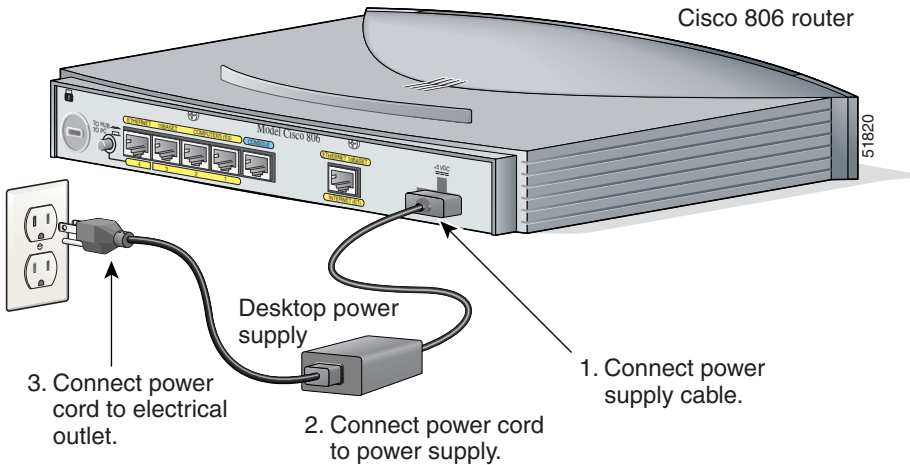
**Warning**

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

**Warning**

This equipment is designed to be grounded. Ensure that the host is connected to earth ground during normal use.

Figure 2-6 Connecting the AC adapter



Verifying Router Operation

To verify that all PCs are properly connected to the router and that the router is properly connected to the broadband modem or Ethernet switch, turn on all connected devices and then use [Table 2-3](#) to help you check the appropriate LEDs.

Table 2-3 Verifying Operation

Power/Link	LEDs to Check	Normal Patterns
Power	OK	On
To hub, server, PC, or workstation connected to ETHERNET port 4	COMPUTERS 4, COMPUTERS RXD, and COMPUTERS TXD	<ul style="list-style-type: none"> COMPUTERS 4 is on when the Ethernet port is physically connected to a hub, PC, or workstation. COMPUTERS RXD blinks when an Ethernet port receives an Ethernet packet. COMPUTERS TXD blinks when an Ethernet port sends an Ethernet packet.
To servers, PCs, or workstations connected to ETHERNET port 1, 2, or 3	COMPUTERS 1, 2, or 3, COMPUTERS RXD, and COMPUTERS TXD	<ul style="list-style-type: none"> COMPUTERS 1, 2, or 3 is on when the Ethernet port is physically connected to a server, PC, or workstation. COMPUTERS RXD blinks when an Ethernet port receives an Ethernet packet. COMPUTERS TXD blinks when an Ethernet port sends an Ethernet packet.
To broadband modem or Ethernet switch	INTERNET 1, INTERNET RXD, AND INTERNET TXD	<ul style="list-style-type: none"> INTERNET 1 is on when the INTERNET ETHERNET port is physically connected to a broadband modem or Ethernet switch. INTERNET RXD blinks when the INTERNET ETHERNET port receives an Ethernet packet. INTERNET TXD blinks when the INTERNET ETHERNET port sends an Ethernet packet.

Mounting Your Router

You can mount your router on one of the following surfaces:

- Table or other horizontal surface
- Wall or other vertical surface

Mounting on Table

Do not cover or obstruct the router vents, which are located on the router sides.

Mounting on Wall

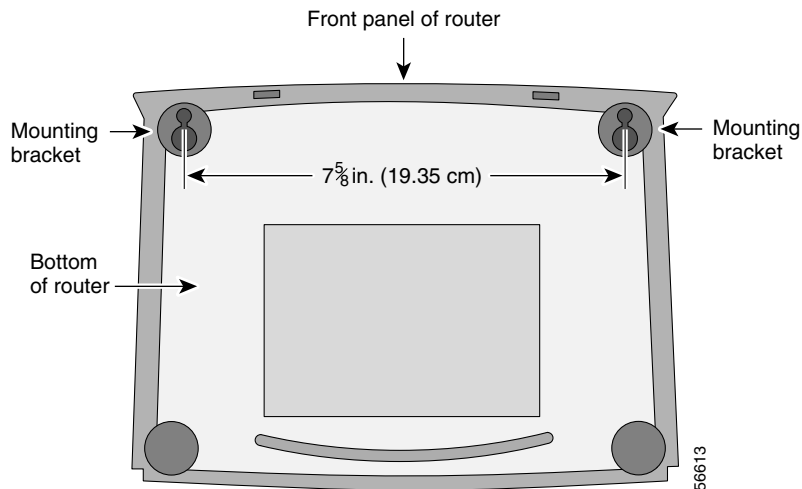
You can mount your router on a wall or other vertical surface by using the molded mounting brackets on the bottom of the router and two number-six, 3/4-in. (M3.5 x 20 mm) screws. You must provide the screws. [Figure 2-7](#) shows the mounting brackets.



Caution

If you are mounting the router on drywall, use three hollow-wall anchors to secure the three 1/8-in. (M3) screws. If the screws are not properly anchored, the strain of the network cable connections could pull the router from the wall. Use the drill bit size that is specified by the hollow-wall anchor manufacturer.

Figure 2-7 Wall-Mounting Brackets (Bottom of Router)



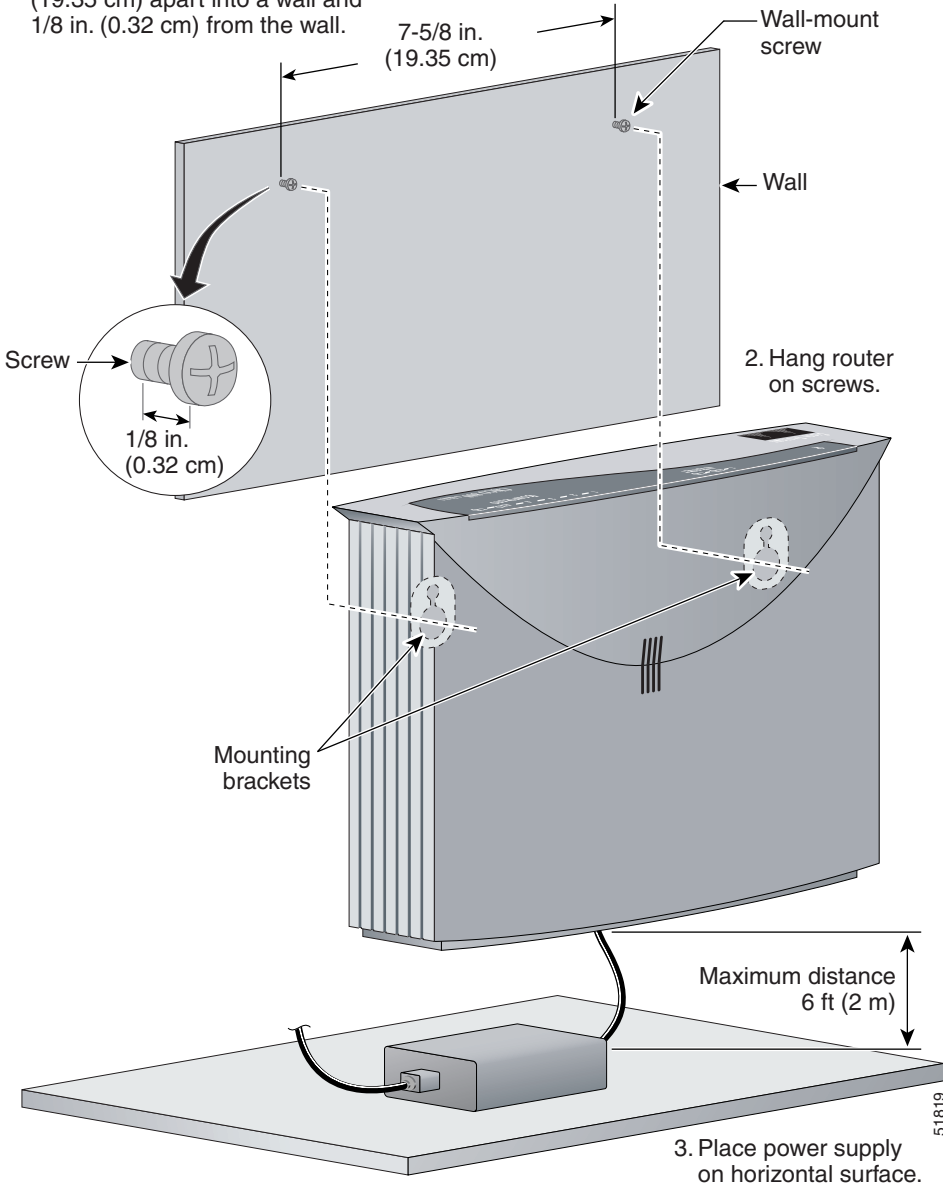
The following conditions must be met when you mount the router:

- Because you will use the LEDs as status and problem indicators, the front panel must face upward and be easily visible.
- The router must be mounted low enough for you to see the LEDs in case you need to troubleshoot a problem.
- The power supply must rest on a horizontal surface such as the floor or a table. If the power supply is not supported, it might place strain on the power supply cable and cause it to disconnect from the connector on the router back panel.

To mount the router, follow the steps in [Figure 2-8](#). The last page of this manual provides a template for measuring the distance between the screws.

Figure 2-8 Mounting Router on Wall

1. Secure two screws 7-5/8 in. (19.35 cm) apart into a wall and 1/8 in. (0.32 cm) from the wall.



Connecting to a Website

The router has been configured to work for the most common type of installation. Log onto a PC connected to the router, open a web browser, and connect to a website. If you connected to a website, you have completed setup and can continue to use the router.

If you cannot display a website, make sure that the broadband modem or Ethernet switch that the router is connected to is operating, and try again. If you still cannot connect to a website, you must follow the steps in [“What to Do If You Cannot Connect to a Website.”](#)

What to Do If You Cannot Connect to a Website

If you cannot connect to the Internet using the factory configuration, or if you have loaded new Cisco IOS software on the router since you installed it, you can configure the router, using the Cisco Router Web Setup (CRWS) software. The CRWS software is already loaded on the router, and is run from a PC connected to the router.

Starting the CRWS Software

Follow these steps to start the CRWS software:

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- Step 1** Start, or restart, a PC connected to one of the router’s Ethernet ports (1, 2, 3, or 4).
- Step 2** Open a web browser. Make sure that the browser is set to work in online mode.
- In Internet Explorer, click the File menu, and verify that the “work offline” option is unchecked.
 - In Netscape, the default selection in the File menu is set to work online.
- Step 3** Type in the following universal resource locator (URL):
- http://10.10.10.1**

**Tip**

If the CRWS home page does not appear when you enter the URL **http://10.10.10.1**, test the connection between the PC and the router by doing the following:

1. Check that the OK LED on the router is on, and check the cable connection between the router and the PC. Be sure that the TO HUB/TO PC button is in the TO PC position.
 2. If the CRWS home page still does not appear, verify that the web browser's "work offline" option is disabled.
 3. If the web page still does not appear, verify that the PC is automatically configured to receive an IP address. Follow the instructions in the *Cisco Router Web Setup User Guide*, which is available on the Cisco 800 and SOHO Series Product Documentation CD.
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Step 4 Click the **Router Setup** link in the Cisco Router Web Setup home page, and follow the instructions that appear in the page that is displayed.

Step 5 When you complete setup using CRWS, connect to another website, using the connected PC. If you successfully connect to the website, then setup is complete, and you can continue using the router.
