# CISCO SYSTEMS

Doc. No. 78-3635-01

# Cisco 3600 Series Rack-Mount and Wall-Mount Configuration Note

**Product Numbers:**
**ACS-3620RM-19=, ACS-3620RM-24=, ACS-3640RM-19=, ACS-3640RM-24=**

**CPAACS-3620RM-19=, CPAACS-3620RM-24=, CPAACS-3640RM-19=, CPAACS-3640RM-24=**

This document describes how to rack-mount or wall-mount a Cisco 3620 or Cisco 3640 router.

**Note**   In this document, the term "Cisco 3600 series" refers to the Cisco 3620 and Cisco 3640 routers.

Use this document in conjunction with your router installation and configuration guide and the *Regulatory Compliance and Safety Information* document for your router.

If you have questions or need help, refer to the section "Obtaining Service and Support" later in this document.

This document contains the following sections:

- Safety Recommendations, page 2
- Rack-Mounting the Router, page 3
- Wall-Mounting the Router, page 12
- Obtaining Service and Support, page 16
- Cisco Connection Online, page 17

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**Warning**   To ensure your safety and the safety of others, be sure the power is OFF and the power cord is unplugged before working on the router. (To see translated versions of this warning, refer to the *Regulatory Compliance and Safety Information* document that accompanied your router.)

**Caution**   To avoid damaging electrostatic discharge (ESD)-sensitive components, ensure that you have discharged all static electricity from your body before opening the chassis. Before performing procedures described in this document, review the next section, "Safety Recommendations."

## Safety Recommendations

Follow these guidelines to ensure general safety:

- Keep the chassis area clear and dust-free during and after installation.
- Put the removed chassis cover in a safe place.
- Keep tools away from walk areas where you or others could fall over them.
- Do not wear loose clothing that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- Wear safety glasses when working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.

### Safety with Electricity

**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. (To see translated versions of this warning, refer to the *Regulatory Compliance and Safety Information* document that accompanied your router.)

Follow these guidelines when working on equipment powered by electricity:

- Locate the emergency power-OFF switch in the room in which you are working. Then, if an electrical accident occurs, you can quickly shut the power OFF.
- Before working on the router, turn OFF the power and unplug the power cord.
- Disconnect all power before doing the following:
  - Installing or removing a router chassis
  - Working near power supplies
  - Performing a software upgrade
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit. Always check.

- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, and missing safety grounds.

- If an electrical accident occurs, proceed as follows:

  — Use caution; do not become a victim yourself.

  — Turn OFF power to the router.

  — If possible, send another person to get medical aid. Otherwise, determine the condition of the victim and then call for help.

  — Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

## Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. It occurs when electronic printed circuit cards are improperly handled and can result in complete or intermittent failures. Always follow ESD prevention procedures when removing and replacing cards. Ensure that the router chassis is electrically connected to earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to safely channel unwanted ESD voltages to ground. To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.

⚠ **Caution**  For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohm).

# Rack-Mounting the Router

This section explains how to mount a Cisco 3620 or Cisco 3640 router in a 19-inch, 23-inch, or 24-inch equipment rack or telco rack. If you have questions or need help with the rack-mounting procedure, refer to the section "Obtaining Service and Support" later in this document.

If you are planning to rack-mount your router, do so before making network and power connections. If you need to install network modules or WAN interface cards, you can do so either before or after mounting the router, whenever you have better access to the rear of the router.

## Required Tools and Equipment

You need the following tools and equipment to mount a Cisco 3600 series router in a rack:

- Number 2 Phillips screwdriver

- ESD-preventive wrist strap

- Screws for attaching the router to the rack (not supplied)

Each router is shipped with one set of brackets. Brackets for 19-inch racks are shipped unless you specify 23-inch or 24-inch brackets at the time of your order. Figure 1 shows brackets for the Cisco 3620 router, and Figure 2 shows brackets for the Cisco 3640 router.

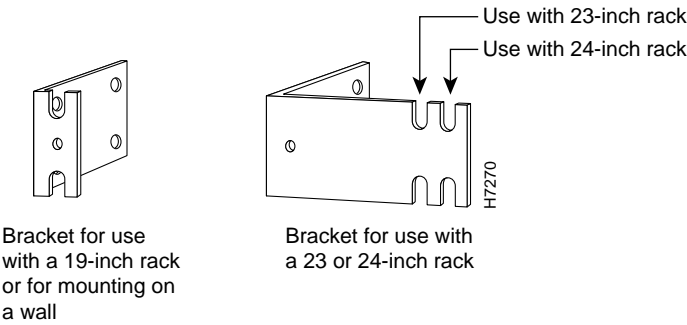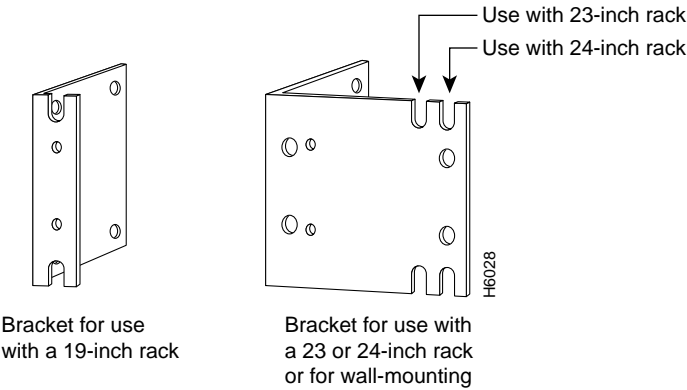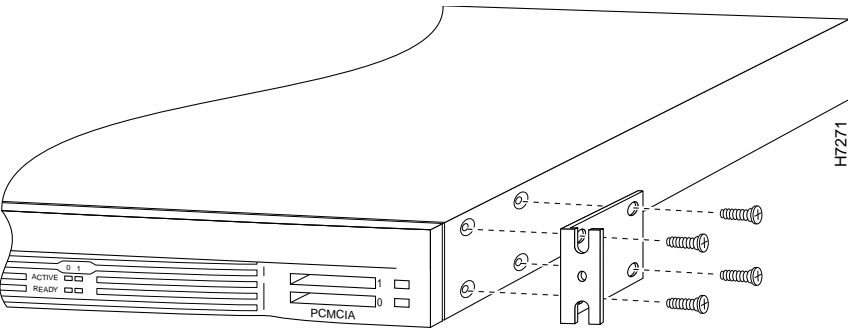**Figure 1  Cisco 3620 Rack-Mount Brackets**

Use with 23-inch rack
Use with 24-inch rack

H7270

Bracket for use
with a 19-inch rack
or for mounting on
a wall

Bracket for use with
a 23 or 24-inch rack

**Figure 2  Cisco 3640 Rack-Mount Brackets**

Use with 23-inch rack
Use with 24-inch rack

H6028

Bracket for use
with a 19-inch rack

Bracket for use with
a 23 or 24-inch rack
or for wall-mounting

## Rack-Mounting the Cisco 3620 Router

This section explains how to rack-mount the Cisco 3620 router.

### Attaching Brackets to the Cisco 3620 Router

To install the router in a rack with the front panel forward, attach the brackets on each side of the chassis as shown in Figure 3 or Figure 4.

**Figure 3  Cisco 3620 19-Inch Bracket Attachment—Front Panel Forward**

H7271

ACTIVE
READY
PCMCIA

**Figure 4      Cisco 3620 23-Inch or 24-Inch Bracket Attachment—Front Panel Forward**



To install the router in a rack with the rear panel forward, attach the brackets on each side of the chassis as shown in Figure 5 or Figure 6.

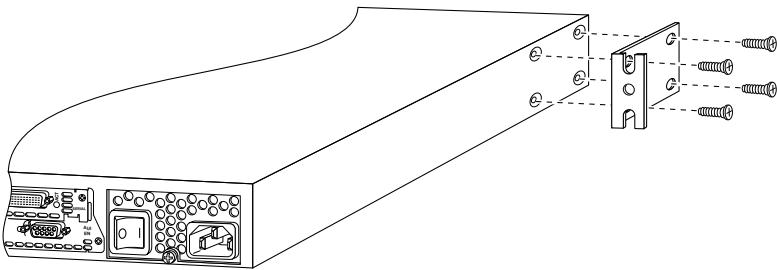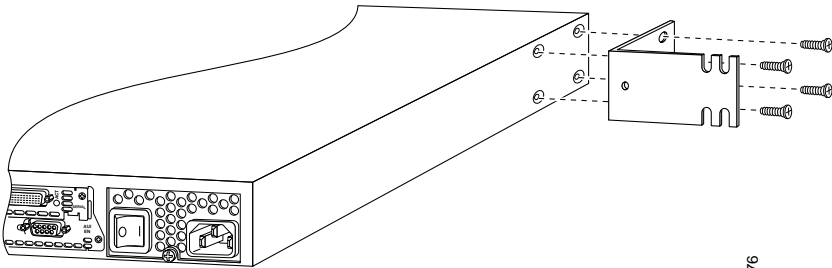**Figure 5      Cisco 3620 19-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.

**Figure 6      Cisco 3620 23-Inch or 24-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.

To install the router in a center-mount telco rack, attach the brackets on each side of the chassis as shown in Figure 7 or Figure 8.

**Figure 7    Cisco 3620 Telco 19-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.
The brackets can also be installed with the front panel forward.

H7275

**Figure 8    Cisco 3620 Telco 23-Inch or 24-Inch Bracket Attachment—Rear Panel Forward**
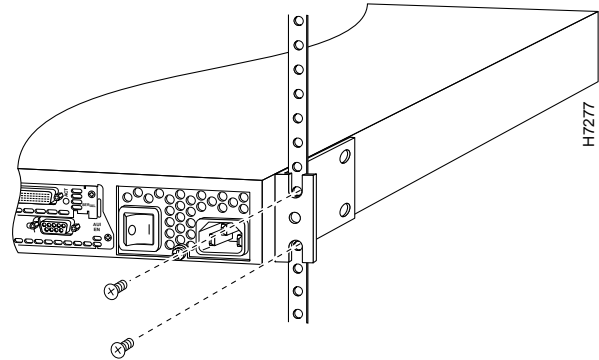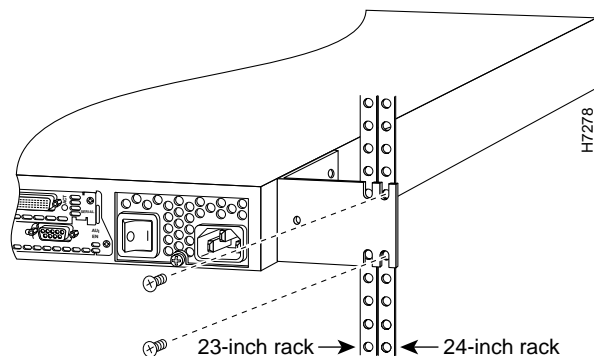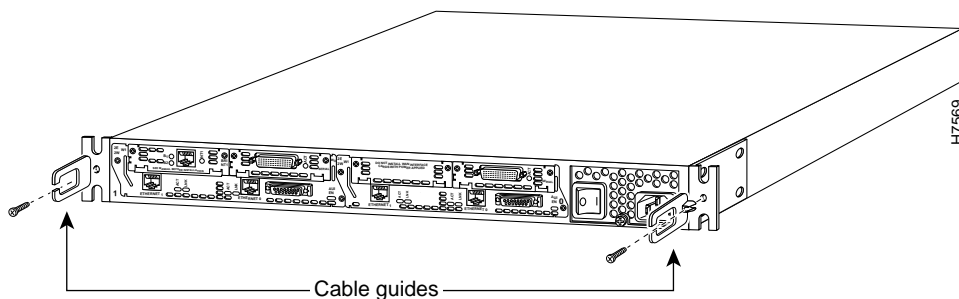


Note: The second bracket attaches to the other side of the chassis.
The brackets can also be installed with the front panel forward.

H7276

Mounting the Cisco 3620 Router in a Rack

After you fasten the brackets to the chassis, you can mount it in a rack. Using your own screws, attach the chassis to the rack as shown in Figure 9 or Figure 10.

**Figure 9    Mounting the Cisco 3620 in a 19-Inch Rack—Rear Panel Forward**
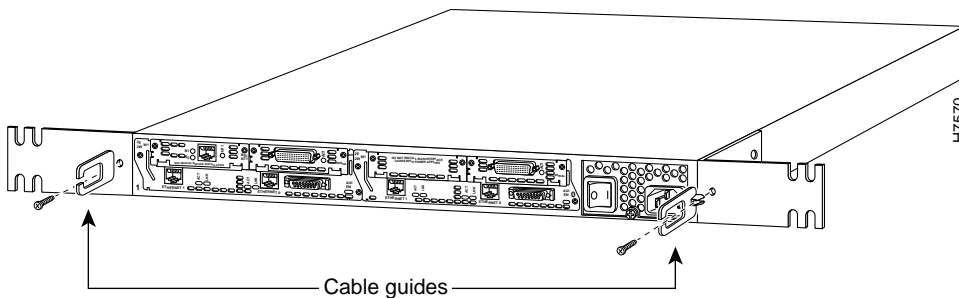


H7277

Note:  The second bracket attaches to the rack at the other side
of the chassis. The brackets can also be installed with the
front panel forward.

**Figure 10    Mounting the Cisco 3620 in a 23-Inch or 24-Inch Rack—Rear Panel Forward**

23-inch rack →    ← 24-inch rack

Note:  The second bracket attaches to the rack at the other side
of the chassis. The brackets can also be installed with the
front panel forward.

## Attaching Cable Guides to the Cisco 3620 Router

Attach the cable guides to the rack-mounting brackets on each side of the chassis as shown in
Figure 11 or Figure 12.

**Figure 11    Attaching Cisco 3620 Cable Guides to 19-Inch Rack-Mounting Brackets**

Cable guides

**Figure 12    Attaching Cisco 3620 Cable Guides to 23-Inch or 24-Inch Rack-Mounting Brackets**

Cable guides

## Rack-Mounting the Cisco 3640 Router

This section explains how to rack-mount the Cisco 3640 router.

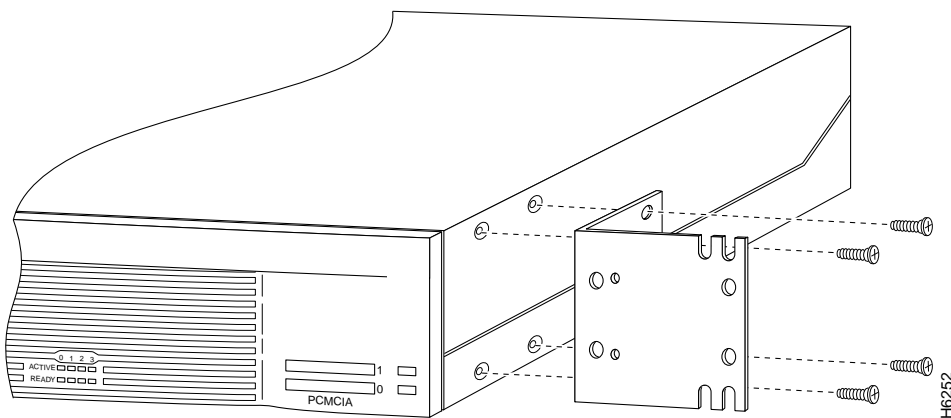### Attaching Brackets to the Cisco 3640 Router

To install the router in a rack with the front panel forward, attach the brackets on each side of the chassis as shown in Figure 13 or Figure 14.

**Figure 13    Cisco 3640 19-Inch Bracket Attachment—Front Panel Forward**



Note: The second bracket attaches to the other side of the chassis.

**Figure 14    Cisco 3640 23-Inch or 24-Inch Bracket Attachment—Front Panel Forward**



Note: The second bracket attaches to the other side of the chassis.

To install the router in a rack with the rear panel forward, attach the brackets on each side of the chassis as shown in Figure 15 or Figure 16.
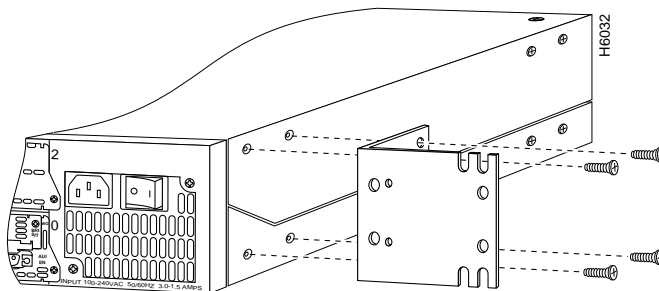
**Figure 15   Cisco 3640 19-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.
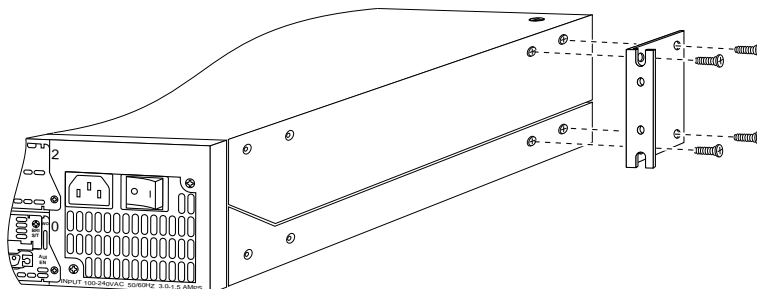
**Figure 16   Cisco 3640 23-Inch or 24-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.

To install the router in a center-mount telco rack, attach the brackets on each side of the chassis as shown in Figure 17 or Figure 18.
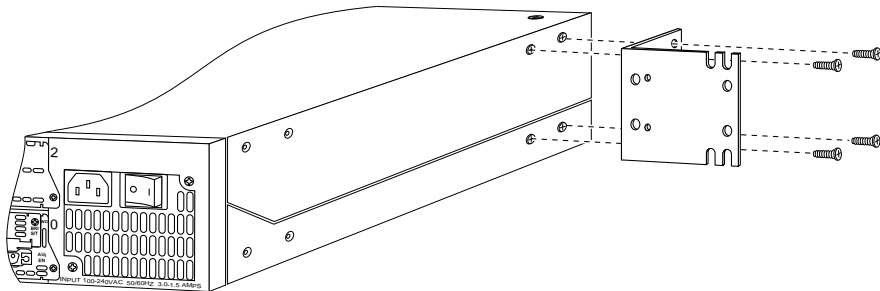
**Figure 17   Cisco 3640 Telco 19-Inch Bracket Attachment—Rear Panel Forward**



Note: The second bracket attaches to the other side of the chassis.
      The brackets can also be installed with the front panel forward.

**Figure 18    Cisco 3640 Telco 24-Inch Bracket Attachment—Rear Panel Forward**
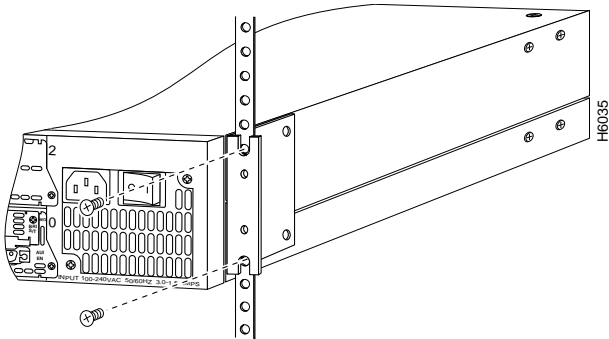


Note: The second bracket attaches to the other side of the chassis.
         The brackets can also be installed with the front panel forward.
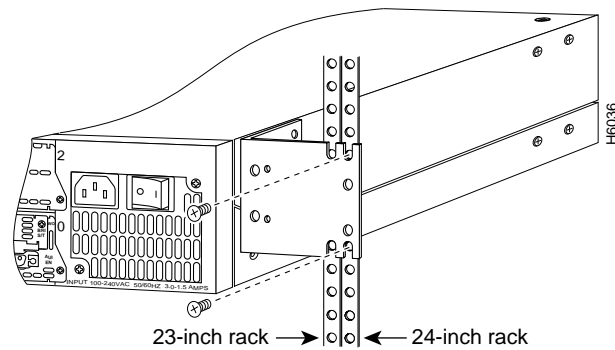
H6034

## Mounting the Cisco 3640 Router in a Rack

After you fasten the brackets to the chassis, you can mount it in a rack. Using your own screws, attach the chassis to the rack as shown in Figure 19 or Figure 20.

**Figure 19    Mounting the Cisco 3640 in a 19-Inch Rack—Rear Panel Forward**
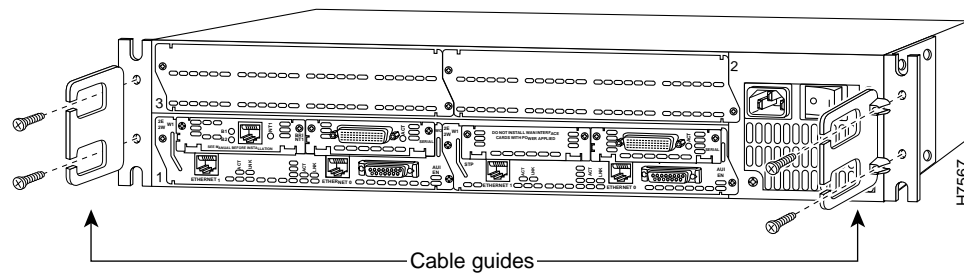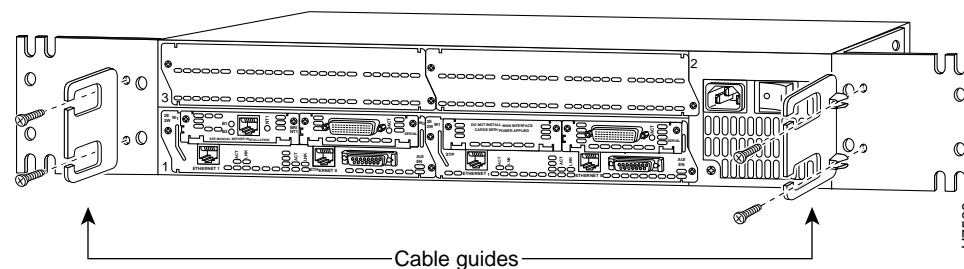


H6035

Note: The second bracket attaches to the rack at the other side
         of the chassis. The brackets can also be installed with the
         front panel forward.

**Figure 20    Mounting the Cisco 3640 in a 23-Inch or 24-Inch Rack—Rear Panel Forward**



23-inch rack ⟶ ◦│◦ ⟵ 24-inch rack

Note:  The second bracket attaches to the rack at the other side
of the chassis. The brackets can also be installed with the
front panel forward.

Attaching Cable Guides to the Cisco 3640 Router

Attach the cable guides to the rack-mounting brackets on each side of the chassis as shown in
Figure 21 or Figure 22.

**Figure 21    Attaching Cisco 3640 Cable Guides to 19-Inch Rack-Mounting Brackets**



Cable guides

**Figure 22    Attaching Cisco 3640 Cable Guides to 23-Inch or 24-Inch Rack-Mounting Brackets**



Cable guides

# Wall-Mounting the Router

This section explains how to mount a Cisco 3620 or Cisco 3640 router on a wall. If you have questions or need help with the wall-mounting procedure, refer to the section "Obtaining Service and Support" later in this document.

If you are planning to wall-mount your router, do so before making network and power connections. If you need to install network modules or WAN interface cards, you can do so either before or after mounting the router, whenever you have better access to the rear of the router.

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**Note**   When choosing a wall on which to mount the router, consider cable limitations as well as wall structure.
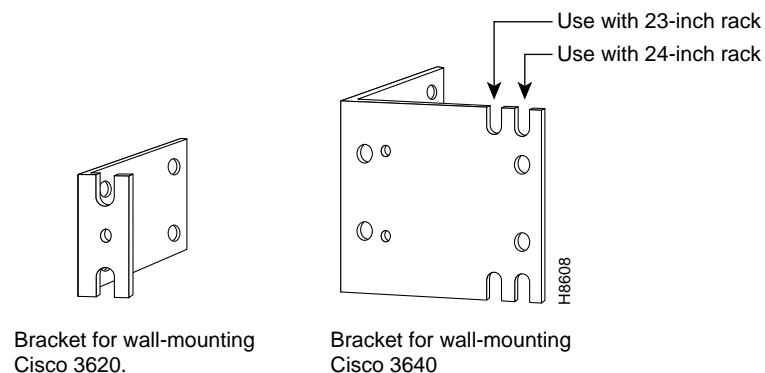
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## Required Tools and Equipment

You need the following tools and equipment to install a Cisco 3600 series router on a wall:

- Number 2 Phillips screwdriver
- Small flat-blade screwdriver (Cisco 3620 router only)
- Plywood board at least 24 inches wide, 19 inches high, and 1/2 inch thick (60 x 50 x 1.3 cm)
- Eight M3.5 or #6 x 1/2-inch flat-head wood screws
- Four wood screws, at least 3/16-inch x 2 1/2-inch, to mount the plywood to the wall
- ESD-preventive wrist strap

Cisco Systems does not supply the board or screws.

Each router is shipped with one set of brackets. Brackets for 19-inch racks are shipped unless you specify 23-inch or 24-inch brackets at the time of your order. The Cisco 3620 router uses 19-inch rack brackets to mount on a wall, and the Cisco 3640 router uses 23-inch or 24-inch rack brackets to mount on a wall. Figure 23 shows the wall-mount brackets.

**Figure 23   Wall-Mount Brackets**



Bracket for wall-mounting Cisco 3620.

Bracket for wall-mounting Cisco 3640

## Wall-Mounting the Cisco 3620 Router

This section explains how to wall-mount the Cisco 3620 router.

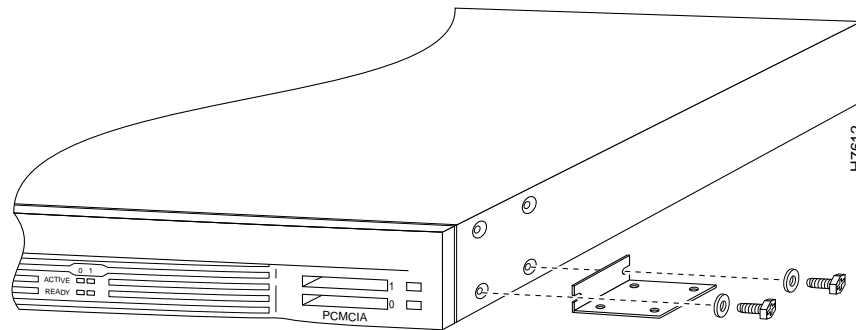### Attaching Wall-Mounting Brackets to the Cisco 3620 Router

To install the router on a wall, first attach the brackets on each side of the chassis as shown in Figure 24, using the special plastic washers and slotted hex-head screws. Place the washers so that the narrow shoulder faces the router chassis.

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**Note** The hex-head screws and plastic washers are used only for wall-mounting the Cisco 3620 router. All other rack- and wall-mount brackets are attached to the router using Phillips-head screws, without washers.

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**Figure 24   Cisco 3620 Wall-Mount Bracket Attachment**



Note: The second bracket attaches to the other side of the chassis.

### Mounting the Cisco 3620 Router on the Wall

After fastening the brackets to the chassis, follow this procedure to mount it on the wall (refer to Figure 25):

**Step 1**   Using the brackets as a pattern, mark and drill holes on the board where you will fasten the router. Do not attach the router to the board yet.

**Step 2**   Locate the wall studs where you plan to attach the router.

⚠ **Caution**   The router must be fastened securely to two studs.

**Step 3**   Drill wall-mount screw locations through the plywood board and studs.
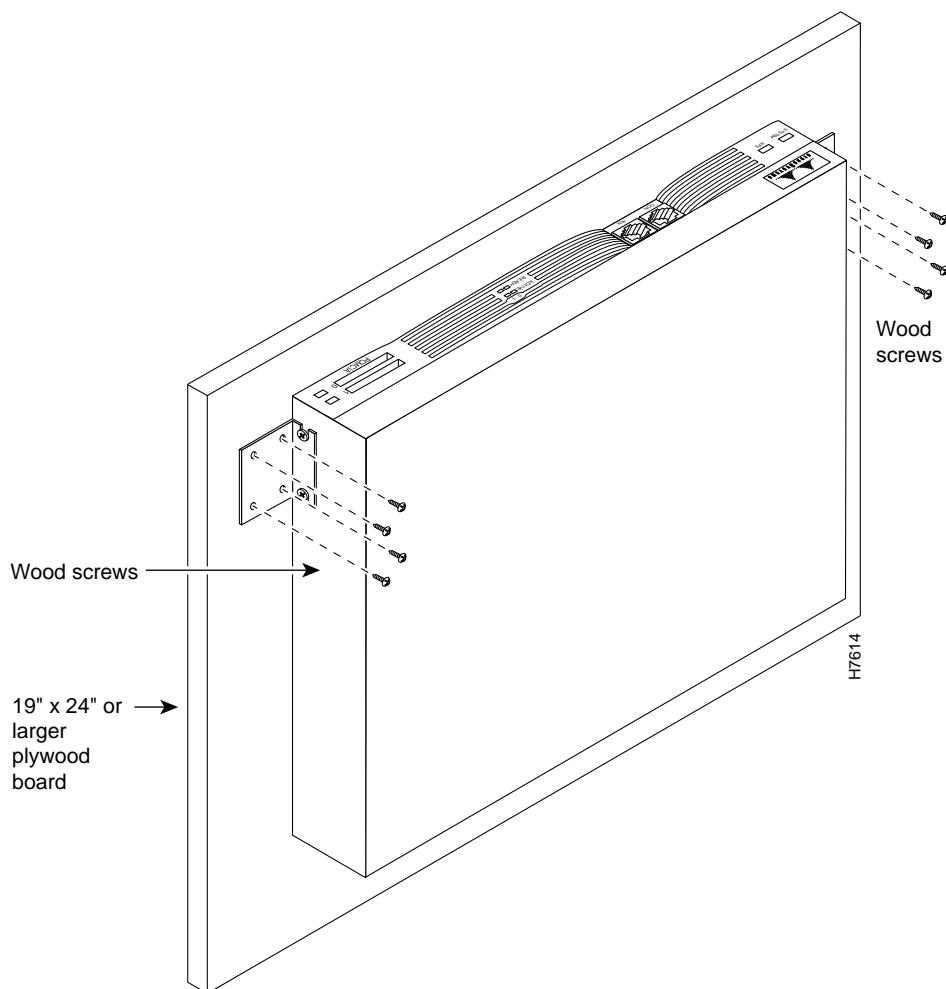
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**Note**   Plan to mount the router so that the front and rear of the chassis are perpendicular to the floor, with the front upward and at eye level, so you can read the LEDs.

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**Step 4**    Mount the plywood board to the wall, using your own 3/16 x 2 1/2-inch or larger wood screws.

**Step 5**    Using your own screws, approximately #6 x 1/2-inch (depending on the thickness of the board), fasten the router to the board by the mounting brackets.

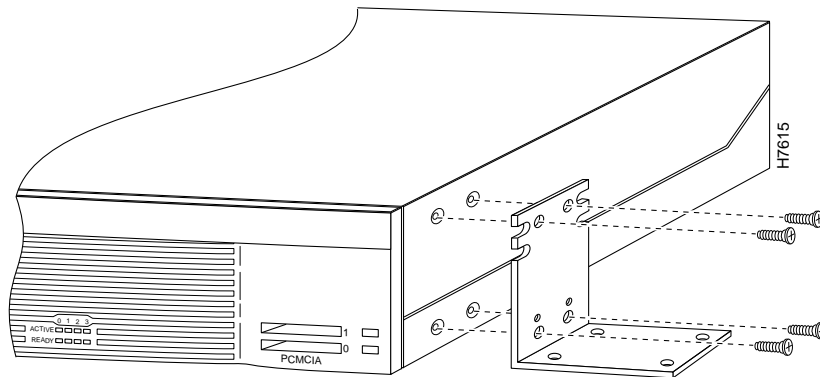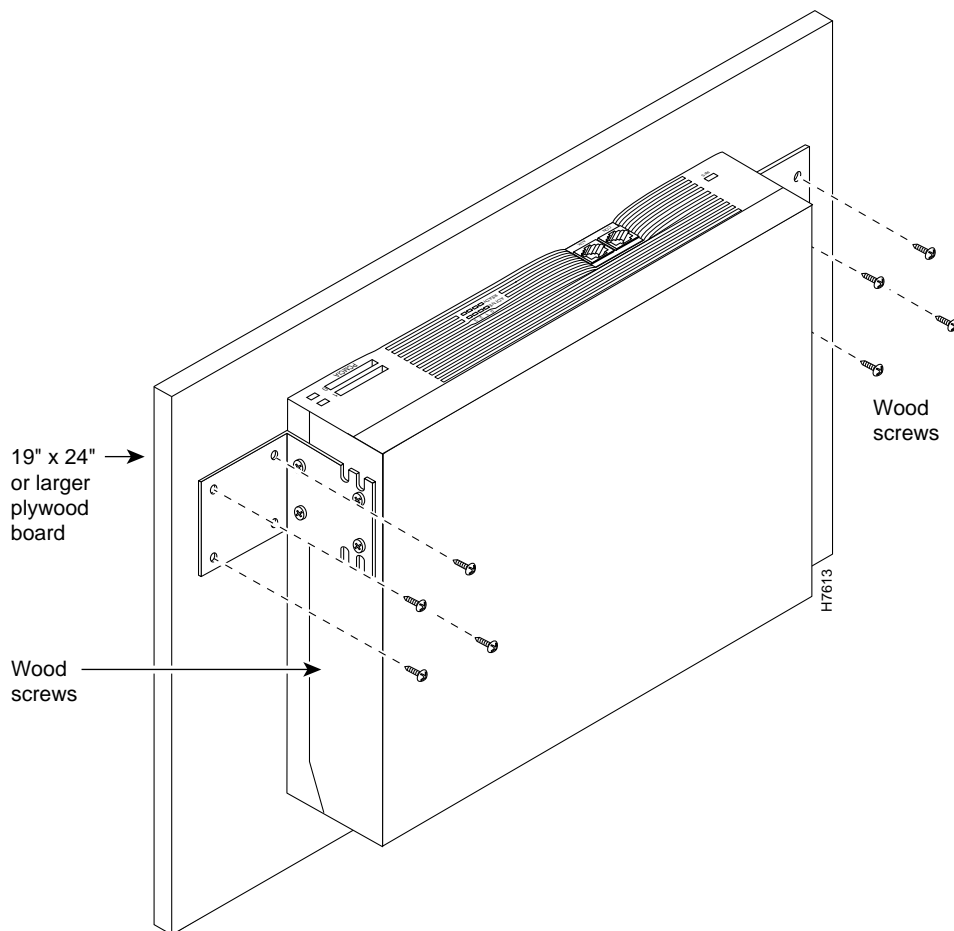**Figure 25    Mounting the Cisco 3620 Router on a Wall**



## Wall-Mounting the Cisco 3640 Router

This section explains how to wall-mount the Cisco 3640 router.

### Attaching Wall-Mounting Brackets to the Cisco 3640 Router

To install the router on a wall, first attach the brackets on each side of the chassis as shown in Figure 26.

**Figure 26   Cisco 3640 Wall-Mount Bracket Attachment**



Note: The second bracket attaches to the other side of the chassis.

Mounting the Cisco 3640 Router on the Wall

After fastening the brackets to the chassis, follow this procedure to mount it on the wall (see Figure 27):

**Step 1**   Using the brackets as a pattern, mark and drill holes on the board where you will fasten the router. Do not attach the router to the board yet.

**Step 2**   Locate the wall studs where you plan to attach the router.

**Caution**   The router must be fastened securely to two studs.

**Step 3**   Drill wall-mount screw locations through the plywood board and studs.

> **Note**   Plan to mount the router so that the front and rear of the chassis are perpendicular to the floor, with the front upward and at eye level, so you can read the LEDs.

**Step 4**   Mount the plywood board to the wall, using your own 3/16 x 2 1/2-inch or larger wood screws.

**Step 5**   Using your own screws, approximately #6 x 1/2-inch (depending on the thickness of the board), fasten the router to the board by the mounting brackets.

**Figure 27    Mounting the Cisco 3640 Router on a Wall**



## Obtaining Service and Support

For service and support for a product purchased from a reseller, contact the reseller. Resellers offer a wide variety of Cisco service and support programs, which are described in the section "Service and Support" in the information packet that shipped with your chassis.

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**Note**   If you purchased your product from a reseller, you can access Cisco Connection Online (CCO) as a guest. CCO is Cisco Systems' primary, real-time support channel. Your reseller offers programs that include direct access to CCO's services.

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For service and support for a product purchased directly from Cisco, use CCO.

## Cisco Connection Online

CCO is Cisco Systems' primary, real-time support channel. SMARTnet customers and partners can self-register on CCO to obtain additional content and services.

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**Note** If you purchased your product from a reseller, you can access CCO as a guest. Your reseller offers programs that include direct access to CCO's services.

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Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously—a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com.

- WWW: http://www-europe.cisco.com.

- WWW: http://www-china.cisco.com.

- Telnet: cco.cisco.com.

- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and baud rates up to 14.4 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

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**Note** If you need technical assistance with a Cisco product that is under warranty or covered by a Cisco maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com.

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Please use CCO to obtain general information about Cisco Systems, Cisco products, or upgrades. If CCO is not accessible, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

This document is to be used in conjunction with your router installation and configuration guide and the *Regulatory Compliance and Safety Information* document for your router.