



## CHAPTER 2

# Switch Installation (24- and 48-Port Switches)

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This chapter describes how to start your switch and how to interpret the power-on self-test (POST) that ensures proper operation. It also describes how to install the switch and how to make connections to the switch.

This chapter provides installation information for all Catalyst 2960 switches, except for the Catalyst 2960-8TC-S, 2960-8TC-L, 2960G-8T-LC, 2960-48PST-L, and 2960PD-8TT-L switches. For those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#)

The instructions in this chapter for connecting to the switch ports and for installing and connecting to the small form-factor pluggable (SFP) modules apply to all Catalyst 2960 switches, including the 8-port switches.

Read the topics and perform the procedures in this order:

- [Preparing for Installation, page 2-1](#)
- [Verifying Switch Operation, page 2-5](#)
- [Installing the Switch, page 2-6](#)
- [Connecting to the 10/100 and 10/100/1000 Ports, page 2-14](#)
- [Installing and Removing SFP Modules, page 2-15](#)
- [Connecting to SFP Modules, page 2-18](#)
- [Connecting to a Dual-Purpose Port, page 2-20](#)
- [Where to Go Next, page 2-21](#)

## Preparing for Installation

This section covers these topics:

- [Warnings, page 2-2](#)
- [Guidelines for Particulate Matter, page 2-4](#)
- [Installation Guidelines, page 2-4](#)
- [Box Contents, page 2-5](#)
- [Tools and Equipment, page 2-5](#)

## Warnings

These warnings are translated into several languages in the *Regulatory Compliance and Safety Information for the Catalyst 2960 Switch* guide.



**Warning**

**To prevent the switch from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 113°F (45°C). To prevent airflow restriction, allow at least 3 inches (7.6 cm) of clearance around the ventilation openings.** Statement 17B



**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.** Statement 43



**Warning**

**Do not stack the chassis on any other equipment. If the chassis falls, it can cause severe bodily injury and equipment damage.** Statement 48



**Warning**

**Ethernet cables must be shielded when used in a central office environment.** Statement 171



**Warning**

**If a redundant power system (RPS) is not connected to the switch, install an RPS connector cover on the back of the switch.** Statement 265



**Warning**

**Attach only the following Cisco RPS model to the RPS receptacle:  
PWR-RPS2300, PWR675-AC-RPS-N1=.** Statement 370



**Warning**

**Read the wall-mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system.** Statement 378



**Warning**

**Do not work on the system or connect or disconnect cables during periods of lightning activity.** Statement 1001



**Warning**

**Read the installation instructions before connecting the system to the power source.** Statement 1004

**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.** Statement 1006

**Warning**

**Class 1 laser product.** Statement 1008

**Warning**

**This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.** Statement 1017

**Warning**

**The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.** Statement 1019

**Warning**

**This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.** Statement 1024

**Warning**

**This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.** Statement 1028

**Warning**

**Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030

**Warning**

**Ultimate disposal of this product should be handled according to all national laws and regulations.** Statement 1040.

**Warning**

**For connections outside the building where the equipment is installed, the following ports must be connected through an approved network termination unit with integral circuit protection: 10/100/1000 Ethernet.** Statement 1044

**Warning**

**When installing or replacing the unit, the ground connection must always be made first and disconnected last.** Statement 1046

**Warning**

**Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

**Warning**

**No user-serviceable parts inside. Do not open.** Statement 1073

**Warning**

**Installation of the equipment must comply with local and national electrical codes.** Statement 1074

## Guidelines for Particulate Matter

Cisco Ethernet switches are equipped with cooling mechanisms, such as fans and blowers. However, these fans and blowers can draw dust and other particles, causing contaminant buildup inside the chassis, which can result in a system malfunction.

You must install this equipment in an environment as free as possible from dust and foreign conductive material (such as metal flakes from construction activities).

These standards provide guidelines for acceptable working environments and acceptable levels of suspended particulate matter:

- Network Equipment Building Systems (NEBS) GR-63-CORE
- National Electrical Manufacturers Association (NEMA) Type 1
- International Electrotechnical Commission (IEC) IP-20

This precaution applies to all Catalyst 2960 switches except for the Catalyst 2960-8TC-L, 2960-8TC-S, 2960G-8TC-L, and 2960PD-8TT-L switches.

## Installation Guidelines

This section does not apply to the Catalyst 2960 8-port switches. For information applicable to those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#)

When you determine where to place the switch, be sure to observe these requirements:

- For 10/100/1000 ports, cable lengths from the switch to connected devices must be no longer than 328 feet (100 meters).
- The cables meet the specifications in [Table B-1 on page B-5](#), which lists the cable specifications for 100BASE-X and 100BASE-X SFP modules for the Catalyst 2960 switch. Catalyst 2960 switch SFP ports can use both GLC-GE-100XX and GLC-FE-100XX SFP modules.

When you use shorter lengths of single-mode fiber cable, you might need to insert an inline optical attenuator in the link to avoid overloading the receiver.

When the fiber-optic cable span is less than 15.43 miles (25 km), you should insert a 5-decibel (dB) or 10-dB inline optical attenuator between the fiber-optic cable plant and the receiving port on the 1000BASE-ZX SFP module at each end of the link.

- The operating environment must be within the ranges listed in [Appendix A, “Technical Specifications.”](#)
- Clearance to front and rear panels meets these conditions:
  - You can easily read the front-panel indicators.
  - Access to ports is sufficient for unrestricted cabling.
  - The rear-panel power connector is within reach of an AC power receptacle.
- Cabling is away from sources of electrical noise, such as radios, power lines, and fluorescent lighting fixtures. Make sure the cabling is safely away from other devices that might damage the cables.
- Airflow around the switch and through the vents is unrestricted.
- Temperature around the unit does not exceed 113°F (45°C).

If the switch is installed in a closed or multirack assembly, the temperature around it might be greater than normal room temperature.

## Box Contents

The switch getting started guide on Cisco.com describes the box contents. If any item is missing or damaged, contact your Cisco representative or reseller for support.

## Tools and Equipment

You need to supply a number-2 Phillips screwdriver to rack-mount the switch.

## Verifying Switch Operation

Before you install the switch in a rack, on a wall, or on a table or shelf, you should power on the switch and verify that the switch passes POST.

If your configuration has an RPS, connect the switch and the RPS to the same AC power source. See [Chapter 3, “Switch Installation \(8-Port Switches\),”](#) and see the Cisco RPS documentation for more information.



### Note

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When you connect the RPS to the switch, put the RPS in standby mode. Set the RPS to active mode during normal operation.

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To power on the switch, connect one end of the AC power cord to the AC power connector on the switch, and connect the other end of the power cord to an AC power outlet.

**Warning**


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**Attach only the following Cisco RPS model to the RPS receptacle:**  
**PWR-RPS2300, PWR675-AC-RPS-N1=.** Statement 370

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As the switch powers on, it begins the POST, a series of tests that runs automatically to ensure that the switch functions properly. LEDs can blink during the test. POST lasts approximately 1 minute. When the switch begins POST, the System, RPS, Status, Duplex, and Speed LEDs turn green. The System LED blinks green, and the other LEDs remain solid green.

When the POST completes successfully, the System LED remains green. The RPS LED remains green for some time and then reflects the switch operating status. The other LEDs turn off and then reflect the switch operating status. If a switch fails POST, the System LED turns amber.

POST failures are usually fatal. Call Cisco technical support representative if your switch fails POST.

After a successful POST, disconnect the power cord from the switch. Install the switch in a rack, on a wall, on a table, or on a shelf as described in the [“Installing the Switch” section on page 2-6](#).

## Installing the Switch

This section applies to all switches except the Catalyst 8-port switches. For information applicable to those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#)

This section describes these installation procedures:

- [Rack-Mounting, page 2-6](#)
- [Wall-Mounting, page 2-11](#)
- [Table- or Shelf-Mounting, page 2-14](#)

## Rack-Mounting

This section applies to all switches except the Catalyst 8-port switches. For information applicable to those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#) The illustrations in this section might not show your specific switch; however, the instructions apply to all 24- and 48-port switches.

**Warning**


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**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.** Statement 1006
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To install the switch in a 19-inch or 24-inch rack (24-inch racks require optional mounting hardware), follow the instructions described in these sections:

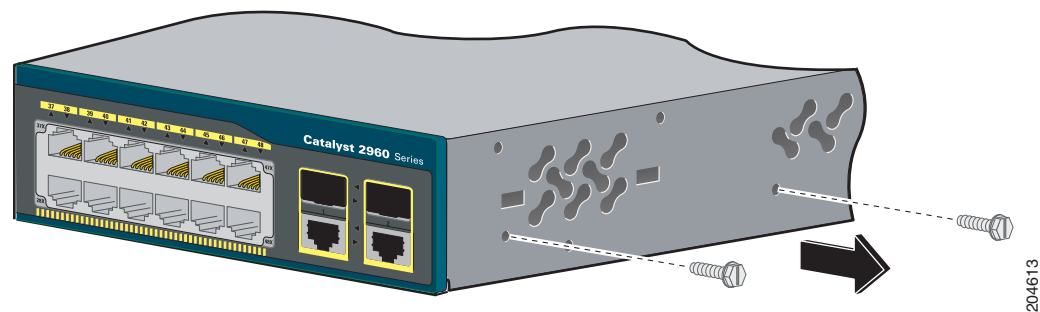
- [Removing Screws from the Switch, page 2-7](#)
- [Attaching Brackets to the Catalyst 2960 Switch, page 2-7](#)
- [Mounting the Switch in a Rack, page 2-10](#)
- [Attaching the Cable Guide, page 2-11](#)

An optional bracket kit that is not included with the switch is required to install the switch in a 24-inch rack. You can order a kit that contains the 24-inch rack-mounting brackets and hardware from Cisco by using part number RCKMNT-1RU=.

## Removing Screws from the Switch

If you plan to install the switch in a rack, you must first remove screws in the switch chassis so that you can attach the mounting brackets. [Figure 2-1](#) shows how to remove the chassis screws in a Catalyst 2960 switch.

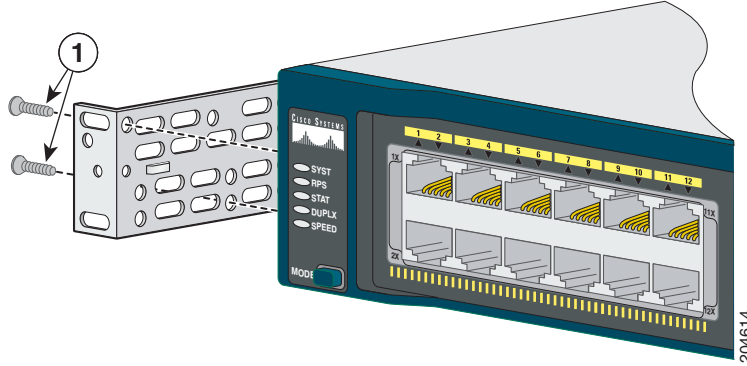
**Figure 2-1** Removing Screws from the Catalyst 2960 Switch



## Attaching Brackets to the Catalyst 2960 Switch

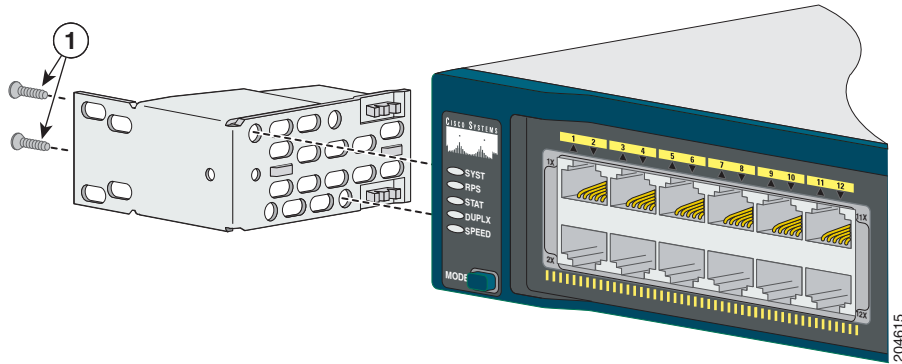
The bracket orientation and the brackets that you use depend on whether you are attaching the brackets for a 19-inch or a 24-inch rack. [Figure 2-2](#) to [Figure 2-7](#) show how to attach each type of bracket to one side of the switch. Follow the same steps to attach the second bracket to the opposite side.

**Figure 2-2** Attaching Brackets for 19-Inch Racks to a Catalyst 2960 Switch, Front Panel Forward



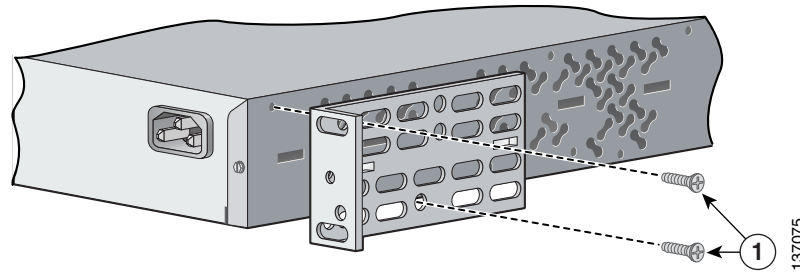
**1** Phillips flat-head screws

**Figure 2-3** Attaching Brackets for 24-Inch Racks to a Catalyst 2960 Switch, Front Panel Forward



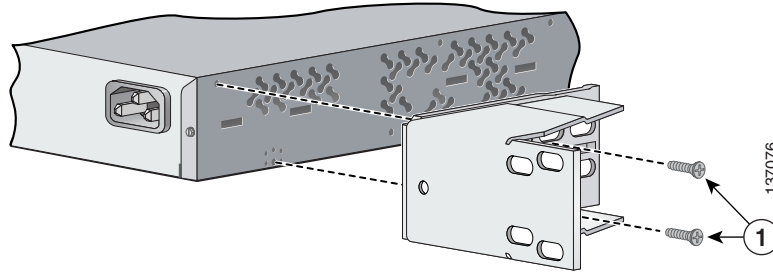
**1** Phillips flat-head screws

**Figure 2-4** Attaching Brackets for 19-Inch Racks to a Catalyst 2960 Switch, Rear Panel Forward



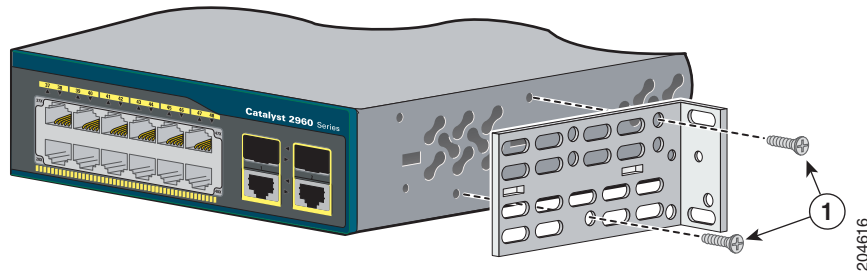
**1** Phillips flat-head screws

**Figure 2-5** Attaching Brackets for 24-Inch Racks to a Catalyst 2960 Switch, Rear Panel Forward



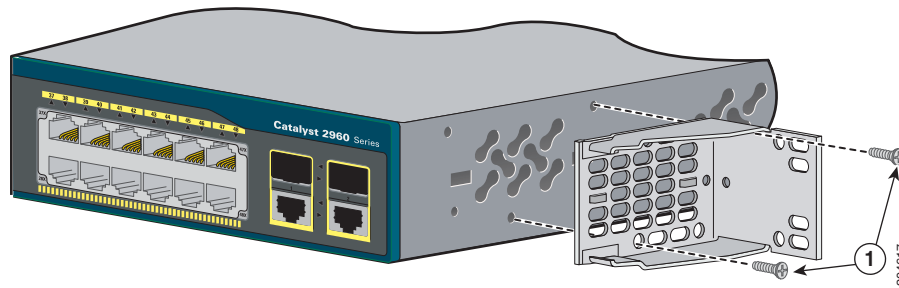
- 1 Phillips flat-head screws

**Figure 2-6** Attaching Brackets for 19-Inch Telco Racks to a Catalyst 2960 Switch



- 1 Phillips flat-head screws

**Figure 2-7** Attaching Brackets for 24-Inch Telco Racks to a Catalyst 2960 Switch

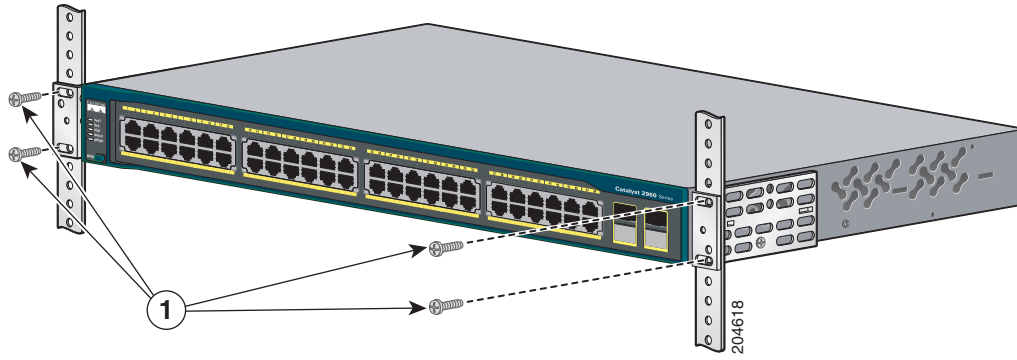


- 1 Phillips flat-head screws

## Mounting the Switch in a Rack

After the brackets are attached to the switch, use the four supplied number-12 Phillips machine screws to securely attach the brackets to the rack, as shown in [Figure 2-8](#).

**Figure 2-8** Mounting the Catalyst 2960 Switch in a Rack



<b>1</b>	Phillips machine screws
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After the switch is mounted in the rack, do these tasks to complete the installation:

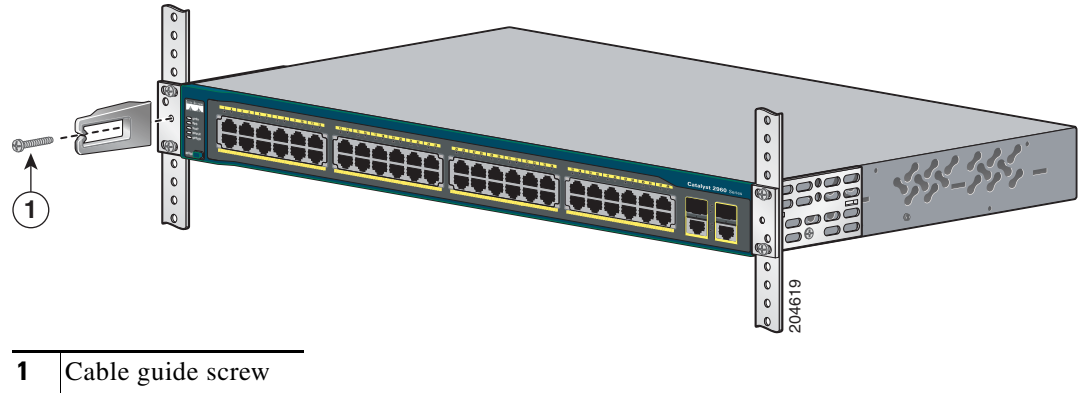
- Power on the switch. See the [“Verifying Switch Operation”](#) section on page 2-5.
- Connect to a 10/100 or 10/100/1000 port, and run Express Setup. See the *Catalyst 2960 Switch Getting Started Guide* for instructions.
- Connect to the front-panel ports. See the [“Connecting to the 10/100 and 10/100/1000 Ports”](#) section on page 2-14, the [“Connecting to SFP Modules”](#) section on page 2-18, and the [“Connecting to a Dual-Purpose Port”](#) section on page 2-20 to complete the installation.

For configuration instructions about using the command-line interface (CLI) setup program, go to [Appendix C, “Configuring the Switch with the CLI-Based Setup Program.”](#)

## Attaching the Cable Guide

We recommend that you attach the cable guide to prevent the cables from obscuring the front panel of the switch and the other devices installed in the rack. Use the supplied black screw shown in [Figure 2-9](#) to attach the cable guide to the left or right bracket.

**Figure 2-9** Attaching the Cable Guide on the Catalyst 2960 Switch



## Wall-Mounting

This section does not apply to the Catalyst 2960 8-port switches. For information applicable to those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#)

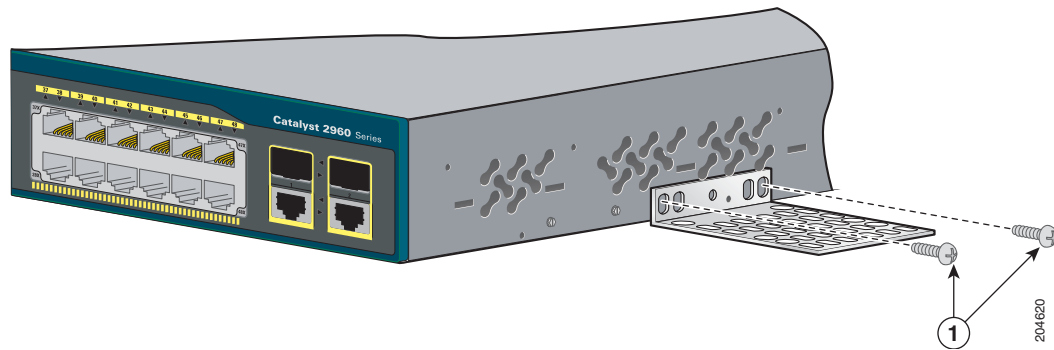
To install the switch on a wall, follow the instructions in these sections:

- [Attaching the Brackets to the Switch for Wall-Mounting, page 2-12](#)
- [Attaching the RPS Connector Cover, page 2-12](#)
- [Mounting the Switch on a Wall, page 2-13](#)

## Attaching the Brackets to the Switch for Wall-Mounting

Figure 2-10 shows how to attach a 19-inch bracket to one side of the switch. Follow the same steps to attach the second bracket to the opposite side.

**Figure 2-10** Attaching the 19-inch Brackets for Wall-Mounting



1	Phillips truss-head screws
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## Attaching the RPS Connector Cover

If your switch has an RPS connector and you are not using an RPS with your switch, use the two Phillips pan-head screws to attach the RPS connector cover to the back of the switch, as shown in Figure 2-11.



### Note

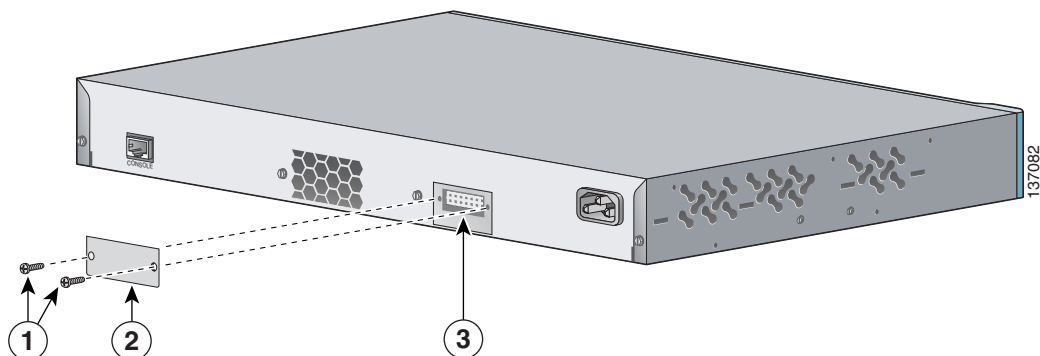
The Catalyst 2960 8-port switches and the Catalyst 2960-24-S, 2960-24TC-S, 2960-48TT-S, and 2960-48TC-S switches do not have an RPS connector.



### Warning

**If an RPS is not connected to the switch, install an RPS connector cover on the back of the switch.**  
Statement 265

**Figure 2-11** Attaching the RPS Connector Cover on the Catalyst 2960 Switch



1	Phillips pan-head screws	3	RPS connector
2	RPS connector cover		

## Mounting the Switch on a Wall

For the best support of the switch and cables, make sure the switch is attached securely to wall studs or to a firmly attached plywood mounting backboard. Mount the switch with the front panel facing up, as shown in [Figure 2-12](#).



**Warning**

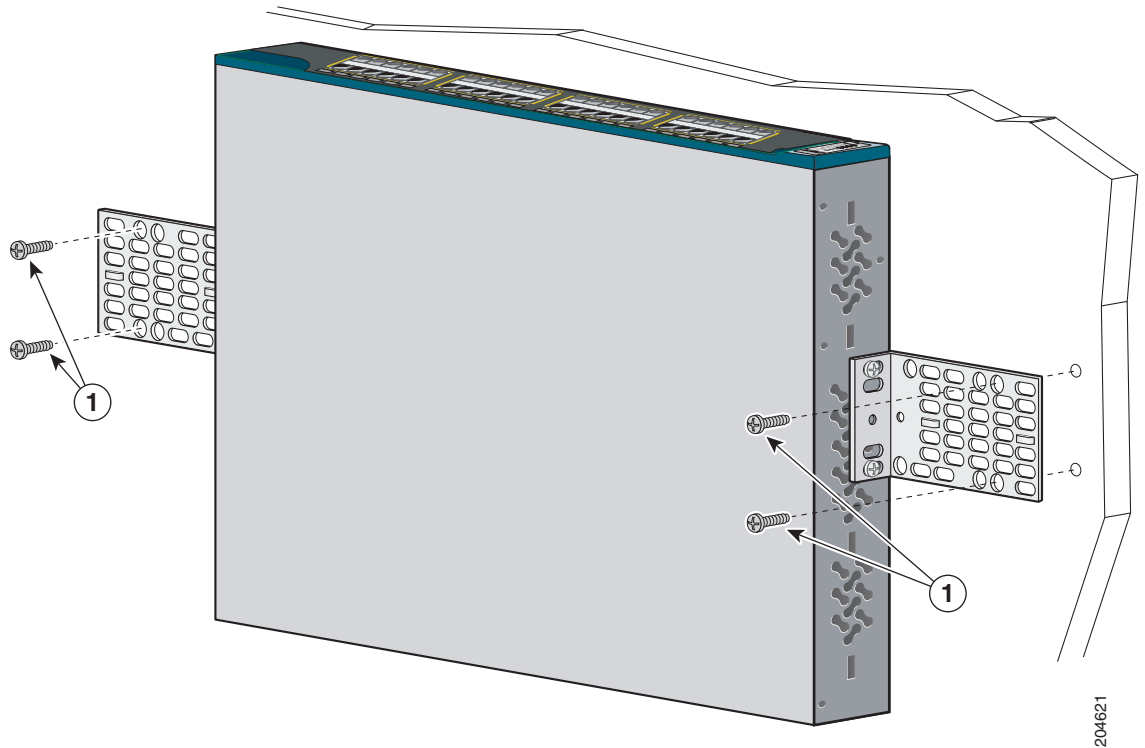
**To comply with safety regulations, mount the switches on a wall with the front panel facing up.**  
Statement 266



**Warning**

**If a redundant power system (RPS) is not connected to the switch, install an RPS connector cover on the back of the switch.** Statement 265

**Figure 2-12** *Mounting the Switch on a Wall*



<b>1</b>	User-supplied screws
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After the switch is mounted on the wall, do these tasks to complete the installation:

- Power on the switch. See the [“Verifying Switch Operation” section on page 2-5](#).
- Connect to a 10/100 or 10/100/1000 port, and run Express Setup. See the *Catalyst 2960 Switch Getting Started Guide* for instructions.
- Connect to the front-panel ports. See the [“Connecting to the 10/100 and 10/100/1000 Ports” section on page 2-14](#), the [“Connecting to SFP Modules” section on page 2-18](#), and the [“Connecting to a Dual-Purpose Port” section on page 2-20](#) to complete the installation.

For configuration instructions about using the CLI setup program, go to [Appendix C, “Configuring the Switch with the CLI-Based Setup Program.”](#)

## Table- or Shelf-Mounting

This section applies to all switches except the Catalyst 2960-8TC-L, 2960-8TC-S, 2960G-8TC-L, and 2960PD-8TT-L switches. For information applicable to those switches, see [Chapter 3, “Switch Installation \(8-Port Switches\).”](#)

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**Step 1** Locate the adhesive strip with the rubber feet in the mounting-kit envelope. Attach the four rubber feet to the recessed areas on the bottom of the unit.

**Step 2** Place the switch on the table or shelf near an AC power source.

After the switch is mounted on the table, do these tasks to complete the installation:

- Power on the switch. See the [“Verifying Switch Operation” section on page 2-5](#).
- Connect to a 10/100 or 10/100/1000 port, and run Express Setup. See the *Catalyst 2960 Switch Getting Started Guide* for instructions.
- Connect to the front-panel ports. See the [“Connecting to the 10/100 and 10/100/1000 Ports” section on page 2-14](#), [“Connecting to SFP Modules” section on page 2-18](#) and the [“Connecting to a Dual-Purpose Port” section on page 2-20](#) to complete the installation.

For configuration instructions about using the CLI setup program, go to [Appendix C, “Configuring the Switch with the CLI-Based Setup Program.”](#)




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**Note** When the connectors are not being used, replace the dust covers on them for protection.

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## Connecting to the 10/100 and 10/100/1000 Ports

The switch 10/100/1000 ports configure themselves to operate at the speed of attached devices. If the attached ports do not support autonegotiation, you can explicitly set the speed and duplex parameters. Connecting devices that do not autonegotiate or that have their speed and duplex parameters manually set can reduce performance or result in no linkage.

To maximize performance, choose one of these methods for configuring the Ethernet ports:

- Let the ports autonegotiate both speed and duplex.
- Set the port speed and duplex parameters on both ends of the connection.

**Caution**

To prevent electrostatic-discharge (ESD) damage, follow your normal board and component handling procedures.

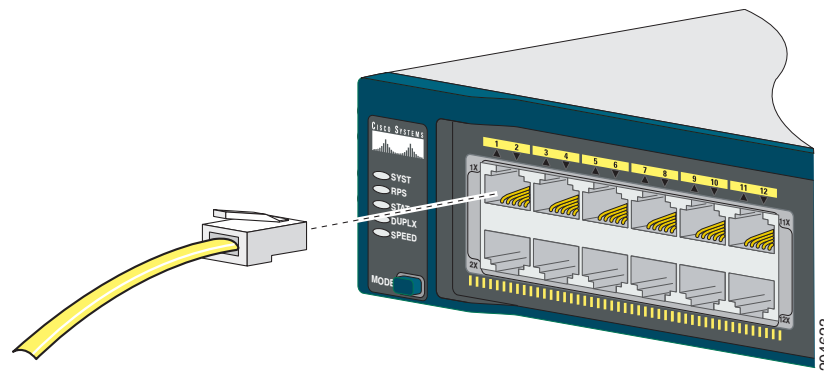
**Step 1**

When connecting to workstations, servers, routers, and Cisco IP Phones, connect a straight-through cable to an RJ-45 connector on the front panel. (See [Figure 2-13](#).) When connecting to switches or repeaters, use a crossover cable. (See the “[Cable and Adapter Specifications](#)” section on [page B-4](#) for cable-pinout descriptions.)

When you connect to 1000BASE-T-compatible devices, be sure to use a twisted four-pair, Category 5 or higher cable.

The auto-MDIX feature is enabled by default. For configuration information for this feature, see the switch software configuration guide or the switch command reference.

**Figure 2-13** Connecting to an Ethernet Port

**Step 2**

Connect the other end of the cable to an RJ-45 connector on the other device. The port LED turns on when both the switch and the connected device have established link.

The port LED is amber while Spanning Tree Protocol (STP) discovers the topology and searches for loops. This can take up to 30 seconds, and then the port LED turns green. If the port LED does not turn on, the device at the other end might not be turned on, or there might be a cable problem or a problem with the adapter installed in the attached device. See [Chapter 4, “Troubleshooting,”](#) for solutions to cabling problems.

**Step 3**

Reconfigure and reboot the connected device if necessary.

**Step 4**

Repeat Steps 1 through 3 to connect each device.

## Installing and Removing SFP Modules

SFP modules are installed in SFP module slots on the front of the Catalyst 2960 switches. These field-replaceable modules provide the uplink optical interfaces, laser send (TX) and laser receive (RX).

You can use any combination of SFP modules. Refer to the Catalyst 2960 switch release notes for the list of SFP modules that the Catalyst 2960 switch supports. Each SFP module must be of the same type as the SFP module on the other end of the cable, and the cable must not exceed the stipulated cable length for reliable communications. See the “[SFP Module Cable Specifications](#)” section on [page B-4](#) for cable

stipulations for SFP module connections. Use only Cisco SFP modules on the Catalyst 2960 switch. Cisco SFP modules and the Catalyst 2960 switch support the Quality ID feature. Only SFP modules with the Quality ID feature are supported.

For detailed instructions on installing, removing, and cabling the SFP module, refer to your SFP module documentation.

## Installing SFP Modules

Figure 2-14 shows an SFP module that has a bale-clasp latch.

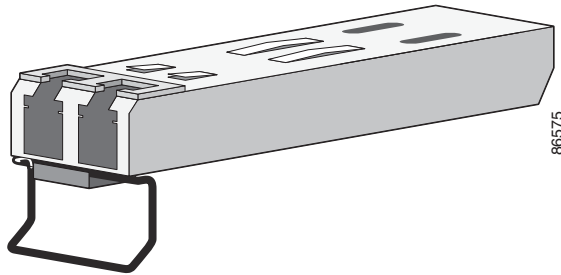


### Caution

We strongly recommend that you do not install or remove the SFP module with fiber-optic cables attached to it because of the potential damage to the cables, the cable connector, or the optical interfaces in the SFP module. Disconnect all cables before removing or installing an SFP module.

Removing and installing an SFP module can shorten its useful life. Do not remove and insert SFP modules more often than is absolutely necessary.

**Figure 2-14** SFP Module with a Bale-Clasp Latch



**Step 1** Attach an ESD-preventive wrist strap to your wrist and to a bare metal surface on the chassis.

**Step 2** Find the send (TX) and receive (RX) markings that identify the top side of the SFP module.

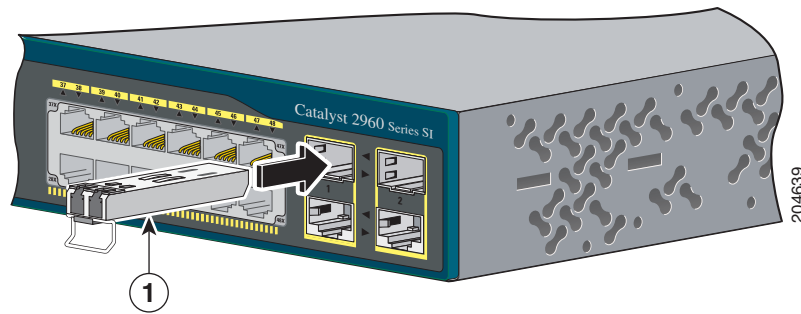


**Note** On some SFP modules, the send and receive (TX and RX) markings might be replaced by arrows that show the direction of the connection, either send or receive (TX or RX).

**Step 3** Align the SFP module in front of the slot opening.

**Step 4** Insert the SFP module into the slot until you feel the connector on the module snap into place in the rear of the slot. See Figure 2-15.

**Figure 2-15** Installing an SFP Module into an SFP Module Slot



<b>1</b>	SFP module
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**Step 5** Remove the dust plugs from the SFP module optical ports and store them for later use.



**Caution**

Do not remove the dust plugs from the SFP module port or the rubber caps from the fiber-optic cable until you are ready to connect the cable. The plugs and caps protect the SFP module ports and cables from contamination and ambient light.

**Step 6** Insert the LC cable connector into the SFP module.

## Removing SFP Modules

**Step 1** Attach an ESD-preventive wrist strap to your wrist and to a bare metal surface on the chassis.

**Step 2** Disconnect the LC connector from the SFP module.



**Tip**

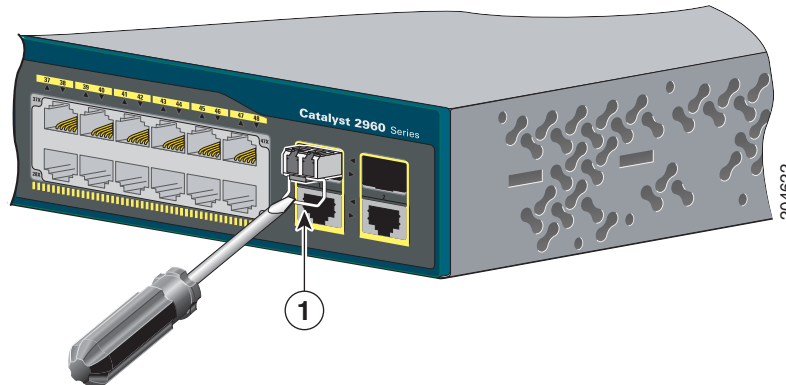
For reattachment, note which cable connector plug is send (TX) and which is receive (RX).

**Step 3** Insert a dust plug into the optical ports of the SFP module to keep the optical interfaces clean.

**Step 4** Unlock and remove the SFP module, as shown in [Figure 2-16](#).

If the module has a bale-clasp latch, pull the bale out and down to eject the module. If the bale-clasp latch is obstructed and you cannot use your index finger to open it, use a small, flat-blade screwdriver or other long, narrow instrument to open the bale-clasp latch.

**Figure 2-16** Removing a Bale-Clasp Latch SFP Module by Using a Flat-Blade Screwdriver



<b>1</b>	Bale clasp
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- Step 5** Grasp the SFP module between your thumb and index finger, and carefully remove it from the module slot.
- Step 6** Place the removed SFP module in an antistatic bag or other protective environment.

## Connecting to SFP Modules

This section describes how to connect to SFP modules. For instructions on how to connect to fiber-optic SFP modules, see the [“Connecting to Fiber-Optic SFP Modules”](#) section. For instructions on how to connect to copper 1000BASE-T SFP modules, see the [“Connecting to 1000BASE-T SFP Modules”](#) section.

For instructions about how to install or remove an SFP module, see the [“Installing and Removing SFP Modules”](#) section on page 2-15.

For instructions on how to connect to a dual-purpose port, see the [“Connecting to a Dual-Purpose Port”](#) section on page 2-20.

## Connecting to Fiber-Optic SFP Modules



### Warning

**Class 1 laser product.** Statement 1008



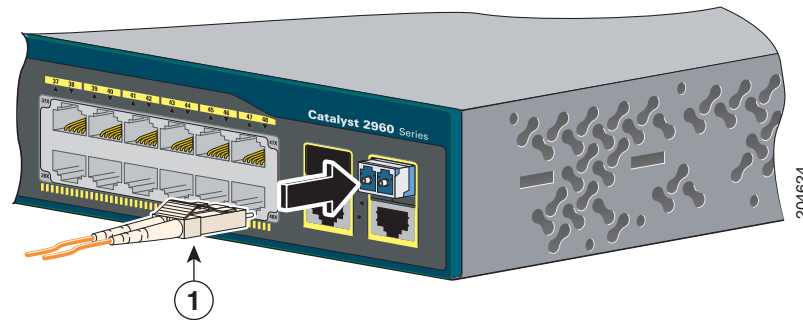
### Caution

Do not remove the rubber plugs from the SFP module port or the rubber caps from the fiber-optic cable until you are ready to connect the cable. The plugs and caps protect the SFP module ports and cables from contamination and ambient light.

Before connecting to the SFP module, be sure that you understand the port and cabling stipulations in the [“Installation Guidelines”](#) section on page 2-4 and in the [“SFP Module Slots”](#) section on page 1-13. See [Appendix B, “Connector and Cable Specifications”](#) for information about the LC on the SFP module.

- Step 1** Remove the rubber plugs from the module port and fiber-optic cable, and store them for future use.
- Step 2** Insert one end of the fiber-optic cable into the SFP module port (see [Figure 2-17](#)).

**Figure 2-17** Connecting to a Fiber-Optic SFP Module Port



<b>1</b>	LC connector
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- Step 3** Insert the other cable end into a fiber-optic receptacle on a target device.
- Step 4** Observe the port status LED.
- The LED turns green when the switch and the target device have an established link.
- The LED turns amber while the STP discovers the network topology and searches for loops. This process takes about 30 seconds, and then the port LED turns green.
- If the LED is off, the target device might not be turned on, there might be a cable problem, or there might be problem with the adapter installed in the target device. See [Chapter 4, “Troubleshooting,”](#) for solutions to cabling problems.
- Step 5** If necessary, reconfigure and restart the switch or target device.

## Connecting to 1000BASE-T SFP Modules



### Caution

To prevent ESD damage, follow your normal board and component handling procedures.

- Step 1** Insert one end of the cable into the SFP module port (see [Figure 2-18](#)). When connecting to servers, workstations, and routers, insert a four twisted-pair, straight-through cable in the RJ-45 connector. When connecting to switches or repeaters, insert a four twisted-pair, crossover cable.



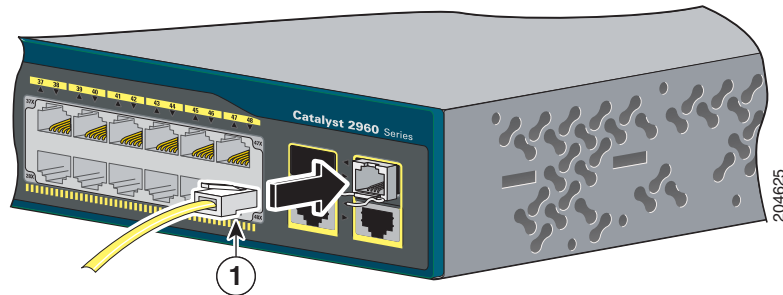
### Note

When connecting to a 1000BASE-T device, be sure to use a four twisted-pair, Category 5 or higher cable.



**Note** The auto-MDIX feature is enabled by default. For configuration information for this feature, see the switch software configuration guide or the switch command reference.

**Figure 2-18** Connecting to a 1000BASE-T SFP Module



<b>1</b>	RJ-45 connector
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**Step 2** Insert the other cable end in an RJ-45 connector on a target device.

**Step 3** Observe the port status LED.

The LED turns green when the switch and the target device have an established link.

The LED turns amber while the STP discovers the network topology and searches for loops. This process takes about 30 seconds, and then the port LED turns green.

If the LED is off, the target device might not be turned on, there might be a cable problem, or there might be problem with the adapter installed in the target device. See [Chapter 4, “Troubleshooting,”](#) for solutions to cabling problems.

**Step 4** If necessary, reconfigure and restart the switch or target device.

## Connecting to a Dual-Purpose Port

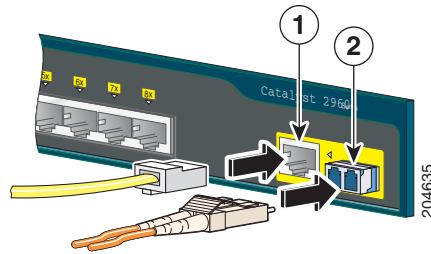
You can configure the dual-purpose port as either a 10/100/1000 port or as an SFP module port. For a detailed description of this port, see the [“Dual-Purpose Port”](#) section on page 1-13.

**Step 1** Connect an RJ-45 connector to the 10/100/1000 port, or install an SFP module into the SFP module slot, and connect a cable to the SFP module port, as shown in [Figure 2-19](#).

Only one port can be active at a time. If both ports are connected, the SFP module port has priority. You cannot configure the priority setting.

For more information about RJ-45 connectors and SFP modules, see the [“Connecting to the 10/100 and 10/100/1000 Ports”](#) section on page 2-14, [“Installing and Removing SFP Modules”](#) section on page 2-15, and the [“Connecting to SFP Modules”](#) section on page 2-18.

**Figure 2-19** Connecting to a Dual-Purpose Port



<b>1</b>	RJ-45 connector	<b>2</b>	LC connector
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**Step 2** Connect the other end of the cable to the other device. The switch automatically detects the connection and configures the port.

By default, the switch automatically selects the interface type the first time a port links up. For subsequent links, you must use the **media-type** interface configuration command to manually configure either the RJ-45 connector or the SFP module connector. For more information, see the command reference.

## Where to Go Next

If the default configuration is satisfactory, the switch does not need further configuration. You can use any of these management options to change the default configuration:

- Start the device manager, which is in the switch memory, to manage individual switches. The device manager is an easy-to-use web interface that offers quick configuration and monitoring. You can access the device manager from anywhere in your network through a web browser. For more information, see the device manager online help.
- Start the Network Assistant application, which is described in the *Getting Started with Cisco Network Assistant* guide. Through this GUI, you can configure and monitor a switch cluster or an individual switch.
- Use the CLI from the console to configure the switch as a member of a cluster or as an individual switch. See the *Catalyst 2960 Switch Software Configuration Guide* and the *Catalyst 2960 Switch Command Reference* on Cisco.com for information on using the CLI with a Catalyst 2960 switch.
- Start an SNMP application such as the CiscoView application.

