

## Rack-Mounting Instructions

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This chapter describes the procedures to rack-mount the Catalyst 5000 series switch at your site.

A rack-mount kit is included for mounting the switch in a standard 19-inch equipment rack with two unobstructed outer posts. This kit is not suitable for use with other racks, such as telco-type equipment racks, or those with obstructions (such as a power strip) that could impair access to the switch modules and power supplies.



**Caution** Before installing the chassis in a rack, read the section “Working Safely with Electricity” in the chapter “Installation Overview” to familiarize yourself with the proper site and environmental conditions. Failure to read and follow these guidelines could lead to an unsuccessful installation and possible damage to the system and components.

### Rack-Mounting the Switch

Following is the procedure for attaching the rack-mount kit and installing the switch in a wiring closet rack. Two or more people are needed to perform this procedure.

Be sure you have at least three or four feet of clearance behind the rack for maintenance. The intake and exhaust ports for cooling air are located on the front and rear and both sides of the chassis, so multiple switches can be stacked with little or no clearance in a rack. The chassis is 10.36 inches (25.9 cm) high.

## Rack-Mounting the Switch

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Before rack-mounting the Catalyst 5000 series switch, confirm that your rack-mount configuration conforms to the following criteria:

- If the switch is installed in a closed or multiunit rack assembly, the ambient operating temperature of the rack environment may be higher than the ambient room temperature. The ambient temperature of the rack environment must not exceed a maximum temperature of 104 F (40 C).
- Airflow around the rack must be sufficient to maintain proper cooling of the switch.



**Caution** Before you mount the switch in a rack, make sure of the following: the rack is secure and in no danger of falling over; the area around the rack does not exceed a maximum ambient temperature of 104 F (40 C); sufficient airflow exists around the rack.

- Install the switch in the rack to ensure that heavier equipment is at the bottom of the rack to maintain a low center of gravity and prevent the rack becoming top-heavy and tipping over.
- Each switch power supply must have its own branch circuit connection with sufficient overcurrent protection and direct grounding to the branch circuit.



**Warning** Two people are required to lift the chassis. Grasp the chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies or on the interface processors, or by the plastic panels on the front of the chassis. These handles were not designed to support the weight of the chassis. To see translated versions of this warning, refer to the appendix “Translated Safety Warnings.”

Refer to the section “Lifting the Chassis Safely” in the chapter “Installation Overview.”

## Installation Tools

Following are the tools and equipment you will need to install the chassis:

- Number 1 and number 2 Phillips screwdrivers to tighten the captive installation screws on most systems
- 3/16-inch flat-blade screwdriver for the captive installation screws on the supervisor engine module and switch modules in some systems
- Antistatic mat or antistatic foam in case you need to remove switch modules to troubleshoot the installation
- Your own ESD grounding strap or the disposable ESD strap included with the system

If you are installing the chassis in a rack, you will also need the following:

- Rack-mount kit
- Tape measure and level

## Installing the L Brackets

The rack-mount kit is for a standard 19-inch rack with a minimum depth (between the front and rear mounting posts) of 19 1/4 inches and a maximum depth of 32 inches. The width between the two front equipment mounting strips (left front and right front) must be at least 17 3/4 inches. Two L brackets, which you attach to *either* the front or back of the chassis, and the mounting posts connect the chassis to the rack. Some equipment racks provide a power strip along the length of one of the rear posts. If your rack has this feature, consider the position of the strip when planning fastener points and, before you install the L brackets on the chassis, determine whether you will install the chassis from the front or the rear of the rack.

Take the following steps to attach the two L brackets to the switch chassis:

- Step 1** Place the chassis on the floor or on a sturdy table as close as possible to the rack with clearance to allow you to move around the chassis.
- Step 2** Use a tape measure to measure the depth of the rack. Measure from the outside of the front mounting posts to the outside of the rear mounting strip. The depth must be at least 19 1/4 inches, but not greater than 32 inches.

## Installing the L Brackets

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**Step 3** Measure the space between the inner edges of the left front and right front mounting posts to ensure that it is 17 3/4 inches wide. (The chassis is 17 1/4 inches wide and must fit between the mounting posts.)

**Step 4** Open the rack-mount kit and refer to the component checklist in Table 3-1 to verify that all parts are included.

**Table 3-1** Rack-Mount Kit Checklist

Quantity	Part Description	Received
2	L brackets (left and right)	
1	Cable guide	
6	M4 Phillips countersunk-head screws	
8	12-24 x 3/4-inch Phillips binder-head screws	
8	10-32 x 3/4-inch slotted binder-head screws	

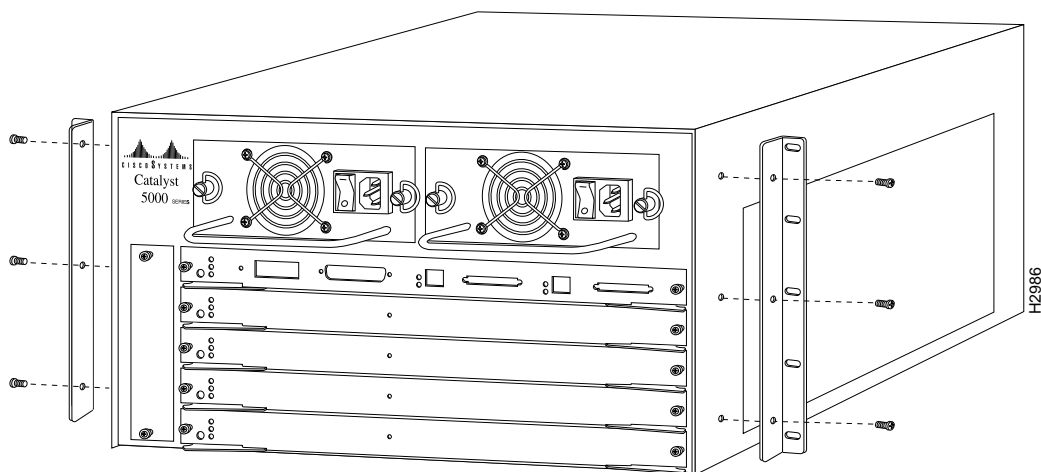
**Step 5** Remove the six cover attachment screws from either the front or the rear of the switch depending on your installation. See Figure 3-1.

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**Note** Figure 3-1, Figure 3-2, and Figure 3-3 illustrate attaching the rear of the switch to the rack. You can also attach the front of the switch to the rack, depending on the configuration of your rack.

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**Figure 3-1** Attaching the L Bracket

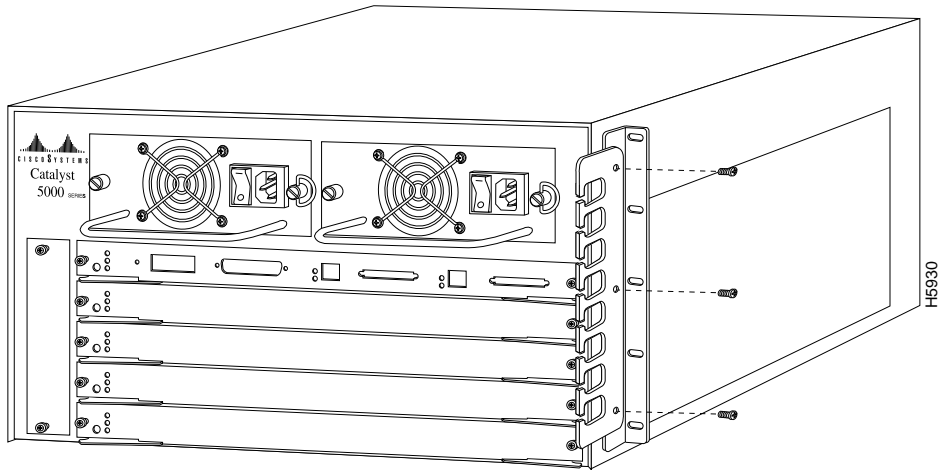


- Step 6** Attach the left and right L brackets using the six M4 Phillips countersunk-head screws provided in the rack-mount kit.
- Step 7** Attach the cable guide, if needed, using the six cover attachment screws removed in step 5. Attaching the cable guide to the right side of the switch is recommended to prevent the cables from obscuring module LEDs. See Figure 3-2.

## Installing the L Brackets

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**Figure 3-2** Attaching the Cable Guide



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**Note** No shelf is required with this assembly; the L brackets support the chassis in the rack.

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## Installing the Chassis in the Rack

The L brackets attach the chassis to the front mounting posts. You can mount the L brackets on either the front or rear of the chassis, whichever end will be in the front of the rack.

Follow these steps to install the switch in an open rack that allows you to slide the chassis in from the front.



**Warning** Two people are required to lift the chassis. Grasp the chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies or on the interface processors, or by the plastic panels on the front of the chassis. These handles were not designed to support the weight of the chassis. To see translated versions of this warning, refer to the appendix “Translated Safety Warnings.”

**Step 1** *Two people are required to perform this step.* While referring to Figure 3-3, with a person positioned at either side of the chassis, grasp the bottom edge of the chassis with one hand near the front and the other near the back. Slowly lift the chassis in unison. Avoid sudden twists or moves to prevent injury.

**Step 2** Position the chassis in the rack as follows:

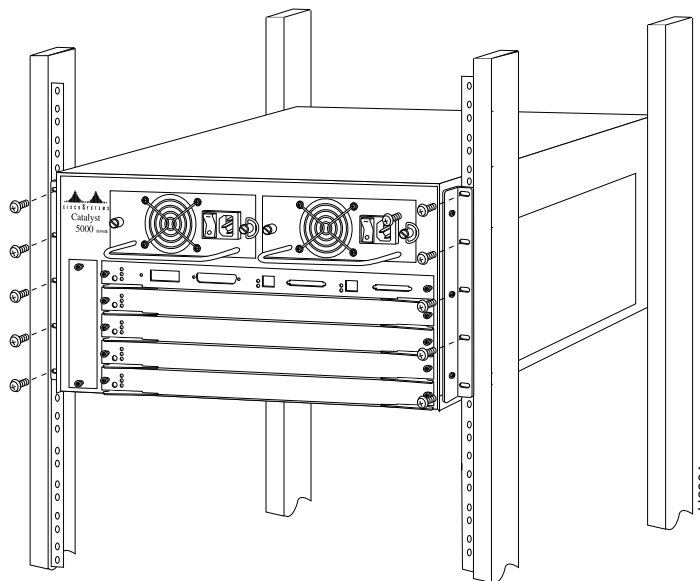
- If the chassis front panel will be in the front of the rack, insert the rear of the chassis between the rack posts, and align the five mounting holes in the L bracket with five mounting holes in the equipment rack.

## Installing the Chassis in the Rack

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- If the rear of the chassis will be in the front of the rack, insert the front of the chassis between the mounting posts, and align the five mounting holes in the L bracket with the five mounting holes in the equipment rack.

**Figure 3-3** Installing the Switch in the Rack



- Step 3** A third person should install the 10-32 x 3/4 inch slotted binder-head mounting screws through the elongated holes in the L bracket and into the threaded holes in the mounting post.
- Step 4** Use your tape measure and level to ensure that the chassis is installed straight and level.
- Step 5** On the rear of the chassis, do the following:
- Check the ejector levers and ensure that the supervisor engine module and all switching modules are securely installed.



- Tighten any captive installation screws that are loose on the supervisor engine module and switching modules.
- Ensure that both power supply bays are empty.



**Caution** If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized.

**Step 6** Make sure that your path to the rack is unobstructed.

This concludes the rack-mount installation.

## Installing the Chassis in the Rack

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