

# Installation

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This chapter contains detailed procedures for installing the Catalyst 2820 and 1900 on a table, shelf, or rack and connecting it to other devices. The first thing is to ensure that you have all the components. When unpacking the unit, turn to the “Packing List” section in the “Fast Install Guide” chapter for the list of included items.

## Warnings



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



**Warning** Do not touch the power supply when the power cord is connected. For systems with a power switch, line voltages are present within the power supply even when the power switch is off and the power cord is connected. For systems without a power switch, line voltages are present within the power supply when the power cord is connected.



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



**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).

## Warnings

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**Warning** To prevent the switch from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104 F (40 C). To prevent airflow restriction, allow at least 3 inches (7.6 cm) of clearance around the ventilation openings.



**Warning** The device is designed to work with TN power systems.



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



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



**Warning** When installing the unit, the ground connection must always be made first and disconnected last.



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



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



**Warning** Care must be given to connecting units to the supply circuit so that wiring is not overloaded.



**Warning** A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, *do not connect the chassis to that receptacle.*

## Installing the Switch in a Rack

The nature of rack-mounted equipment requires that the following guidelines be observed:

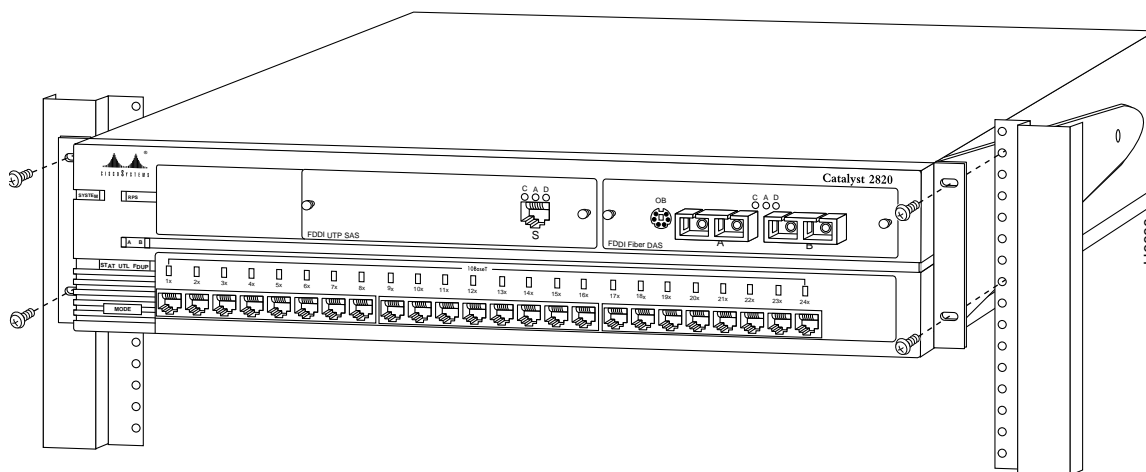
- If installed in a closed or multirack assembly, the temperature might be greater than normal room temperature. Ensure that the temperature around the unit does not exceed 104°F (40°C).
- Install the Catalyst 2820 or 1900 so that the amount of air flow required for safe operation is ensured.
- Do not mount the Catalyst 2820 or 1900 in a rack that might then be overloaded or unevenly loaded.
- Check the power supply to determine the effect power surges and overloading of circuits could have.

Follow these steps to install the unit in the rack.

**Step 1** Use the included screws to attach the mounting brackets to the unit.

**Step 2** Position the unit on the rack by lining up the mounting brackets with the holes in the rack, as shown in Figure 4-1.

**Figure 4-1 Catalyst 2820 Installed in a Rack**



## Table and Shelf Installation

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**Step 3** Attach the Catalyst 2820 or 1900 unit to the rack with the four provided screws.

**Step 4** Connect the power cord to the Catalyst 2820 or 1900 and to the power outlet.

The system LED turns green, and the Catalyst 2820 or 1900 automatically starts a series of self-tests described in the “Power-On Self-Test (POST)” section in this chapter.

## Table and Shelf Installation

Follow these steps to install the Catalyst 2820 or 1900 on a table or shelf.

**Step 1** Attach the four rubber feet included in the shipping box to the bottom of the unit.

**Step 2** Place the Catalyst 2820 or 1900 unit on the table or shelf near a power source.

**Step 3** Connect the power cord to the Catalyst 2820 or 1900 rear panel and to the power outlet.

The system LED turns green, and the Catalyst 2820 or 1900 automatically starts the series of tests described in the “Power-On Self-Test (POST)” section in this chapter.

## Power-On Self-Test (POST)

When the Catalyst 2820 or 1900 is first turned on and the switch begins its POST, the system and port LEDs are green. As each of the thirteen tests is run, the port LEDs, starting with number sixteen, turn off. (Because there are only thirteen tests, LEDs fifteen, fourteen, and thirteen are unaffected.)

After the POST completes successfully, the port LEDs turn green, indicating that the switch is operational. If a test fails, the associated port LED stays off, and the system LED turns amber.

All POST failures except the real-time clock test (number 5) are fatal. If the real-time clock fails POST, the switch begins forwarding packets, but the system LED turns amber, and a POST-failure message appears on the console screen. Certain switch features, such as the bandwidth utilization meter, are lost if the real-time-clock test fails.

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**Note** When the POST completes successfully, Spanning-Tree Protocol (if enabled) immediately turns the port LEDs amber while it discovers the network's topology. Spanning-tree discovery takes approximately 30 seconds to complete, and no packet forwarding takes place during this time.

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## Connecting to the Switch Ports

Once the Catalyst 2820 or 1900 is installed, you can begin connecting devices to its ports. Note that all UTP connections, whether 10BaseT, 100BaseTX, or FDDI UTP, must be within 100 meters of the Catalyst 2820 or 1900.

## Connecting to the Switch Ports

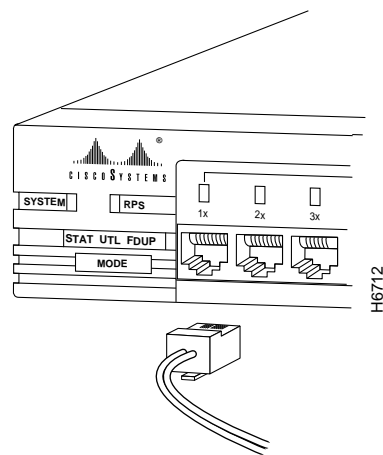
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### Connecting to 10BaseT Ports 1 through 24

Use this procedure to connect to the 10Base-T ports 1 through 24.

**Step 1** Insert the cable into a RJ-45 connector, as shown in Figure 4-2.

**Figure 4-2 RJ-45 Connection**



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**Note** When connecting to servers and workstations, ensure that the cable is wired for 10BaseT and that it is a straight-through twisted-pair cable. For other switches or repeaters use a crossover cable. Pinouts for the cables are described in the “Connector Pinouts” section in Appendix A, “Technical Specifications.”

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**Step 2** Insert the other end of the cable into the RJ-45 connector of the target device. The port status LED comes on when both the unit and the connected device are turned on. If the port LED does not come on, the device at the other end might not be turned on, or there can be a cable problem or a problem with the adapter installed in the attached device. See the “Troubleshooting” chapter for more information.

**Step 3** Reconfigure and reboot the connected device as needed.

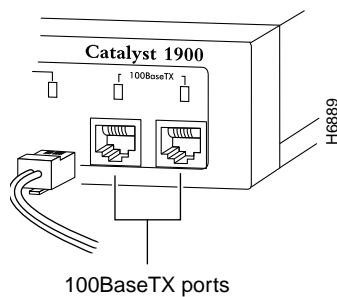
**Step 4** Repeat steps 1 through 3 for each device that needs to be connected.

## Connecting to the 100BaseTX Ports (Catalyst 1900 Only)

Use this procedure to connect to the 100BaseTX ports A and B.

**Step 1** Insert the cable into the 100BaseTX port, as shown in Figure 4-3.

**Figure 4-3 100Base-TX Connections**



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**Note** Ensure that the twisted-pair cable you are using is wired for 100BaseT. It must be Category 5 and less than 100 meters long. Use a straight-through cable to connect to a device not marked with an **X**, such as a server or workstation. Use a crossover cable to connect to a port marked with an **X**, such as another Catalyst 2820, 1900 or other 100BaseTX compatible hub, switch, or router. Pinouts for these cables are described in “Connector Pinouts” in Appendix A, “Technical Specifications.”

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**Step 2** Insert the other end of the cable into the RJ-45 connector of the target device. The port status LED comes on when both the Catalyst 2820 or 1900 and the connected device are turned on. If the port LED does not come on, the device at the other end

## Connecting to the Switch Ports

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might not be turned on, or there might be a cable problem or a problem with the adapter installed in the attached device. See the “Troubleshooting” chapter for more information.

**Step 3** Reconfigure and reboot the connected device as needed.

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**Note** Because of their frequent broadcast messages, servers and routers do not usually need to be rebooted.

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**Step 4** Repeat steps 1 through 3 for each device to be connected.

## Connecting to the Expansion Slot Ports (Catalyst 2820 Only)

Procedures for installing Catalyst 2820 modules in the Catalyst 2820 high-speed expansion slots are included in the *Catalyst 2820 Modules User Guide*.

## Connecting via the AUI Connector

Use the AUI connector on the back panel to connect to an external transceiver for attachment to a thick coaxial, thin coaxial, or fiber-optic cable.

**Step 1** Install the appropriate external transceiver on the network. Refer to the transceiver manual for installation instructions.

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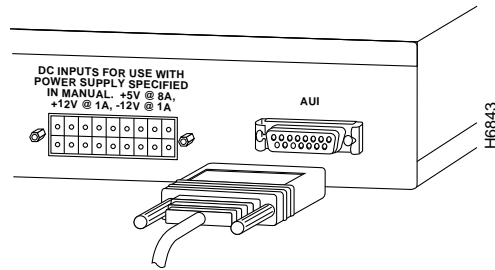
**Note** Use a cross-over cable if the transceiver is used to convert to RJ-45.

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**Step 2** Insert the AUI cable into the AUI connector on the switch, as shown in Figure 4-4.

**Figure 4-4 AUI Connections**



**Step 3** Slide the latch into the closed position.

**Step 4** Attach the other end of the cable to the transceiver.

## Connecting a Terminal via the EIA/TIA-232 Port

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**Note** EIA/TIA-232 was known as recommended standard RS-232 before its acceptance as a standard by the Electronic Industries Association (EIA) and Telecommunications Industry Association (TIA). Because RS-232 appears on the out-of-band management screens and in the names of supported MIB objects, this manual also uses RS-232.

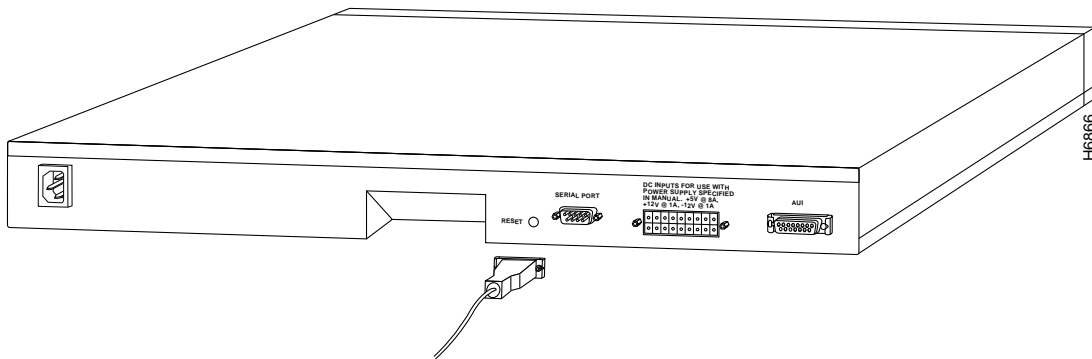
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**Step 1** Using a null-modem cable, insert the connector into the receptacle, as shown in Figure 4-5. See Table A-3 in Appendix A, “Technical Specifications,” for information on the pinout.

## Connecting to the Switch Ports

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**Figure 4-5** EIA/TIA-232 (RS-232) Connection



Insert the other end of the cable into the terminal.

**Step 2** Boot the terminal emulation program on your terminal.

The management console's logon panel appears.