



Preinstallation Information

This chapter provides information about safety, unpacking the router, and preparing for installation for Cisco 851, Cisco 857, Cisco 871, Cisco 876, Cisco 877, and Cisco 878 routers. It contains the following sections:

- [Safety Warnings and Guidelines, page 2-1](#)
- [Preventing Damage to the Router, page 2-4](#)
- [Unpacking the Box, page 2-4](#)
- [Preparing for Installation, page 2-5](#)
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Safety Warnings and Guidelines

This section provides the safety warnings and guidelines for working with wireless and nonwireless routers that are applicable to the Cisco 850 series and Cisco 870 series routers.

Before installing the router and the optional Power-over-Ethernet (PoE) module, read the following warnings:


Warning

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


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

**Warning**

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 120 VAC, 15A U.S. (240 VAC, 10A international)

Statement 1005

**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. Statement 1021

**Warning**

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

Statement 1001

**Warning**

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

Statement 1040

**Warning**

To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord. Statement 1023

**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. Statement 12

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

**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**

This equipment is not designed for making emergency telephony calls when the power fails. Alternative arrangements should be made for access to emergency services. Access to emergency services can be affected by any call-barring function of this equipment. Statement 199

**Caution**

Inline power circuits provide current through the communication cable. Use the cable provided by Cisco or a communication cable with a minimum of 24 AWG.

Additional Warnings for Wireless Routers



Warning

In order to comply with FCC radio frequency (RF) exposure limits, antennas should be located at a minimum of 7.9 inches (20 cm) or more from the body of all persons. Statement 332



Warning

Do not operate your wireless network device near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.

Statement 245B

General Safety Guidelines for Wireless Routers

The following are guidelines for the wireless router models:

- Do not touch or move antenna(s) while the unit is transmitting or receiving.
- Do not hold any component containing a radio so that the antenna is very close to or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- The use of wireless devices in hazardous locations is limited to the constraints posed by the local codes, the national codes, and the safety directors of such environments.

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:

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 warnings and guidelines in this section.

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 (Mohm).

Preventing Damage to the Router

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, “Specifications,”](#) for cabling specifications. If this appendix does not provide specifications for a particular cable, we strongly recommend ordering the cable from Cisco Systems.

Unpacking the Box

[Table 2-1](#) lists the quantity of items that are shipped with each router model in the Cisco 850 series and the Cisco 870 series routers. [Figure 2-1](#) depicts the items.

Verify that you have received all the items. If any is missing or damaged, contact your customer service representative.

Table 2-1 *Items Shipped with Cisco 850 Series and Cisco 870 Series Routers*

Item	Cisco 851 and Cisco 871 Routers	Cisco 857 and Cisco 877 Routers	Cisco 876 Router	Cisco 878 Router
Ethernet cable(s)	2	1	1	1
DSL ¹ cable	Not applicable	1 ²	1 ³	1 ³
ISDN ⁴ S/T cable	Not applicable	Not applicable	Optional	Optional
Console cable	1	1	1	1
Console-auxiliary ⁵ cable	Optional	Optional	Optional	Optional
Power adapter	1	1	1	1
Power cord ⁶	1	1	1	1
Cisco documentation ⁷	1	1	1	1
Cisco Router and Security Device Manager (SDM) software CD	1	1	1	1
Swivel-mount dipole antenna (wireless router models only)	Cisco 851: 1 antenna Cisco 871: 2 antennas	Cisco 857: 1 antenna Cisco 877: 2 antennas	2	2

1. DSL = digital subscriber line. Used for an asynchronous digital subscriber line (ADSL) or multirate symmetrical high-data-rate digital subscriber line (G.SHDSL).
2. An RJ-11-to-RJ-11 straight-through cable is shipped, unless an RJ-11-to-RJ-11 crossover cable is specified.
3. An RJ-11-to-RJ-11 straight-through cable is shipped, unless an RJ-11-to-RJ-11 crossover cable or an RJ-11-to-RJ-45 cable is specified.
4. ISDN = Integrated Services Digital Network.
5. Console-auxiliary cable is used to connect the router console port to an async modem for dial backup or remote management.
6. Power cords are ordered as applicable to country or geographic region.
7. Includes the *Regulatory Compliance and Safety Information for Cisco 800 Series and SOHO Series Routers* document and the *Cisco 850 Series and Cisco 870 Series Access Routers Cabling and Setup Quick Start Guide*. Also includes the *Declarations of Conformity and Regulatory Information for Cisco Access Products with 802.11a/b/g and 802.11b/g Radios* document for wireless models.

Figure 2-1 *Items Included with the Cisco 850 Series and Cisco 870 Series Routers*

1	Yellow Ethernet cable	5	Black power cord for adapter
2	Lavender DSL cable (optional)	6	Product documentation
3	Light blue console cable	7	Cisco SDM software CD
4	Router power adapter	8	Swivel-mount dipole antenna (wireless router models only)

Preparing for Installation

Before installing the router and connecting devices to the router, perform these tasks:

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- Step 1** Obtain a broadband or Ethernet connection from your service provider.
 - Step 2** Remove the cables and product documentation from the plastic bag. Remove the router power adapter and the black power cord from the accessory kit.
 - Step 3** If you ordered a wireless router, remove the antennas from the box.
 - Step 4** If you ordered a power-over-Ethernet (PoE) module, remove the PoE, its power adapter, and its power cord from the box.
 - Step 5** Gather the Ethernet devices to be connected to the router: hub, servers, and workstations or PCs. Make sure that there is a network interface card (NIC) in each device for connection to Ethernet ports.
 - Step 6** If you plan to configure the software using Cisco IOS commands using the console port, provide an ASCII terminal or a PC that is running terminal emulation software to connect to the console port.
 - Step 7** If you plan to connect a modem, provide the modem and modem cable.
 - Step 8** If you plan to use the ISDN S/T port, provide an NT1 device and an ISDN S/T cable.

- Step 9** If you plan to use the cable-lock feature, provide a Kensington or equivalent locking cable.
- Step 10** Read the safety warnings (the [“Safety Warnings and Guidelines”](#) section) and information about preventing damage to the router (the [“Preventing Damage to the Router”](#) section).
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What to Do Next

Mount the router properly by following the instructions in [Chapter 3, “Router and PoE Module Mounting Procedures.”](#)