



Making Data and Management Connections

This chapter describes how to connect alarm indicators, a console terminal, a modem, an Ethernet LAN for management, and network data cables to the Cisco 10005 router.

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Connecting Alarm Indicators

The Cisco 10005 router provides relay contacts for optional (customer-supplied) audible or visual alarm indicators. Relay contacts are provided for three levels of severity:

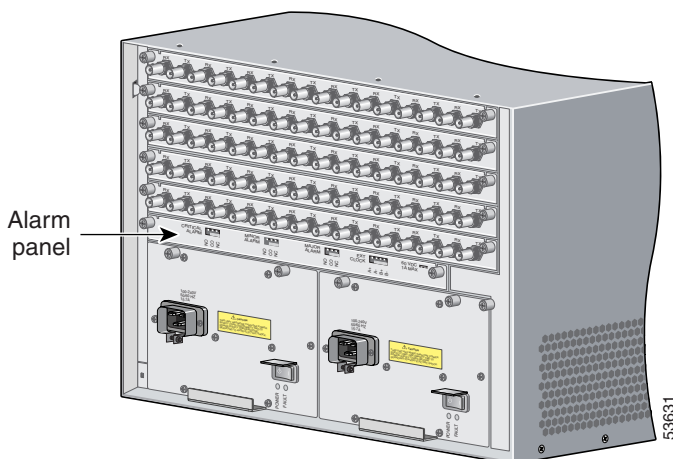
- **Critical**—An alarm condition that affects system operation and requires immediate attention. A critical alarm affects most or all of the subscribers that connect to the reporting node.
- **Major**—An alarm condition that affects system operation and should be investigated as soon as possible. A major alarm affects multiple subscribers connected to the reporting node.
- **Minor**—This is an informational alarm and does not affect the system operation. A minor alarm generally affects a small number of subscribers connected to the reporting node; or it may not affect subscribers at all.

It is not necessary to turn off system power before connecting alarm indicators.

To connect alarm indicators to the system:

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- Step 1** Locate the alarm panel on the rear of the chassis ([Figure 4-1](#)).

Figure 4-1 Alarm Panel on Rear of Chassis



- Step 2** Connect one set of alarm indicator wires to the appropriate wire wrap connector as follows:
- a. Connect one lead to the common (COM) pin.
 - b. Connect the other lead to the normally closed (NC) or normally open (NO) pin.

**Caution**

If you are wiring the router in *series* with other equipment for the alarm indicators, use the NC pins. If you are wiring the router in *parallel* with other equipment for the alarm indicators, use the NO pins.

- Step 3** Repeat [Step 2](#) for any remaining alarm indicators.
- Step 4** Use one of these methods to secure the alarm wires to the chassis:
- Route the wires through the optional cable management bracket, which if present is affixed to the top rear edge of the chassis.
 - Feed a tie wrap through one of the holes on top rear edge of the chassis and bind the wires.
- In either case, arrange the cables so that you can remove and replace the air filter, the power modules, and the fan assembly.

Connecting a Video Terminal to the PRE Console Port

On the front panel of the PRE is an asynchronous serial (EIA/TIA-232) RJ-45 port labeled Console. You can connect this port to most types of video terminals using the console cable kit that is included with your Cisco 10005 router. The console cable kit contains.

2 adapters—choose one.	<ul style="list-style-type: none"> • RJ-45 to DB-25 (female) adapter • RJ-45 to DB-9 (female) adapter 	Connect the appropriate adapter to your terminal.
1 console cable	<ul style="list-style-type: none"> • RJ-45 to RJ-45 crossover console cable 	Connect one end of the cable to the adapter on your terminal; connect the other end to the Console port on the PRE.

Configure the terminal to these settings:

- 9600 baud
- 8 data bits
- 1 stop bit
- No parity generation or checking
- No flow control

**Note**

In a chassis with redundant PREs, each PRE requires a console port connection (typically to a terminal server).

For instructions on connecting a console terminal, refer to the *Cisco 10005 ESR Hardware Overview and Maintenance Guide*, an online document available at Cisco.com.

Auxiliary Modem Connection

You can use the asynchronous EIA/TIA-232 serial port labeled AUX to connect a modem to the PRE for remote administrative access. To connect the Cisco 10005 chassis to a modem.

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- Step 1** Connect one end of the modem cable to the RJ-45 port labeled AUX on the primary PRE.
- Step 2** Connect the other end of the cable to your modem.
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Ethernet Network Management Connections

The PRE module provides an Ethernet port that you can connect to a 10BASE-T or 100BASE-T LAN for network management. The Ethernet port is an RJ-45 jack labeled Ethernet.

The subsections that follow list cable specifications and special instructions for each type of Ethernet connection. If you need detailed instructions on how to connect to an Ethernet LAN, refer to the *Cisco 10005 ESR Hardware Overview and Maintenance Guide*, an online document available at Cisco.com.

**Note**

Each PRE must have an Ethernet port connection (typically to the same Ethernet hub) if you have two PREs installed in the chassis.

Connecting to a 10BASE-T Ethernet Network

To make this connection, you need the following additional equipment (not included):

- An Ethernet hub (such as a Cisco Micro Hub)
- An Ethernet cable that meets the following specifications:
 - RJ-45 (male) to RJ-45 (male) straight-through cable

- 100-ohm category 3, 4, or 5, no longer than 328 feet (100 meters)

Connecting to a 100BASE-T Ethernet Network

To make this connection, you need the following additional equipment (not included):

- An Ethernet hub (such as a Cisco Micro Hub)
- An Ethernet UTP cable that meets the following specifications:
 - RJ-45 (male) to RJ-45 (male) straight-through cable.
 - 100-ohm Category 5 cable not longer than 328 feet (100 meters). (Cisco Systems does not supply Category 5 UTP cables; these cables are available from other vendors.)



Caution

If the Cisco 10005 router is used in an environment in which lightning-induced transients are likely to couple to the signal lines, use of shielded interconnection cables for the 100BASE-T ports is highly recommended. In addition, use of shielded interconnection cables for the 100BASE-T ports is required to meet Telcordia (formerly Bellcore) GR-1089 CORE Section 4.5.9 and ETSI Section 5.2.2.2 (intrabuilding lightning surge).

The RJ-45 port on the PRE is configurable for 100-Mbps full-duplex or half-duplex operation (half-duplex is the default) and supports IEEE 802.3, Ethernet, and IEEE 802.3u interfaces compliant with 100BASE-T specifications.

Data Network Connections

For network connections for all line cards, see the *Cisco 10000 Series Router Line Card Hardware Installation Guide*.