CHAPTER 5

Cable Connection Procedures

This document describes how to connect your Cisco IAD2801 series integrated access devices to a power source and to networks and external devices. It includes the following sections:

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

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

Power Connections

This section explains how to connect AC power to a Cisco IAD2801.

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

Note The installation must comply with all required electrical codes applicable at the installation site.

Connecting Routers to AC Power

Connect the Cisco IAD2801 to a 15 A, 120 VAC (10 A, 240 VAC) circuit with overcurrent protection.

Note The input voltage tolerance limits for AC power are 90 and 264 VAC.

Warning **AC connected units must have a permanent ground connection in addition to the power cable ground wire. NEBS-compliant grounding satisfies this requirement.** Statement 284

Warning **This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations.** Statement 1045

Warning **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than:**
15A, 120VAC (10A, 240VAC). Statement 1005

Connecting WAN, LAN, and Voice Cables

This section describes how to connect the WAN, LAN, and voice interface cables. It covers the following topics:

Note One or two Ethernet cables are typically provided with the router. Additional cables and transceivers can be ordered from Cisco. For ordering information, contact customer service. For cable pinouts, refer to the *Cisco Modular Access Router Cable Specifications* document.

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 **Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first.** Statement 1026

Ports and Cabling

Table 5-1 summarizes some typical WAN, LAN, and voice connections for Cisco IAD2801 integrated access devices. The connections summarized here are also described in detail in the following documents:

- *Cisco Modular Access Router Cable Specifications*
- *Cisco Network Modules Hardware Installation Guide*
- *Cisco Interface Cards Installation Guide*

Table 5-1 WAN, LAN, and Voice Connections

Port or Connection	Port Type, Color[1]	Connection:	Cable
Ethernet	RJ-45, yellow	Ethernet hub or Ethernet switch	Category 5 or higher Ethernet
ADSL	RJ-11C/CA11A, lavender	Network demarcation device for service provider DSL interface	RJ-11 straight-through
SHDSL	RJ-45	Network demarcation device for service provider DSL interface	RJ-45 straight-through
Analog voice FXS	RJ-11, gray	Telephone, fax	RJ-11; RJ21 if using NM-HDA, straight-through
BRI Voice	RJ-48C/CA81A, tan,	Digital voice	RJ-48C straight-through,

1. Cable color codes are specific to Cisco cables.

Connection Procedures and Precautions

Connect each WAN, LAN, and voice cable to the appropriate connector on the chassis or on a network module or interface card.

- Position the cables carefully, so that they do not put strain on the connectors.
- Organize cables in bundles so that cables do not intertwine.
- Inspect the cables to make sure that the routing and bend radiuses are satisfactory. Reposition cables, if necessary.
- Install cable ties in accordance with site requirements.

For cable pinouts, refer to the *Cisco Modular Access Router Cable Specifications* document.

Connecting to a Console Terminal or Modem

Your router has console and auxiliary ports for system management. These ports provide administrative access to your router either locally (with a console terminal or PC) or remotely (with a modem).

Cisco provides the following cables for connecting your router to a console terminal, PC, or modem:

- One console cable (RJ-45-to-DB-9, blue)
- One DB-9-to-DB-25 adapter

This section describes how to connect a console terminal or PC to the console port and how to connect a modem to the auxiliary port. Table 5-2 summarizes the system management connections.

Table 5-2 System Management Connections

Port	Color	Connected To:	Cable
Console	Light blue	PC or ASCII terminal communication port (usually labeled COM)	RJ-45-to-DB-9 console cable
Auxiliary	Black	Modem for remote access	RJ-45-to-DB-25 modem cable or RJ-45-to-DB-9 console cable with a DB-9-to-DB25 adapter

For information about cable pinouts, refer to the *Cisco Modular Access Router Cable Specifications* document.

Connecting to the Console Port

If a console terminal or PC is connected to the console port, you can configure the router locally. To connect a console terminal or a PC running HyperTerminal or similar terminal emulation software to the console port on the router, perform the following steps:

Step 1 Use the blue RJ-45-to-DB-9 console cable to connect the router to a terminal.

Note On the Cisco routers, the console port is color-coded blue.

Step 2 Configure your terminal or terminal emulation software for 9600 baud (default), 8 data bits, 1 stop bit, no parity, and flow control set to “none.”

Note Because hardware flow control is not possible on the console port, do not connect modems to the console port. Connect modems only to the auxiliary port.

Connecting to the Auxiliary Port

If a modem is connected to the auxiliary port, a remote user can dial in to the router and configure it. To connect a modem to the auxiliary port on the router, perform the following steps:

Step 1 Use the black RJ-45-to-DB-25 modem cable or the RJ-45-to-DB-9 console cable with a DB-9 to DB-25 adapter to connect the router to a modem.

Step 2 Make sure that your modem and the router auxiliary port are configured for the same transmission speed (up to 115200 bps is supported) and hardware flow control with data carrier detect (DCD) and data terminal ready (DTR) operations.