CHAPTER 3

Installing the Cisco IAD1101

This chapter guides you through the installation of the Cisco IAD1101 integrated access device and includes the following sections:

- Setting Up the Chassis
- Installing a Line Interface Module
- Connecting the Local EMS Workstation
- Connecting to the Network
- Connecting AC Power
- Connecting the Battery Back-up Box
- Where to Go Next

Setting Up the Chassis

You can set the chassis on a desktop or install it in a rack. Use the procedure in this section that best meets the needs of your network:

- Setting the Chassis on a Desktop
- Mounting the Chassis in a Rack
- Mounting the Chassis on a Wall

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

Warning **This unit is intended for installation in restricted access areas. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.**

Setting the Chassis on a Desktop

The location of the chassis is extremely important for proper operation. Equipment placed too close together, inadequate ventilation, and inaccessible panels can cause malfunctions and shutdowns, and can make maintenance difficult. The following information will help you to plan the location of the chassis:

- Plan for access to both front and rear panels of the chassis.
- Ensure that the room where the chassis operates has adequate ventilation. Remember that electrical equipment generates heat. Ambient air temperature may not cool equipment to acceptable operating temperatures without adequate ventilation.

Caution Do not place anything on top of the Cisco IAD1101 that weighs more than 10 pounds (4.5 kg). Excessive weight on top could damage the chassis.

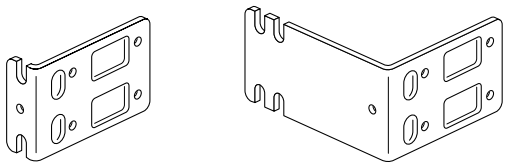
Mounting the Chassis in a Rack

This section describes the procedures for rack-mounting the chassis. The chassis comes with brackets for use with a 19-inch, 23-inch or 24-inch rack. The brackets are shown in Figure 3-1.

Warning **To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:**

- If the rack contains only one unit, mount the unit at the bottom of the rack.
- If the rack is partially filled, load the rack from the bottom to the top, with the heaviest component at the bottom of the rack.
- If the rack contains stabilizing devices, install the stabilizers prior to mounting or servicing the unit in the rack.

Figure 3-1 Identifying the Brackets



Attaching the Brackets

To install the chassis in a rack, attach the brackets in one of the following ways:

- With the front panel forward (see Figure 3-2 and Figure 3-3)
- With the rear panel forward (see Figure 3-4 and Figure 3-5)
- In a center-mount rack, with the rear panel forward (see Figure 3-6)

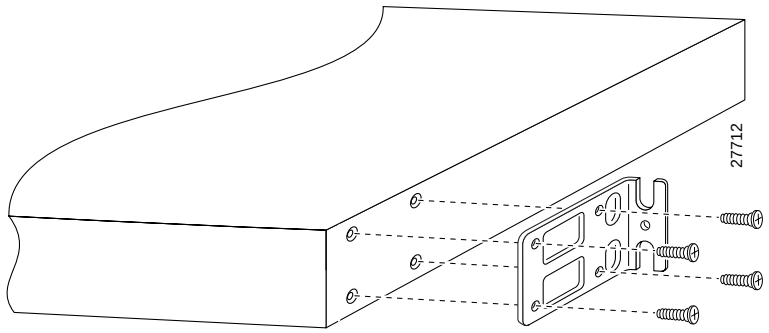
Note Use the Cisco-supplied screws for this installation.

Note If you are installing a Cisco IAD1101 in a 19-inch rack with a 17.5-inch opening, orient the rack-mount brackets so that, when installed, they do not increase the width of the chassis. (See Figure 3-2.)

If you are installing a Cisco IAD1101 in a 19-inch EIA-standard rack with a 17.75-inch opening or a 23-inch rack, orient the rack-mount brackets so that, when installed, they increase the width of the chassis. (See Figure 3-3.)

Note The following illustrations show how to connect the bracket to one side of the chassis. The second bracket connects to the opposite side of the chassis.

Figure 3-2 Bracket Installation—Front Panel Forward (19-Inch Rack with a 17.5-Inch Opening)



Note: The second bracket attaches to the other side of the chassis.

Note When installed in a 19-inch rack with a 17.75-inch opening, the Cisco IAD1101 chassis will protrude beyond the front of the rack.

Figure 3-3 Bracket Installation—Front Panel Forward (19-Inch Rack with a 17.75-Inch Opening or a 23-Inch Rack)

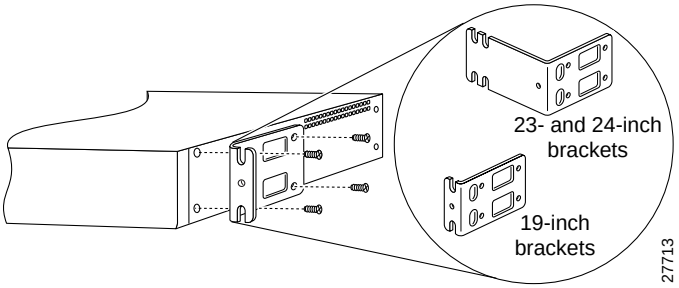


Figure 3-4 Bracket Installation—Rear Panel Forward (19-Inch Rack with a 17.5-Inch Opening)

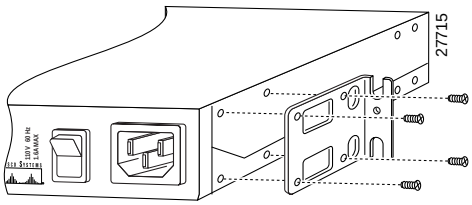


Figure 3-5 Bracket Installation—Rear Panel Forward (19-Inch Rack with a 17.75-Inch Opening or a 23-Inch Rack)

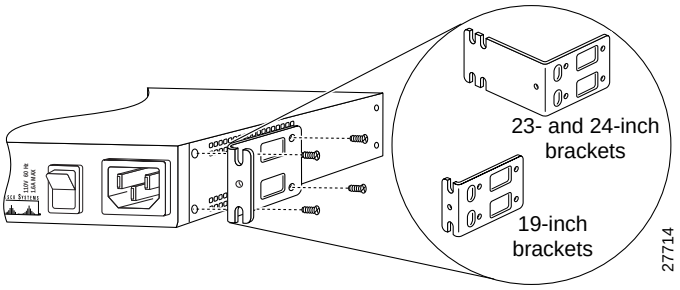
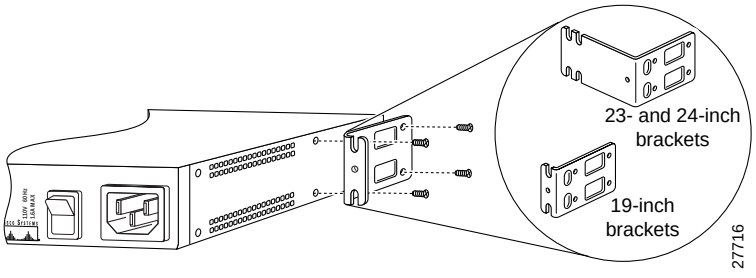


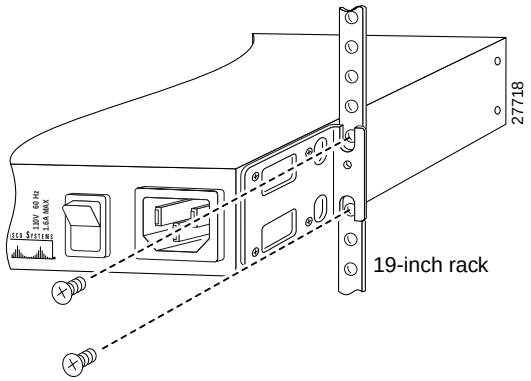
Figure 3-6 Center-Mount Bracket Installation—Rear Panel Forward



Installing the Chassis in a Rack

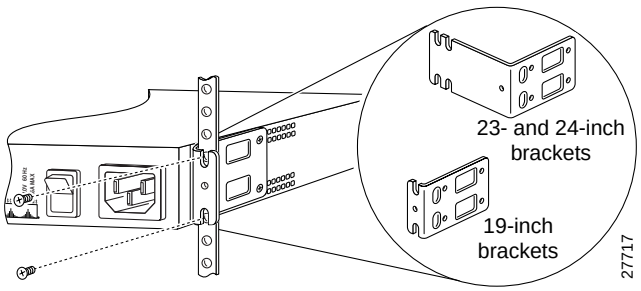
After the brackets are secured to the chassis, you can rack-mount it. Using screws that you provide, attach the chassis to the rack. (See Figure 3-7 and Figure 3-8).

Figure 3-7 Mounting the Chassis in a Rack (19-Inch Rack with a 17.5-Inch Opening)



The second bracket attaches to the rack at the other side of the chassis.
The brackets can also be installed with the front panel forward.

Figure 3-8 Mounting the Chassis in a Rack (19-Inch Rack with a 17.75-Inch Opening or a 23- Inch Rack)



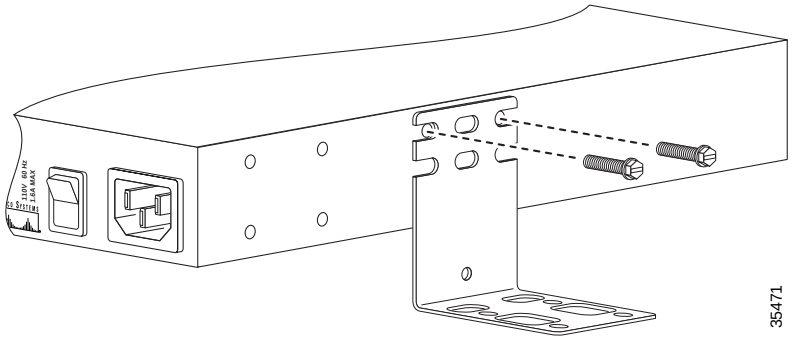
Mounting the Chassis on a Wall

Note Use 23-inch brackets (shown in Figure 3-1) to wall-mount the chassis.

Take the following steps to wall-mount the chassis:

Step 1 Attach the brackets as shown in Figure 3-9.

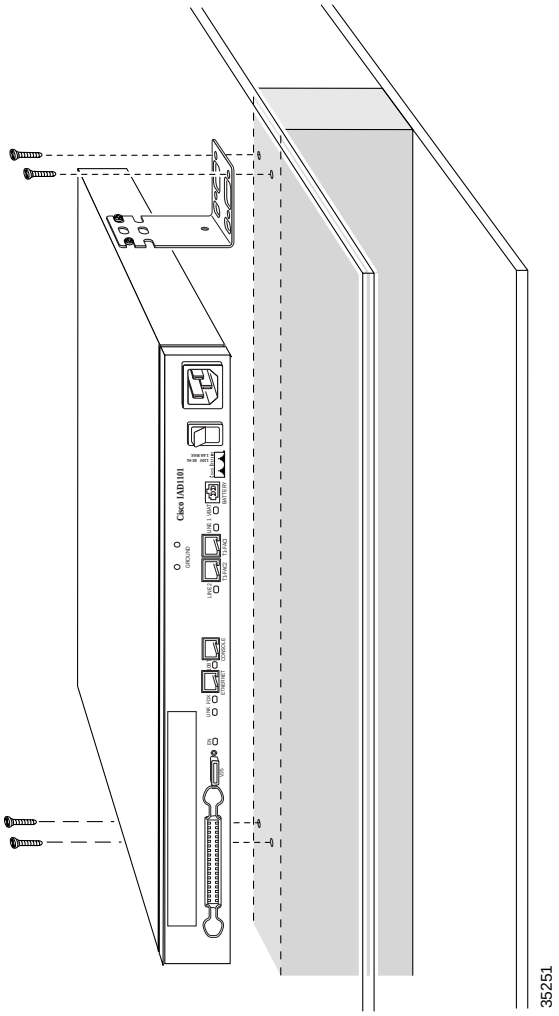
Figure 3-9 Attaching the Wall-Mount Brackets



Step 2 Attach the chassis assembly to the wall as shown in Figure 3-10, using screws and anchors that you provide. We recommend the following:

- For the best support of the chassis and cables, attach the brackets so that the screws align with a vertical wall stud. This position will prevent the chassis from pulling away from the wall when cables are attached.
- For the best ventilation of the chassis, mount the chassis with the power supply and fan at the top. Make sure there is clearance between the Cisco IAD1101 and the wall.

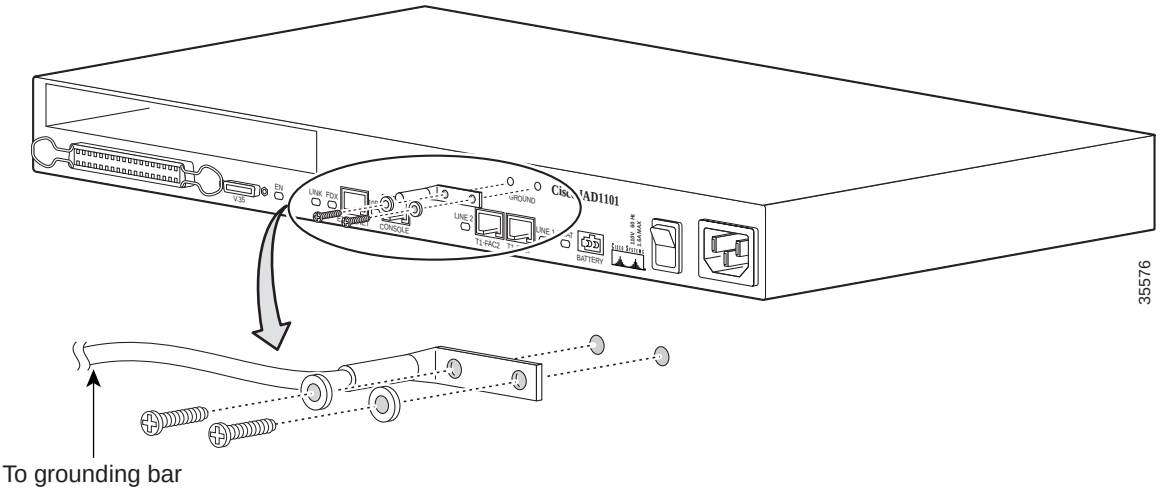
Figure 3-10 Mounting the Chassis on the Wall



Attaching the Chassis Grounding Lug

You must ground the Cisco IAD1101 chassis before connecting any network or subscriber cables. Attach the supplied grounding lug to the rear panel of the chassis, as shown in Figure 3-11. Connect the grounding lug to a grounded rack or other grounded metallic object, such as a grounding bar.

Figure 3-11 Attaching the Grounding Lug



Installing a Line Interface Module

The Cisco IAD1101 accommodates one line interface module in the expansion slot (upper left on the rear panel). If your chassis does not have a pre-installed module in the expansion slot, follow this procedure to install a module.

Caution To prevent electrostatic discharge damage to the Cisco IAD1101 chassis and components, you must wear an ESD-preventative strap when inserting or removing modules. Place the strap on your wrist, and connect the wire to an appropriate ground.

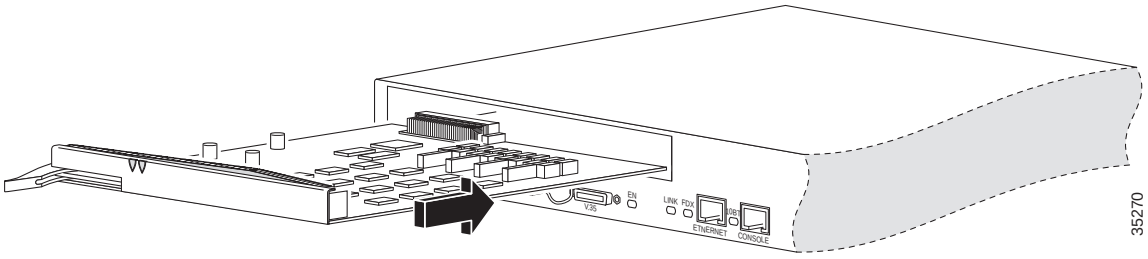
To insert a line interface module:

Step 1 Hold the service module horizontally, with the faceplate toward you and the backplane connectors away from you. The module is oriented properly when the insertion lever is at the lower left corner of the module.

Step 2 Carefully align the left and right edges of the module with the guides in the chassis.

Step 3 Gently slide the module into the slot until the lever (at the lower left of the module faceplate) touches the chassis. (See Figure 3-12.)

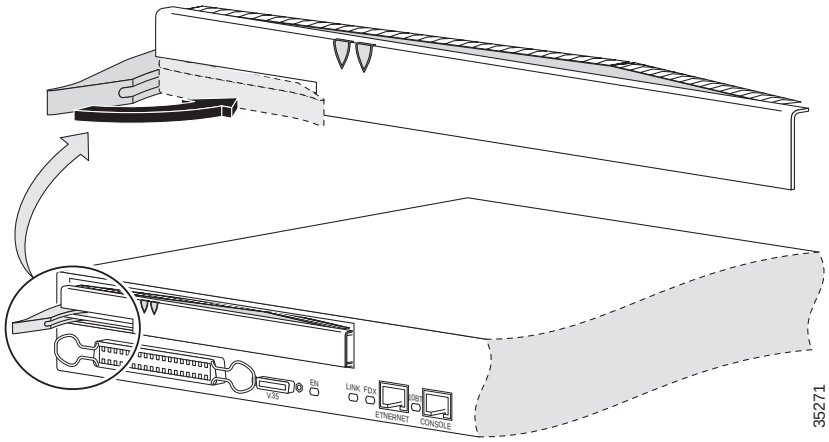
Figure 3-12 Align Module



Step 4 Lift the lever up and slide the module into the slot until the module makes contact with the inside of the chassis.

Step 5 Secure the module by pressing the lever down. (See Figure 3-13.)

Figure 3-13 Secure Module



Removing a Line Interface Module

Caution To prevent electrostatic discharge damage to the Cisco IAD1101 chassis and components, you must wear an ESD-preventative strap when inserting or removing modules. Place the strap on your wrist, and connect the wire to an appropriate ground.

To remove a line interface module:

Step 1 Lift the lever up to unseat the module.

Step 2 Grasp the module faceplate, and carefully slide the module out of the slot.

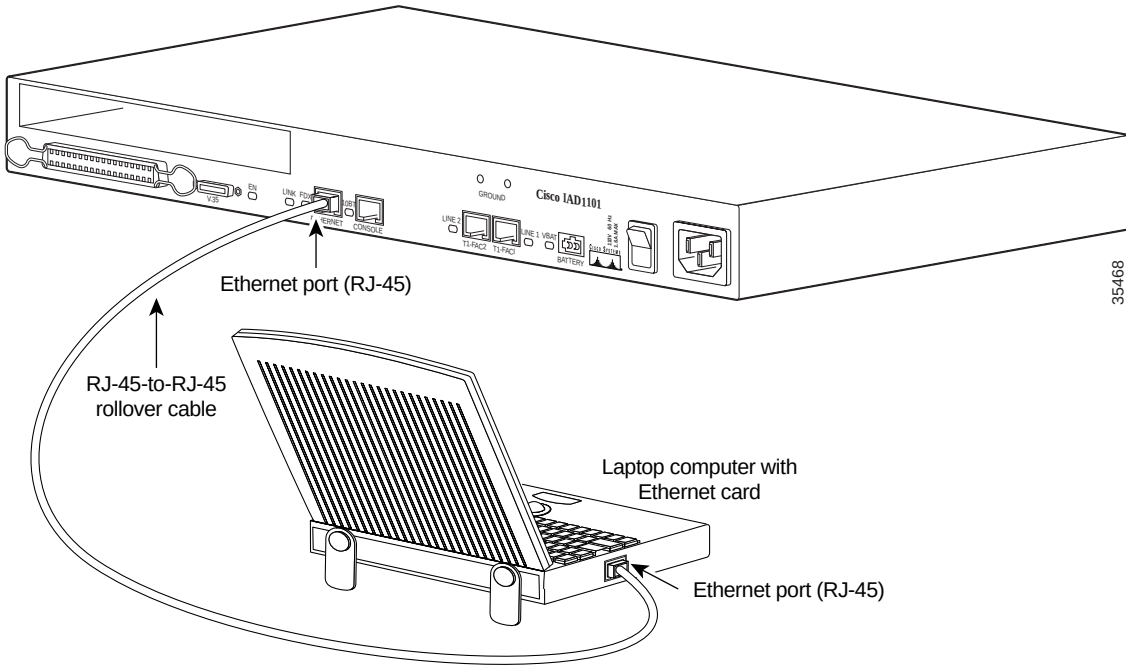
Step 3 Place the module on an anti-static surface.

Connecting the Local EMS Workstation

Connecting the EMS Workstation to the Ethernet Port

If your EMS workstation has a network interface card (NIC) or an Ethernet port, you can connect the workstation to the Ethernet port on the Cisco IAD1101 by using a RJ-45-to-RJ-45 rollover Ethernet cable. (See Figure 3-14.)

Figure 3-14 Connecting a Workstation to the Ethernet Port

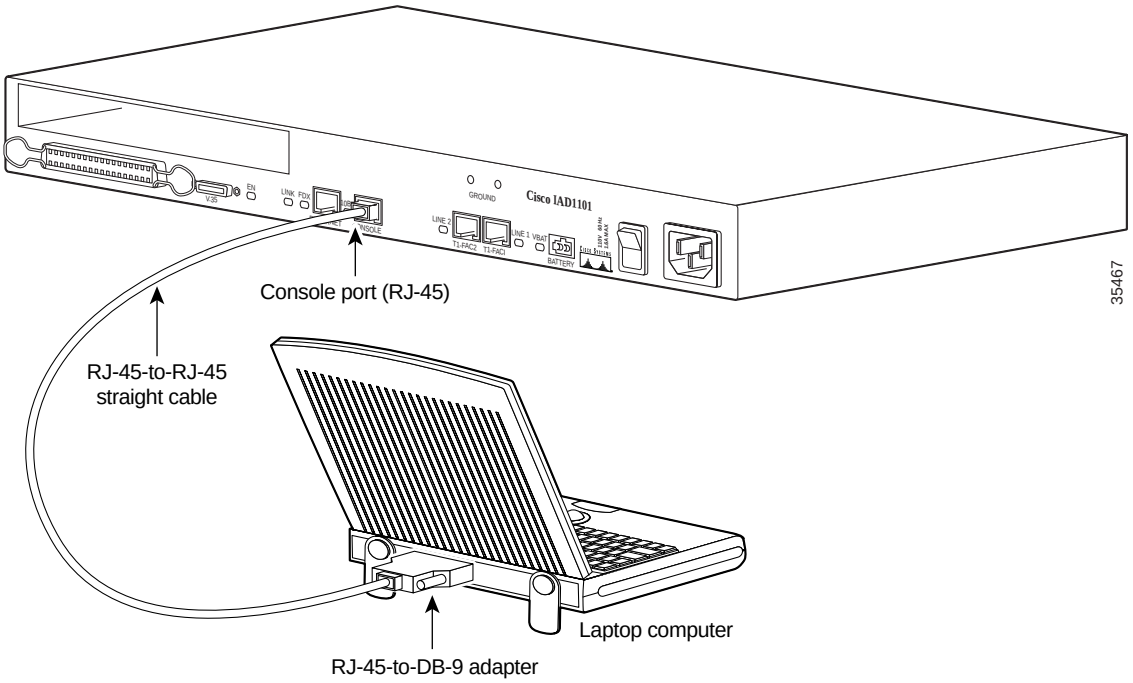


Connecting the EMS Workstation to the Console Port

Your Cisco IAD1101 includes an EIA/TIA-232 interface that supports local administrative access to your Cisco IAD1101. Connect the workstation using the provided yellow Ethernet (straight) cable and the provided RJ-45-to-DB-9 adapter. (See Figure 3-15.)

Note You must configure your workstation to use Dial-up Networking to access the Cisco IAD1101 through the console port.

Figure 3-15 Connecting a Workstation to the Console Port



Connecting to the Network

This section describes how to connect the Cisco IAD1101 to your network. The cables required to connect the chassis to a network are not provided. For ordering information, contact customer service (see the section "Cisco Connection Online" in the "About This Guide") or see the appendix "Connector and Cable Specifications" for cable and port pinouts.

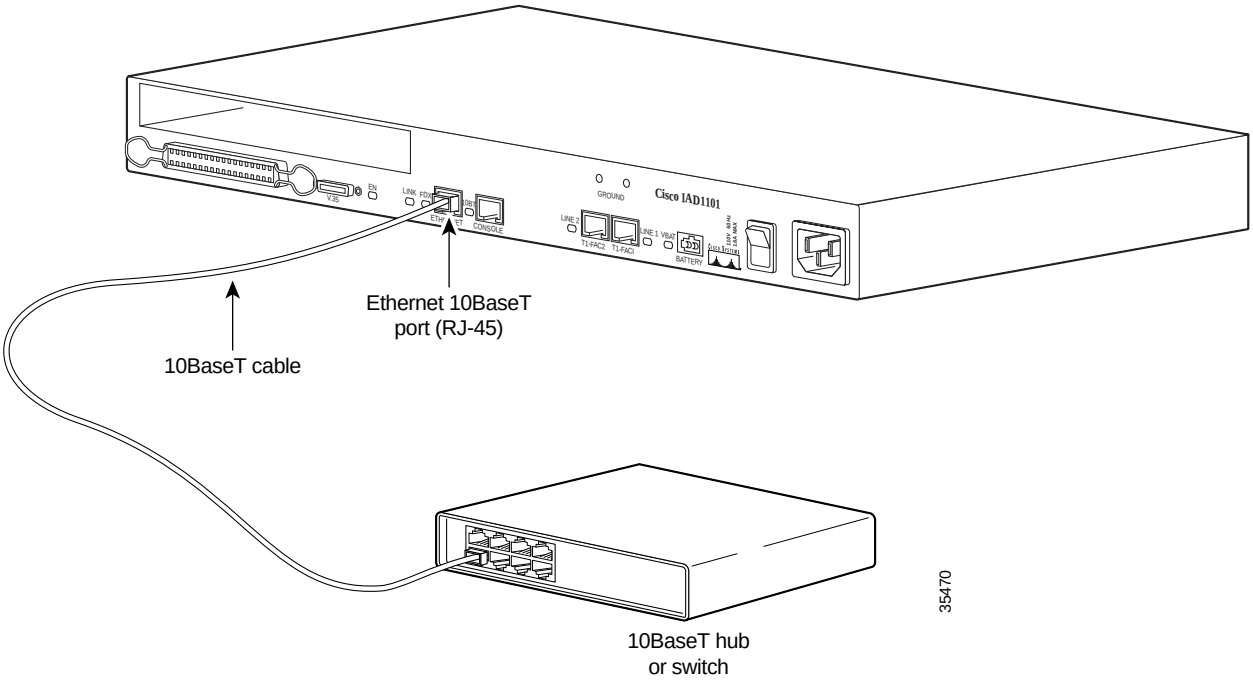
Warning **To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports (such as the T1-FAC1 and T1-FAC2 ports) use both RJ-45 connectors. Use caution when connecting cables.**

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

Connecting to an Ethernet Network

You can connect an Ethernet network to the Cisco IAD1101 by using a straight-through RJ-45-to-RJ-45 Ethernet cable. Connect the cable to the Ethernet connector on the Cisco IAD1101. (See Figure 3-16.)

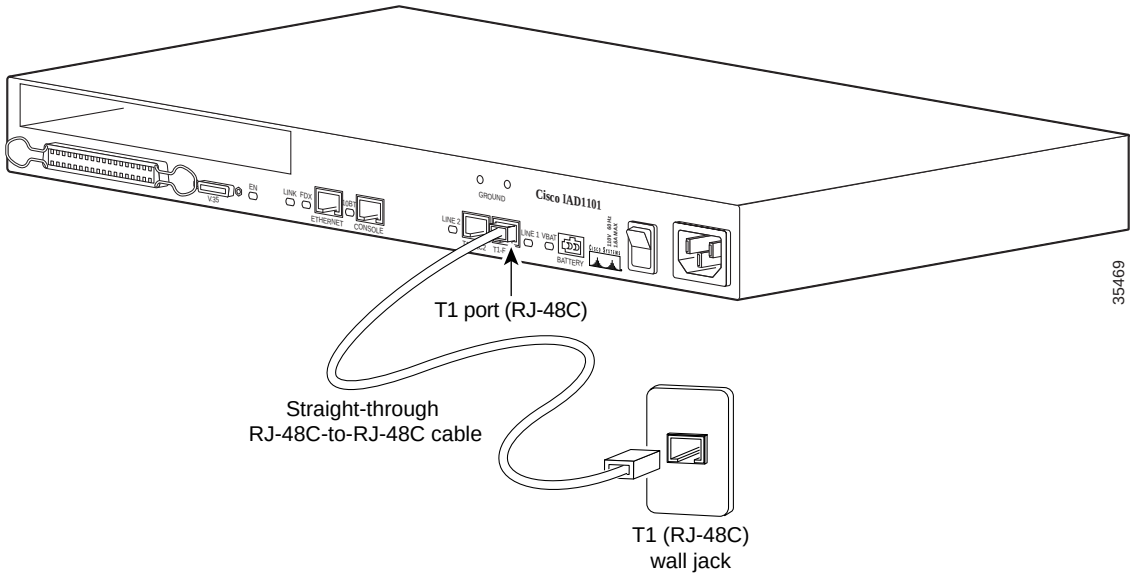
Figure 3-16 Connecting an Ethernet Hub to the Ethernet Port



Connecting to the WAN

You can connect up to two T1 ports to the Cisco IAD1101 by using a straight-through RJ-48 to RJ-48 cable. Connect the cable to either T1 port on the Cisco IAD1101. (See Figure 3-17.)

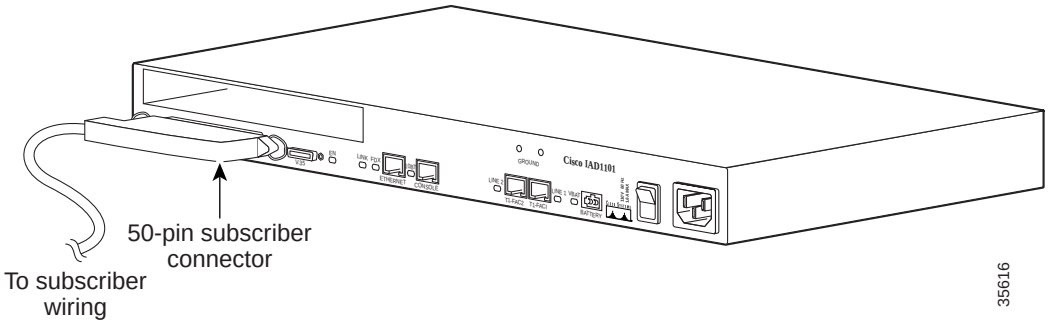
Figure 3-17 Connecting a T1 Line to the T1 Port



Connecting the Subscriber Cable

You can connect up to 24 FXS circuits to the Cisco IAD1101 by using a 50-pin AMP-Champ cable from your analog subscriber equipment. Connect the cable to the analog connector on the Cisco IAD1101. (See Figure 3-18.)

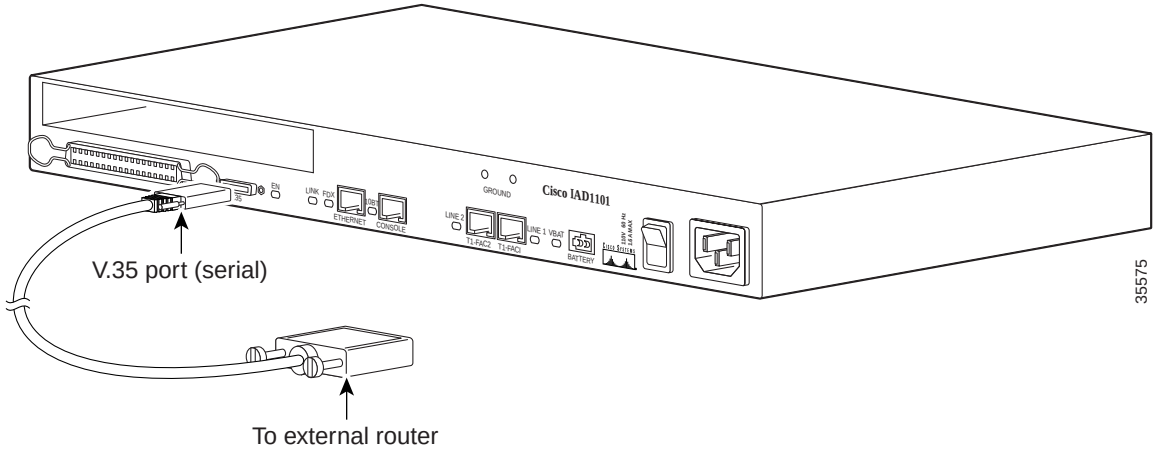
Figure 3-18 Connecting Analog Subscriber Equipment to the Analog Connector



Connecting the Serial V.35 Cable

You can connect an external router to the Cisco IAD1101 using an optional serial V.35 cable. Connect the cable to the V.35 port on the Cisco IAD1101. (See Figure 3-18.)

Figure 3-19 Connecting to V.35 Equipment



Connecting AC Power

To connect and supply AC power to the chassis:

Step 1 Connect one end of the power cord to the power connector on the rear panel of the chassis.

Step 2 Connect the other end of the power cord to the power outlet.

Warning **The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.**

Step 3 Power ON the chassis.

The POWER LED should light immediately.

Step 4 The Cisco IAD1101 chassis begins an initialization process. The ACTIVE LED should light when the initialization is complete and the chassis is ready for provisioning.

Connecting the Battery Back-up Box

The Cisco IAD1101 can be powered by an optional battery back-up box, providing -48V of DC power for a minimum of 8 hours.

Warning **To avoid short-circuiting the battery box, do not leave the battery cable next to a metal surface. Remove all metallic items, such as jewelry, before working with the battery box.**

You must have the following items to provide battery power to the Cisco IAD1101:

- Battery box with attached cable
- Battery adapter cable

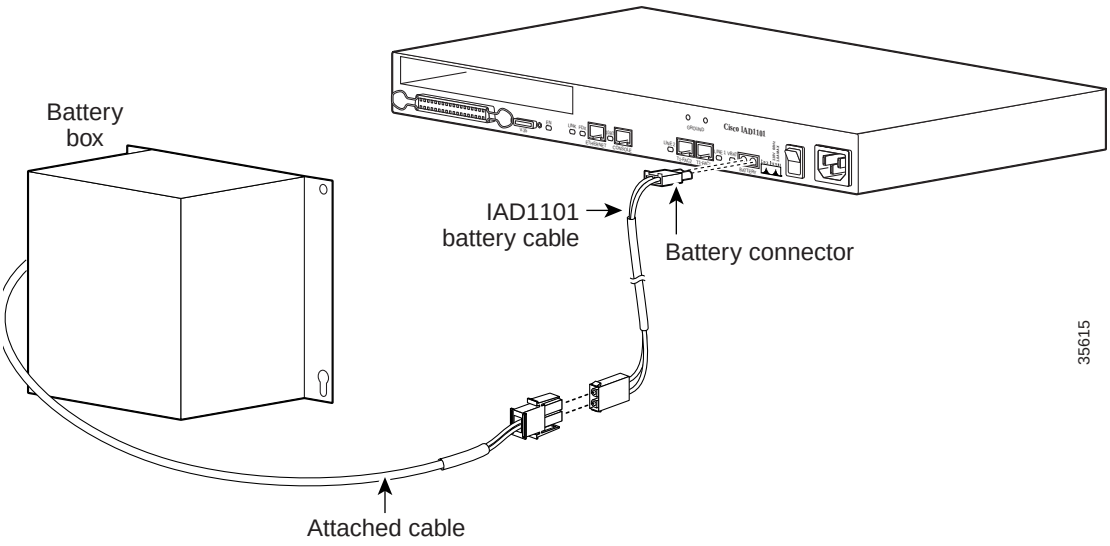
To connect and supply DC power from the battery box to the chassis:

Step 1 Secure the battery box by rack-mounting or wall-mounting the box.

Step 2 Connect the attached cable to the large connector on the adapter cable.

Step 3 Connect the small connector on the adapter cable to the battery connector on the Cisco IAD1101 chassis. (See Figure 3-20.)

Figure 3-20 Connecting the Battery Box and Adapter Cable



Powering Down the Cisco IAD1101

Use the following procedures to power down the Cisco IAD1101:

- To disconnect main power on the Cisco IAD1101, remove the AC power cord from the power supply on the chassis rear panel.
- To disconnect battery power, remove the battery cable from the battery connector on the chassis rear panel.
- To isolate the Cisco IAD1101 chassis completely, disconnect both cables.

Where to Go Next

To provision the Cisco IAD1101, consult the *Cisco 6700 Series Element Management System User Guide, Software Release 1.4*. See the "Obtaining Documentation" section on page vi to learn how to obtain user documentation.