CHAPTER 2

Preparing for Installation

This chapter describes the tasks you must perform before you begin to install the Cisco IAD1101 integrated access device and includes the following sections:

- Safety
- Site Requirements
- Required Tools and Equipment
- Verifying Contents

Safety

Any device that uses electricity must be handled carefully; follow these guidelines to ensure general safety:

- Keep the chassis area clear and dust-free during and after installation.
- Keep tools away from walk areas where you and others could fall over them.
- Do not wear loose clothing that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.

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

Maintaining Safety with Electricity

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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 can weld the metal object to the terminals.**

Follow these guidelines when you work on equipment powered by electricity.

- Locate the emergency power-OFF switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn OFF the power.

- Before working on the system, unplug the power cord.

- Disconnect all power before doing the following:

  - Installing or removing a chassis

  - Working near power supplies

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

- Do not work alone if potentially hazardous conditions exist.

- Never assume that power is disconnected from a circuit. Always check.

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

- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.

- If an electrical accident occurs, proceed as follows:

  - Use caution; do not become a victim yourself.

  - Turn OFF power to the system.

  - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim and then call for help.

  - Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

⚠ **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. is used on the phase conductors (all current-carrying conductors).**

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures.

Always follow ESD-prevention procedures when you remove and replace components. Ensure that the chassis is electrically connected to earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the grounding clip to an unpainted surface of the chassis frame to safely ground unwanted ESD voltages. To guard against ESD damage and shocks, the wrist strap and cord must operate properly. If no wrist strap is available, ground yourself by touching the metal part of the chassis.

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Caution   For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohm (Mohm).

Site Requirements

This section describes the requirements your site must meet for safe installation and operation of your system. Ensure that your site is properly prepared before beginning installation.

Environmental

The Cisco IAD1101 can be placed on a desktop or mounted in a rack or on a wall. The location of the chassis and the layout of your equipment rack or wiring room are extremely important for proper system operation. Placing equipment too close together, inadequate ventilation, and inaccessible panels can make system maintenance difficult or cause system malfunctions and shutdowns.

The following precautions will help you plan an acceptable operating environment for your Cisco IAD1101 and help you avoid environmentally-caused equipment failures:

- Ensure that the room in which you operate your system has adequate air circulation. Electrical equipment generates heat. Ambient air temperature might not be able to cool equipment to acceptable operating temperatures without adequate circulation.

- Always follow the ESD-prevention procedures described in the "Preventing Electrostatic Discharge Damage" section to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.

- Ensure that the chassis cover is secure. The chassis is designed to allow cooling air to flow effectively inside it. An open chassis allows air leaks, which might interrupt and redirect the flow of cooling air from internal components. Do not operate the chassis without a the chassis cover securely in place.

Power

Check the power at your site to ensure that you are receiving "clean" power (free of spikes and noise). Install a power conditioner if necessary.

All units include a 6-foot (1.8-meter) electrical power cord. (A label near the power cord indicates the correct voltage, frequency, current draw, and power dissipation for the unit.)

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Rack-Mounting

The following information will help you plan an acceptable equipment rack configuration:

- Enclosed racks must have adequate ventilation. Ensure that the rack is not overly congested because each unit generates heat. An enclosed rack should have louvered sides and a fan to provide cooling air.

- When mounting a chassis in an open rack, ensure that the rack frame does not block the intake or the exhaust ports. If the chassis is installed on slides, check the position of the chassis when it is seated all the way into the rack.

- In an enclosed rack with a ventilation fan in the top, excessive heat generated by equipment near the bottom of the rack can be drawn upward and into the intake ports of the equipment above it in the rack. Ensure that you provide adequate ventilation for equipment at the bottom of the rack.

- Baffles can help to isolate exhaust air from intake air, which also helps to draw cooling air through the chassis. The best placement of the baffles depends on the airflow patterns in the rack, which can be found by experimenting with different arrangements.

Required Tools and Equipment

Installation might require some tools and equipment that are not provided as standard equipment with the Cisco IAD1101. Following are the tools and parts required for a typical installation:

- Number 2 Phillips screwdriver.
- Flat-blade screwdrivers: small, 3/16-in. (0.476 cm) and medium, 1/4-in. (0.625 cm).
- Cables for connection to the Ethernet, V.35, and T1 ports (dependent on configuration).
- Ethernet 10BaseT hub or PC with a network interface card for connection to the Ethernet (LAN) port(s).

Verifying Contents

The Cisco IAD1101 is shipped assembled in a cardboard box. Power cables, manuals, and other additional items are packaged in a smaller accessory kit.

Remove the accessory kit from the box, open it and check the contents:

- *Cisco IAD1101 Integrated Access Device Hardware Installation Guide* (this document)
- Release Notes for Cisco 6700/IAD1100 Series
- Cisco documentation CD and warranty information
- Yellow straight-through Ethernet cable
- DB-9 serial adapter for Ethernet cable
- AC power cord
- Rack-mounting kits for 19 in. and 23 in. racks, including rack ears and screws
- Chassis grounding kit
- ESD wrist strap