



## Preparing for Installation

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The information in this guide applies to the following Cisco ASA 5500-X series models: ASA 5512-X, 5515-X, 5525-X, 5545-X, and 5555-X.

In this guide, references to “Cisco ASA 5500-X series ” and “ASA” apply to all models unless specifically noted otherwise.

This chapter describes the steps to follow before installing new hardware or performing hardware upgrades, and it includes the following sections:

- [Installation Overview, page 2-1](#)
- [Safety Recommendations, page 2-1](#)
- [General Site Requirements, page 2-3](#)

## Installation Overview

To prepare for the installation of the chassis, perform the following steps:

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|---------------|---|
| <b>Step 1</b> | Review the safety precautions outlined in the Regulatory Compliance and Safety Information document for the ASA 500-X. See <a href="http://www.cisco.com/go/asadocs">http://www.cisco.com/go/asadocs</a> for links to the RCSI and other ASA documents. |
| <b>Step 2</b> | Read the ASA release notes for your software version.   |
| <b>Step 3</b> | Unpack the chassis and accessories.   |
| <b>Step 4</b> | Place the chassis on a stable work surface.   |
| <b>Step 5</b> | Follow the directions for mounting the chassis in a rack in the <a href="#">“Rack Mounting the Chassis”</a> section on <a href="#">page 3-1</a> .   |
| <b>Step 6</b> | Follow the directions for establishing network connectivity in the <a href="#">“Connecting Cables, Turning on Power, and Verifying Connectivity”</a> section on <a href="#">page 3-13</a> .   |
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## Safety Recommendations

Use the following guidelines and the information in the following sections to help ensure your safety and protect the ASA. The list of guidelines may not address all potentially hazardous situations in your working environment, so be alert and exercise good judgement at all times.

**Note**

If you need to remove the chassis cover to install a hardware component, such as additional memory or an interface card, doing so does not affect your Cisco warranty. Upgrading the ASA does not require any special tools and does not create any radio frequency leaks.

Observe the following safety guidelines:

- Keep the chassis area clear and dust-free before, during, and after installation.
- Keep tools away from walk areas in which you and others might fall over them.
- Do not wear loose clothing or jewelry, such as earrings, bracelets, or chains that could get caught in the chassis.
- 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.
- Never attempt to lift an object that is too heavy for one person to handle.

This section includes the following topics:

- [Maintaining Safety with Electricity, page 2-2](#)
- [Preventing Electrostatic Discharge Damage, page 2-3](#)
- [Working in an ESD Environment, page 2-3](#)

## Maintaining Safety with Electricity

**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

Follow these guidelines when working on equipment powered by electricity:

- Before beginning procedures that require access to the interior of the chassis, 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.
- Do not work alone if potentially hazardous conditions exist anywhere in your work space.
- Never assume that power is disconnected from a circuit; always check the circuit.
- 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.
  - Disconnect power from the system.
  - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim, and then call for help.
  - Determine whether or not the person needs rescue breathing or external cardiac compressions; then take appropriate action.
- Use the ASA chassis within its marked electrical ratings and product usage instructions.
- Install the ASA in compliance with local and national electrical codes as listed in the Regulatory Compliance and Safety Information document.

- The ASA models equipped with AC-input power supplies are shipped with a 3-wire electrical cord with a grounding-type plug that fits only a grounding-type power outlet. Do not circumvent this safety feature. Equipment grounding should comply with local and national electrical codes.
- The ASA 5500-X models equipped with AC-input power supplies and are shipped with a 3-wire electrical cord with a grounding-type plug that fits into a grounding-type power outlet only. Do not circumvent this safety feature. Equipment grounding should comply with local and national electrical codes.

## 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 removing and replacing components. Ensure that the chassis is electrically connected to an 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 ESD voltages. To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.
- For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

## Working in an ESD Environment

- 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.

## General Site Requirements

The topics in this section describe the requirements your site must meet for safe installation and operation of your system. Ensure that your site is properly prepared before beginning installation.

This section includes the following topics:

- [Site Environment, page 2-4](#)
- [Preventive Site Configuration, page 2-4](#)
- [Power Supply Considerations, page 2-4](#)
- [Configuring Equipment Racks, page 2-6](#)

## Site Environment

Place the chassis on a desktop or mount it on a rack. The location of the chassis and the layout of the equipment rack or wiring room are extremely important for proper system operation. Placing equipment too close together with inadequate ventilation and inaccessible panels can cause system malfunctions and shutdowns. Improper placement can also make it difficult for you to access the chassis for maintenance.

For information about physical specifications, see the [“Hardware Specifications” section on page 1-15](#).

When planning the site layout and equipment locations, keep in mind the precautions described in the next section [“Preventive Site Configuration, page 2-4,”](#) to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are currently experiencing shutdowns or unusually high error rates with your existing equipment, these precautions may help you isolate the cause of failures and prevent future problems.

## Preventive Site Configuration

The following precautions will help plan an acceptable operating environment for the chassis and avoid environmentally caused equipment failures:

- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Ensure that the room in which you operate your system has adequate air circulation.
- Always follow the ESD-prevention procedures described previously 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 within it. An open chassis allows air leaks, which may interrupt and redirect the flow of cooling air from the internal components.

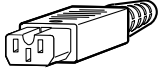
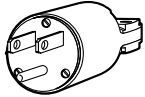
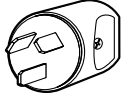
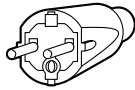
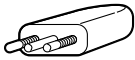


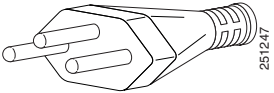
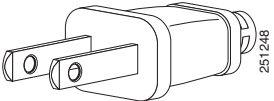
## Power Supply Considerations

Observe the following considerations:

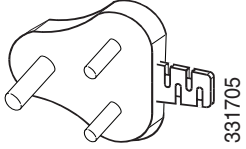
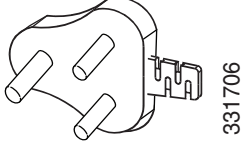
- Check the power at the site before installing the chassis to ensure that the power is “clean” (free of spikes and noise). Install a power conditioner, if necessary, to ensure proper voltages and power levels in the source voltage.
- Install proper grounding for the site to avoid damage from lightning and power surges.
- The ASA chassis does not have a user-selectable operating range. Refer to the label on the chassis for the correct AC-input power requirement.
- Several styles of AC-input power supply cords are available; make sure that you have the correct style for your site.
- Install an uninterruptible power source for your site, if possible.

You also need to provide power to the switch with the appropriate AC power cord for your location. [Table 2-1](#) lists the power cords that are used with the AC power supply.

**Table 2-1 AC-Input Power Cord Options**

Locale	Part Number	Length	Plug Rating	Plug Type
<b>300 W AC Power Supply</b>				<b>Appliance Coupler</b>
				 120352
North America	CAB-AC (72-0259)	8.2 ft (2.5 m)	125 VAC, 10 A	 120354
Australia,	CAB-ACA (72-0746-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 120356
Europe (except Italy)	CAB-ACE (72-0460)	8.2 ft (2.5 m)	250 VAC, 10 A	 120357
Italy	CAB-ACI 72-0556	8.2 ft (2.5 m)	250 VAC, 10 A	 120358
Singapore United Kingdom	CAB-ACU 72-0557	8.2 ft (2.5 m)	250 VAC, 10 A	 120359
Argentina	CAB-ACR (37-0995-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 120356
Switzerland	CAB-ACS (72-1483-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 251247
Japan	CAB-JPN (72-1925-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 251248

**Table 2-1 AC-Input Power Cord Options (continued)**

Locale	Part Number	Length	Plug Rating	Plug Type
India	CAB-IND-10A (37-0863-01)	8.2 ft (2.5 m)	250 VAC, 10 A	
South Africa	AIR-PWR-CORD-S A (37-0346-01)	8.2 ft (2.5 m)	250 VAC, 10 A	

## Configuring Equipment Racks

The following tips help you plan an acceptable equipment rack configuration:

- Enclosed racks must have adequate ventilation. Ensure that the rack is not overly congested because each chassis 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 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. Experiment with different arrangements to position the baffles effectively.