



Cisco VG248 Analog Phone Gateway Hardware Installation Guide

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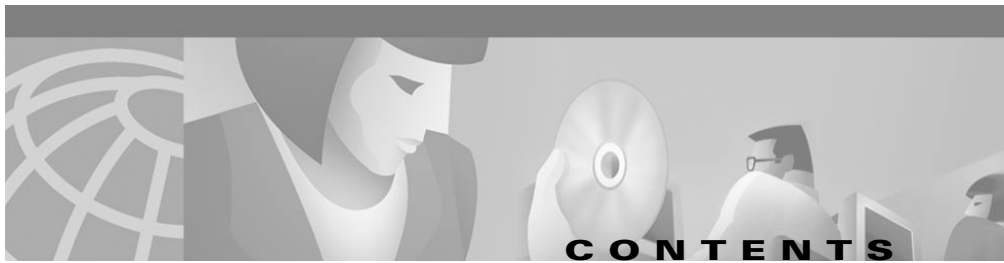
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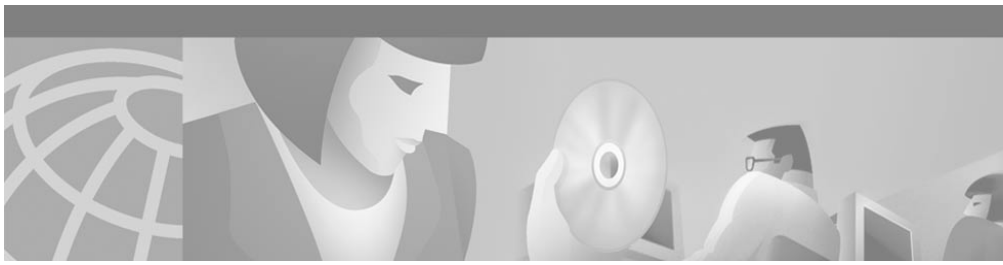
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About this Guide

Overview

The *Cisco VG248 Analog Phone Gateway Hardware Installation Guide* provides the information you need to install the Cisco VG248 Analog Phone Gateway (VG248) on your network.

Audience

Network engineers, system administrators, and telecom engineers should review this guide to learn the steps required to properly set up the VG248 in the network.

The tasks described in this guide are considered to be administration-level tasks. Because of the close interaction of the VG248 with Cisco CallManager and analog telephony systems, these tasks require that you are familiar with these systems as well.



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. (To see translations of the warnings that appear in this publication, refer to the appendix “Translated Safety Warnings.”)

**Warning**

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

Objectives

This guide provides the required steps to install the VG248. You must use this guide in conjunction with the *Cisco VG248 Analog Phone Gateway Software Configuration Guide* to get the VG248 up and running on your network.

Because of the complexity of an IP telephony network, this guide does not provide detailed information for required procedures performed on other Cisco or third-party devices. Refer to the documentation provided with these systems for installation and configuration instructions.

Organization

Table 1 provides an overview of the organization of this guide.

Table 1 *Cisco Digital PBX Adapter 7630 Administration Guide Organization*

Chapter	Description
Chapter 1, “Overview”	Provides overview of the hardware features and technical specifications of the VG248.
Chapter 2, “Preparing to Install the VG248”	Provides information about preparing the site for installation, required tools, and safety information.
Chapter 3, “Installing the VG248”	Describes the steps required to properly and safely install and configure the VG248 in your network.
Appendix A, “Regulatory Compliance and Technical Specifications”	Provides regulatory compliance and technical specifications for the VG248.
Appendix B, “Translated Safety Warnings”	Provides translations of safety warnings used in this guide.

Related Documentation

For information about Cisco CallManager and additional information about the VG248, refer to these publications:

- *Cisco VG248 Analog Phone Gateway Software Configuration Guide*
- *Cisco VG248 Analog Phone Gateway Release Notes*
- *Cisco CallManager Administration Guide*

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

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- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

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To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Attn Document Resource Connection
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

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Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.



Overview

The Cisco VG248 Analog Phone Gateway (VG248) enables you to connect analog telephones, modems, and fax machines to the Cisco CallManager IP telephony system.

These sections provide an overview of the VG248:

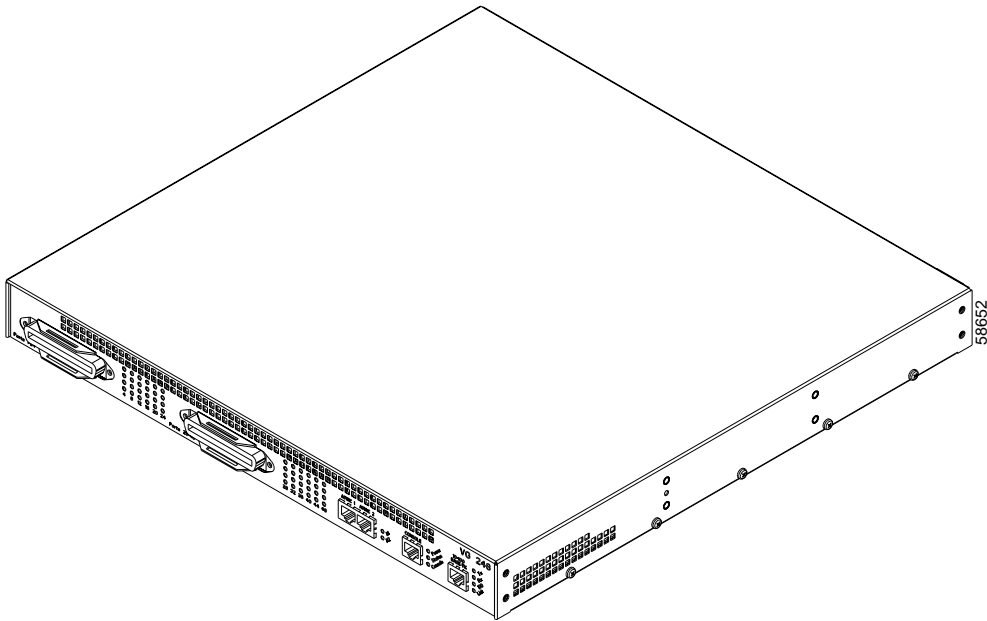
- Introduction, page 1-1
- Front Panel, page 1-3
- Rear Panel, page 1-8

Introduction

The VG248 is a 19-inch rack-mountable hardware device. It includes 48 FXS port interfaces to connect directly to standard analog telephones, modems, or fax machines. The analog devices connected through the FXS port behave as if they are connected to a normal central office (CO) or PBX line, supporting features such as call waiting, caller ID, call transfer, and call transfer.

The VG248 also includes a 10/100 Mbps Ethernet port interface to connect to the Ethernet network for connectivity to Cisco CallManager and the IP telephony network.

Figure 1-1 provides an overview of the entire device.

Figure 1-1 VG248 Overview

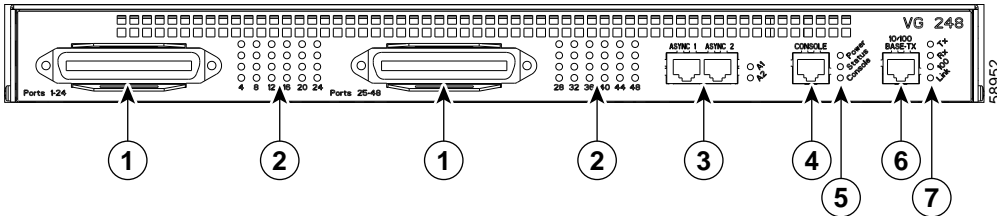
These sections provide additional detail about the VG248 and its interfaces:

- Front Panel, page 1-3
- Rear Panel, page 1-8

Front Panel

Figure 1-2 provides an overview of the interfaces and LED displays on the front panel of the VG248.

Figure 1-2 VG248 Front Panel



1	FXS telco connectors, ports 1-24 and 25-48	5	System status indicators
2	Port status indicators, ports 1-24 and 25-48	6	Ethernet port
3	Async 1 and 2 ports, unused	7	Ethernet status indicators
4	Console port		

FXS Telco Connectors

The FXS interface consists of two telco (RJ-21) connectors featuring these characteristics:

- On-premise connections only—analogue phones must be physically located in the same building as the VG248.
- Maximum supported line length—5000 feet or 415 Ohms.
- Loop start support
- Support for disconnect supervision
- DTMF dialing
- Maximum ringer equivalency number (REN) load—3 per line, and only two phones per line can be off-hook at any one time

- Voice activity detection
- Supported codecs—G.711 and G.729a codecs; the same codec must be used for both directions.

Table 1-1 describes the FXS connector pinouts for ports 1-24.

Table 1-1 FXS Ports 1-24 Connector Pinouts

Pin Number	Function
1, 26	Port 1 transmit/receive
2, 27	Port 2 transmit/receive
3, 28	Port 3 transmit/receive
4, 29	Port 4 transmit/receive
5, 30	Port 5 transmit/receive
6, 31	Port 6 transmit/receive
7, 32	Port 7 transmit/receive
8, 33	Port 8 transmit/receive
9, 34	Port 9 transmit/receive
10, 35	Port 10 transmit/receive
11, 36	Port 11 transmit/receive
12, 37	Port 12 transmit/receive
13, 38	Port 13 transmit/receive
14, 39	Port 14 transmit/receive
15, 40	Port 15 transmit/receive
16, 41	Port 16 transmit/receive
17, 42	Port 17 transmit/receive
18, 43	Port 18 transmit/receive
19, 44	Port 19 transmit/receive
20, 45	Port 20 transmit/receive
21, 46	Port 21 transmit/receive
22, 47	Port 22 transmit/receive
23, 48	Port 23 transmit/receive

Table 1-1 FXS Ports 1-24 Connector Pinouts (continued)

Pin Number	Function
24, 49	Port 24 transmit/receive
25, 50	Unused

Table 1-2 describes the FXS connector pinouts for ports 25-48.

Table 1-2 FXS Ports 25-48 Connector Pinouts

Pin Number	Function
1, 26	Port 25 transmit/receive
2, 27	Port 26 transmit/receive
3, 28	Port 27 transmit/receive
4, 29	Port 28 transmit/receive
5, 30	Port 29 transmit/receive
6, 31	Port 30 transmit/receive
7, 32	Port 31 transmit/receive
8, 33	Port 32 transmit/receive
9, 34	Port 33 transmit/receive
10, 35	Port 34 transmit/receive
11, 36	Port 35 transmit/receive
12, 37	Port 36 transmit/receive
13, 38	Port 37 transmit/receive
14, 39	Port 38 transmit/receive
15, 40	Port 39 transmit/receive
16, 41	Port 40 transmit/receive
17, 42	Port 41 transmit/receive
18, 43	Port 42 transmit/receive
19, 44	Port 43 transmit/receive
20, 45	Port 44 transmit/receive

Table 1-2 FXS Ports 25-48 Connector Pinouts (continued)

Pin Number	Function
21, 46	Port 45 transmit/receive
22, 47	Port 46 transmit/receive
23, 48	Port 47 transmit/receive
24, 49	Port 48 transmit/receive
25, 50	Unused

Status Indicators

Three sets of status indicator LEDs on the front panel display the VG248 status:

- Port Status Indicators
- System Status Indicators
- Ethernet Status Indicators

Table 1-3 includes descriptions of the LED states of these status indicators.

Table 1-3 LED Status Explanation

LED	On	Flashing	Off
Port Status Indicators			
Ports 1-24	Off hook	Ringling	Not connected or on hook
Ports 25-48	Off hook	Ringling	Not connected or on hook
System Status Indicators			
Power	Power connected and operating normally	N/A	Power not connected
Console	Console link connected	N/A	Console link not connected
Status	Operating normally	Potential hardware error detected. Check the event log for details.	Not operating normally

Table 1-3 LED Status Explanation (continued)

LED	On	Flashing	Off
Ethernet Status Indicators			
TX	N/A	Packet transmitted.	Nothing transmitted
RX	N/A	Packet received.	Nothing received
100	Connected at 100 Mbps	N/A	Connected at 10 Mbps or not connected
Link	Ethernet link connected	N/A	Not connected

Console Port

Use the console port to connect the VG248 to a console terminal for configuration and management tasks. Table 1-4 describes the console port connector pinouts.

Table 1-4 Console Port Connector Pinouts

Pin Number	Function
1, 8	Connected to each other
2	DTR
3	TxD
4,5	Ground
6	RxD
7	DSR

Ethernet Port

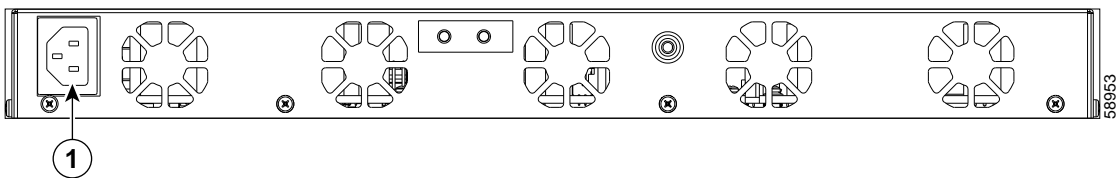
Use the Ethernet port to connect the VG 248 to the IP network to access Cisco CallManager. Table 1-5 describes the Ethernet port connector pinouts.

Table 1-5 Ethernet Port Connector Pinouts

Pin Number	Function
1	TD+
2	TD-
3	RD+
4	—
5	—
6	RD-
7	—
8	—

Rear Panel

The rear panel of the VG248 includes the power connector (see Figure 1-3). The VG248 has a single AC inlet requiring 100- 240 VAC, 50-60 Hz. The VG248 draws approximately 176W at 100v in its maximum load condition.

Figure 1-3 VG248 Rear Panel

1	Power connector
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Preparing to Install the VG248

To ensure normal system operation, plan your site configuration and prepare your site before installation.

Before installing the VG248, review these sections:

- Preparing the Installation Site, page 2-1
- Rack-Mounting the System, page 2-3
- AC Power Considerations, page 2-5
- Preventing ESD, page 2-6
- Installing, Servicing, or Disposing the System, page 2-6
- Network Requirements, page 2-8
- Required Tools and Cabling, page 2-8
- Safety, page 2-8

Preparing the Installation Site

Refer to these guidelines to prepare the installation site:

- Choosing a Site for Installation, page 2-2
- Ensuring Overcurrent Protection, page 2-2
- Grounding the System, page 2-3
- Creating a Safe Environment, page 2-3

**Warning**

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

**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.

Choosing a Site for Installation

- Install the system in a restricted access area, where access can be gained only by service personnel through the use of a special tool, lock and key, or other means of security.
- Choose a site with a dry, clean, well-ventilated and air-conditioned area.
- Choose a site that maintains an ambient temperature of 32 to 104 ° F (0 to 40° C).

Ensuring Overcurrent Protection

The system relies on the protective devices in the building installation for protection against short-circuit, overcurrent, and earth (grounding) fault. Ensure that the protective devices in the building installation are properly rated to protect the system, and that they comply with national and local codes.

**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. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

Grounding the System

- Do not defeat the ground conductor on an AC plug.
- Connect AC-powered systems to grounded power outlets.
- Connect the system to earth (ground).



Warning

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Warning

Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Creating a Safe Environment

- Keep tools and chassis components off the floor and away from foot traffic.
- Clear the area of possible hazards, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Keep the area around the chassis free from dust and foreign conductive material (such as metal flakes from nearby construction activity).

Rack-Mounting the System

A rack-mount kit and cable guides come with the system. The kit is not suitable for racks with obstructions (such as a power strip) that could impair access to system components. Allow sufficient clearance around the rack for system maintenance.

Ensuring Proper Airflow

- Install the system in an open rack whenever possible. If installation in an enclosed rack is unavoidable, ensure that the rack has adequate ventilation.
- Maintain ambient airflow to ensure normal operation. If the airflow is blocked or restricted, or if the intake air is too warm, the gateway can overheat.
- Allow at least six (6) inches (15.24 cm) of clearance around the ventilation openings of the chassis.
- Avoid placing the system in an overly congested rack or directly next to another equipment rack. Heat exhaust from other equipment can enter the inlet air vents and cause the gateway to overheat.
- Equipment near the bottom of a rack might generate excessive heat that is drawn upward and into the intake ports of the equipment above. The warm air can cause the gateway to overheat.
- Ensure that cables from other equipment do not obstruct the airflow through the chassis or impair access to the power supplies or cards. Route cables away from field-replaceable components to avoid disconnecting cables unnecessarily for equipment maintenance or upgrades.

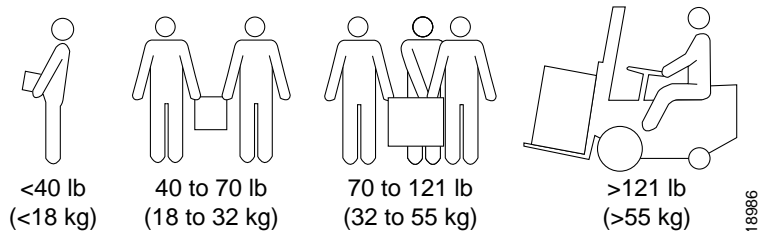
Stabilizing the System

- Install any stabilizers that came with your equipment rack before mounting or servicing the system.
- Load the rack from the bottom to the top, with the heaviest system at the bottom.
- Do not stack the system on top of any other equipment. If the system falls, it can cause severe bodily injury and damage the equipment.
- If you are using an equipment shelf, ensure that the shelf is constructed to support the weight and dimensions of the chassis.
- If you are using a telco rack, ensure that the weight of the chassis does not make the rack unstable. Secure the telco rack with ceiling brackets if the rack is populated with heavy equipment.
- Bolt the rack to the floor for stability.

Lifting the System

- Disconnect all power and external cables before lifting the system.
- Ensure that your footing is solid and the weight of the system is evenly distributed between your feet.
- Lift the system slowly, keeping your back straight. Lift with your legs, not with your back. Bend at the knees, not at the waist.
- Depending on the weight of the system, more than one person might be required to lift it.

Figure 2-1 Safely Lifting the System



AC Power Considerations

The system is designed for connection to TN power systems. A TN power system is a power distribution system with one point connected directly to earth (ground). The exposed conductive parts of the installation are connected to that point by protective earth conductors.



Warning

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

Preventing ESD

Electrostatic discharge (ESD) damage occurs when electronic cards or components are mishandled and can result in complete or intermittent failures. Note the following guidelines before you install or service the system:

- Always wear an ESD-preventive wrist or ankle strap when handling electronic components. Connect one end of the strap to an ESD jack or an unpainted metal component on the system (such as a captive installation screw).
- Handle cards by the faceplates and edges only; avoid touching the printed circuit board and connector pins.
- Place any removed component on an antistatic surface or in a static shielding bag.
- Avoid contact between the cards and clothing. The wrist strap only protects the card from ESD voltages on the body; ESD voltages on clothing can still cause damage.

**Note**

For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohms (Mohms).

Installing, Servicing, or Disposing the System

- Disconnect all power and external cables before installing the system.
- Install the system in compliance with your local and national electrical codes:
 - United States: National Fire Protection Association (NFPA) 70; United States National Electrical Code.
 - Canada: Canadian Electrical Code, Part I, CSA C22.1.
 - Other countries: If local and national electrical codes are not available, refer to IEC 364, Part 1 through Part 7.
- Do not work alone under potentially hazardous conditions.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.

- Do not touch the backplane or midplane with your hand or metal tools.
- Remove all jewelry (including rings and chains) or other items that could get caught in the system or heat up and cause serious burns.

Disconnecting Power

- Locate the emergency power-off switch for the room before working with the system.
- Disconnect power from the circuit by unplugging the power cord when working near the system backplane or midplane.
- To completely de-energize the system, disconnect the power connection to all power supplies.
- Do not touch the power supply when the power cord is connected.

Preventing EMI

When you run wires for any significant distance in an electromagnetic field, electromagnetic interference (EMI) can occur between the field and the signals on the wires.

Note that:

- Bad plant wiring can result in radio frequency interference (RFI).
- Strong EMI, especially when it is caused by lightning or radio transmitters, can destroy the signal drivers and receivers in the system, and can even create an electrical hazard by conducting power surges through lines and into the system.

To predict and remedy strong EMI, consult RFI experts.

Disposing of the System

Dispose of the system and its components (including batteries) as specified by all national laws and regulations.

Network Requirements

For the VG248 to successfully operate in your network, your network must meet the following requirements:

- Working Voice over IP (VoIP) network
- Cisco CallManager 3.1 or higher installed in your network and configured to handle call processing
- IP network that supports DHCP or manual assignment of IP address, gateway, and subnet mask

Required Tools and Cabling

To install the VG248, you must have the following equipment:

- Number 2 Phillips screwdriver
- Mounting L brackets (included)
- Electrostatic discharge (ESD)-preventive wrist strap (included)
- Screws to secure the rack-mount brackets to the VG248 (included)
- Screws to attach the VG248 to the rack mount

To connect the VG248 to the different systems, you also need the following items:

- Power cable (included)
- Console cable for connection to a console terminal (included)
- Ethernet cable for connection to an Ethernet port
- Telco cabling for connection to the analog devices

Safety



Warning

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

**Warning**

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

**Warning**

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

**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.

**Warning**

Unplug the power cord before you work on a system that does not have an on/off switch.

**Warning**

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

**Warning**

The safety cover is an integral part of the product. Do not operate the unit without the safety cover installed. Operating the unit without the cover in place will invalidate the safety approvals and pose a risk of fire and electrical hazards.

**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 weld the metal object to the terminals.

**Warning**

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

**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.

**Warning**

The device is designed to work with TN power systems.

**Warning**

This equipment is to be installed and maintained by service personnel only as defined by AS/NZS 3260 Clause 1.2.14.3 Service Personnel.

**Warning**

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Installing the VG248

You must install the VG248 into your network, connecting it to both the IP network and the analog devices.

Before installing the VG248, review the important site and safety information in Chapter 2, “Preparing to Install the VG248.”

These sections provide instructions for safely installing the VG248:

- Installing the VG248, page 3-1
- Connecting the VG248 to the Network, page 3-6
- Verifying Installation, page 3-11

Installing the VG248

You have the option of installing the VG248 in a 19-inch rack or setting it on a shelf or other flat surface. Refer to these sections for detailed instructions:

- Installing the VG248 in a Rack, page 3-1
- Setting the VG248 on a Shelf or Table, page 3-6

Installing the VG248 in a Rack

The VG248 includes the brackets and screws required to install it in a 19-inch rack. Follow these instructions to install it safely and securely.

**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:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
 - When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
 - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
-

Attaching the Brackets

The chassis comes with brackets for use with a 19-inch rack. To install the chassis in a rack, attach the brackets in one of the following ways:

- With the front panel forward (see Figure 3-1)
- With the rear panel forward (see Figure 3-2)

These figures (Figure 3-1 and Figure 3-2) show how to connect the bracket to one side of the chassis. The second bracket connects to the opposite side of the chassis.

**Caution**

Only use the screws provided when attaching the brackets.

Figure 3-1 Bracket Installation—Front Panel Forward

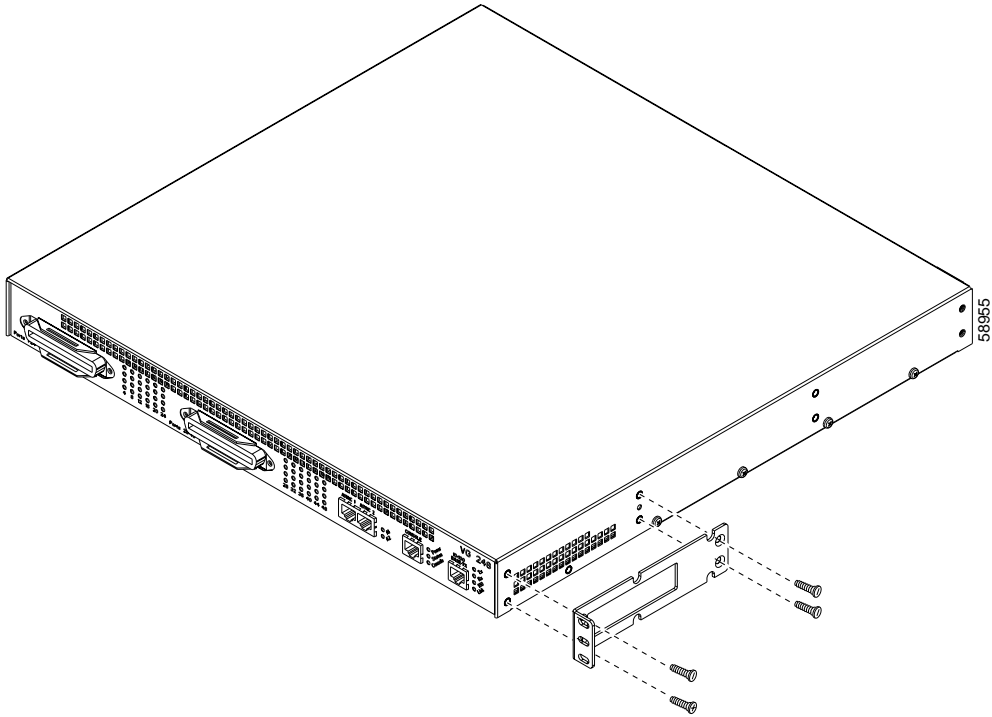
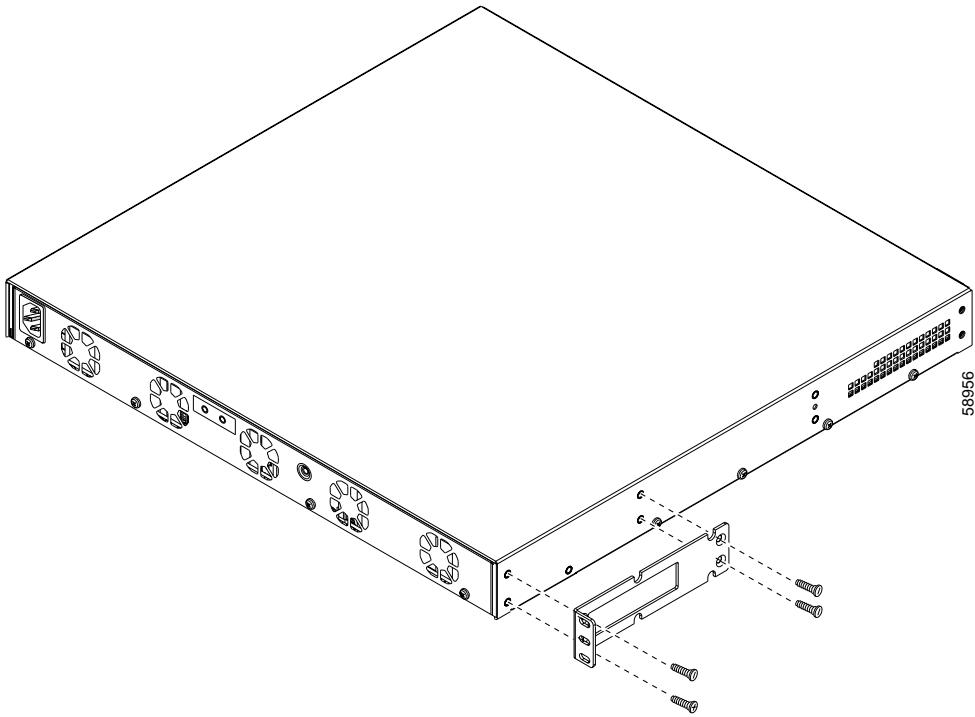
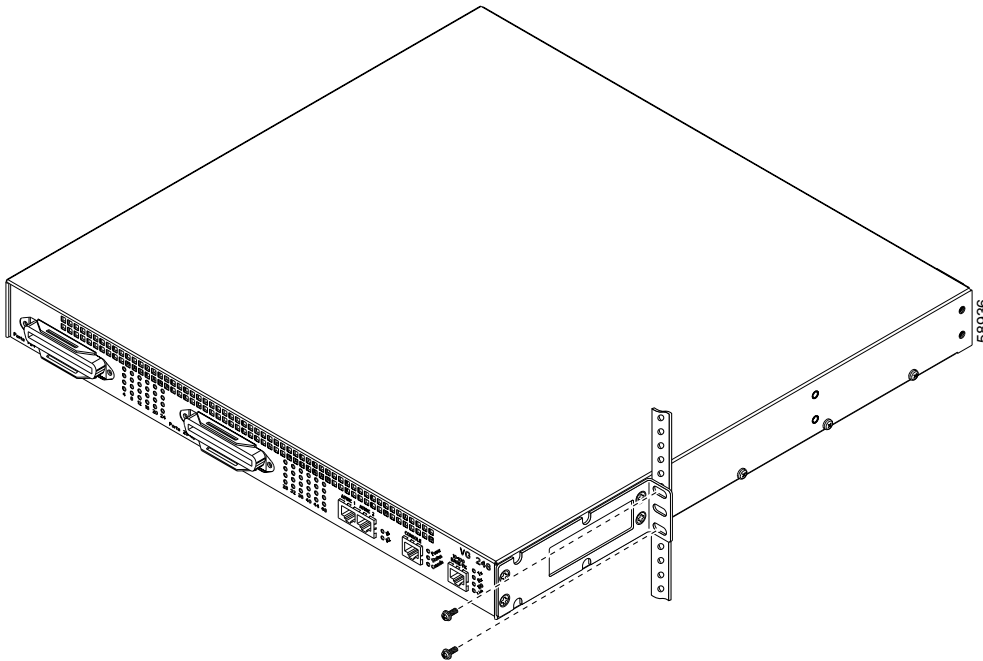


Figure 3-2 Bracket Installation—Rear Panel Forward

Putting the VG248 in a Rack

After the brackets are secured to the chassis, you can rack-mount it (Figure 3-3).

Figure 3-3 Mounting the VG248 in a Rack



-
- Step 1** Lift the VG248 and align the mounting holes in the L brackets with the mounting holes in the rack.
- Step 2** Secure the chassis by inserting the mounting screws through the holes in the L brackets and into the threaded posts in the mounting posts.
-

Setting the VG248 on a Shelf or Table

Before setting the VG248 on a desktop, shelf, or other flat, secure surface, adhere the rubber feet included with the VG248. To attach them to the chassis, peel the rubber feet from the adhesive strip and place them adhesive-side down onto the round, recessed areas on the bottom of the chassis. Place the VG248 right-side up on a flat, smooth, secure surface.

Connecting the VG248 to the Network

You must connect the VG248 to the other IP telephony systems in the network, such as Cisco CallManager.

Review these sections before connecting the VG248:

- Connecting to the Ethernet Port, page 3-6
- Connecting to the Console Port, page 3-7
- Connecting to the FXS Telco Connectors, page 3-10
- Connecting Power, page 3-10

Connecting to the Ethernet Port

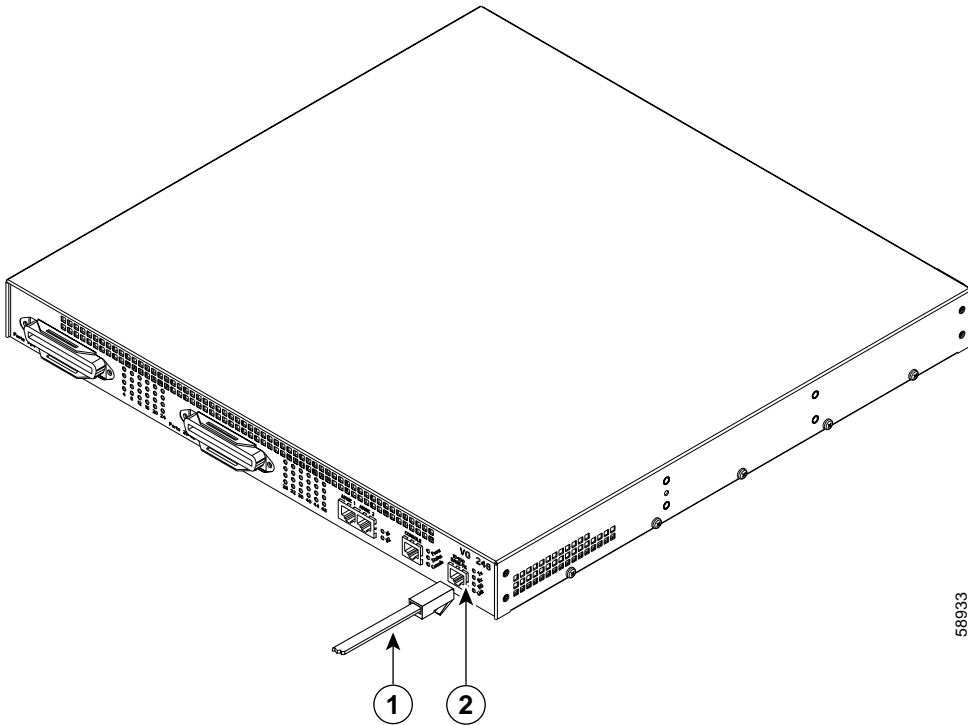
Use the Ethernet port to connect the VG248 to the IP network to access Cisco CallManager (see Figure 3-4). The VG248 supports half- or full-duplex Ethernet operation.



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.

Figure 3-4 Connecting to the Ethernet Port



1	Ethernet cable	2	Ethernet port
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Connecting to the Console Port

Use the console port to connect the VG248 to a console terminal for configuration and management tasks (see Figure 3-5).

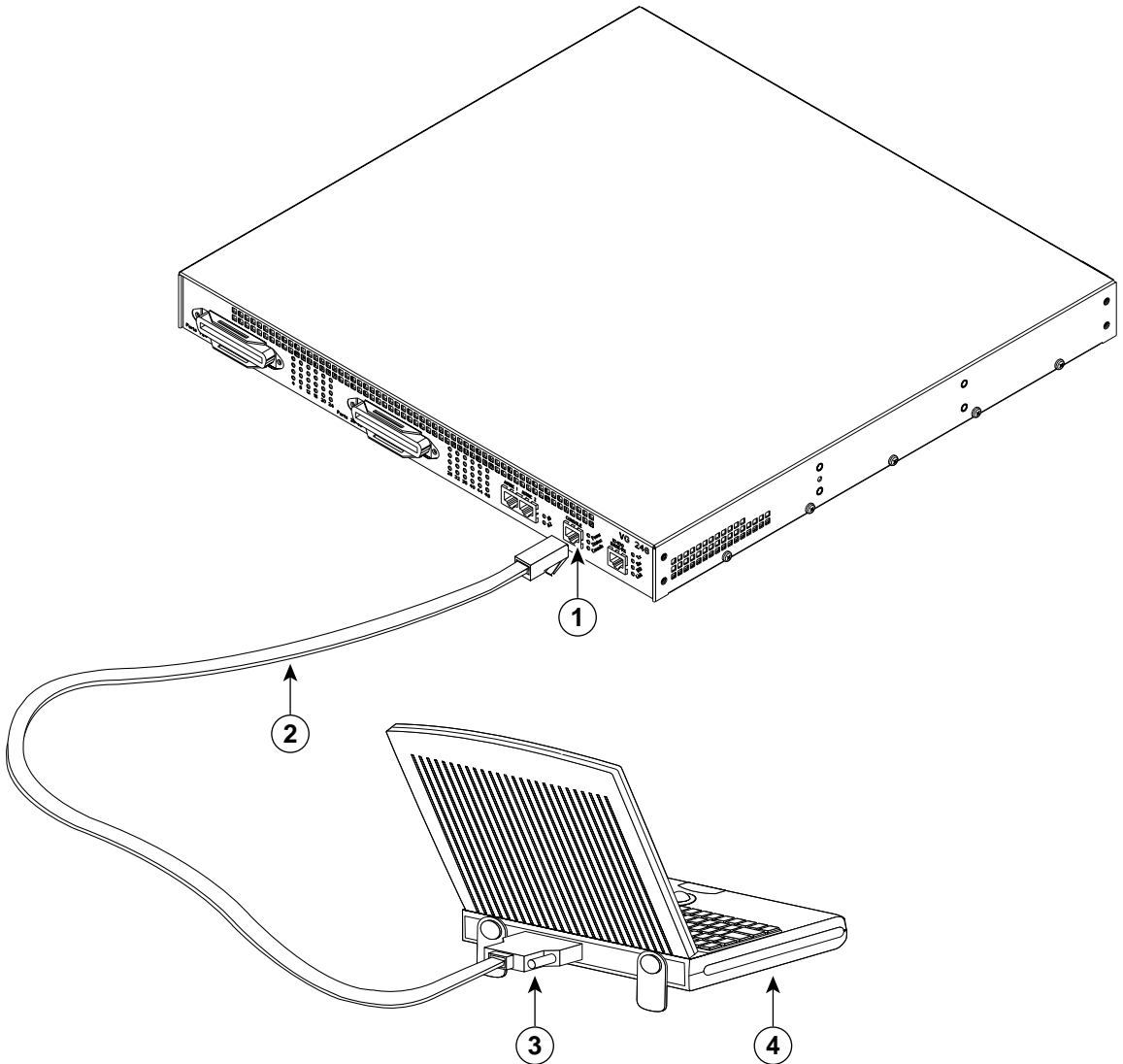
To connect the VG248 to a terminal, perform these steps:

- Step 1** Connect the terminal using an RJ-45-to-RJ-45 rollover cable and an RJ-45-to-DB-9 adapter, included with the VG248.

Step 2 Configure your terminal or PC terminal emulation software for the following settings:

Setting	Value
Baud	9600
Data bits	8
Parity	No
Stop bits	1

Figure 3-5 Connecting the VG248 to a Console Terminal

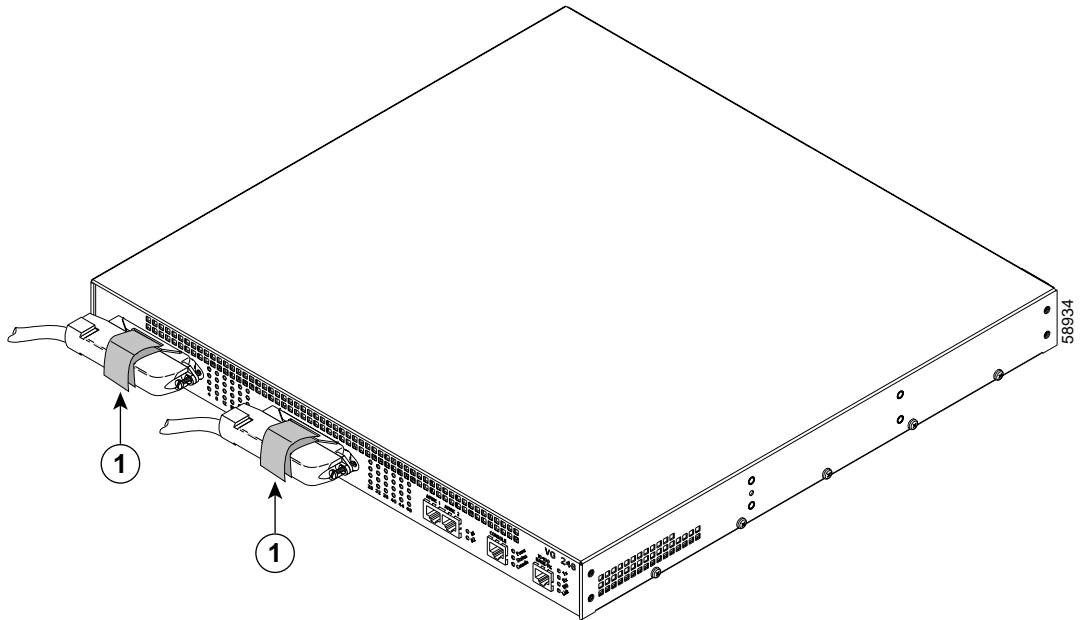


1	Console port (RJ-45)	2	RJ-45 to RJ-45 rollover cable
3	RJ-45 to DB-9 or RJ-45 to DB-25 adapter	4	Laptop computer or terminal

Connecting to the FXS Telco Connectors

Use one of the two 24-port FXS telco connectors to connect the VG248 to the analog devices (see Figure 3-6).

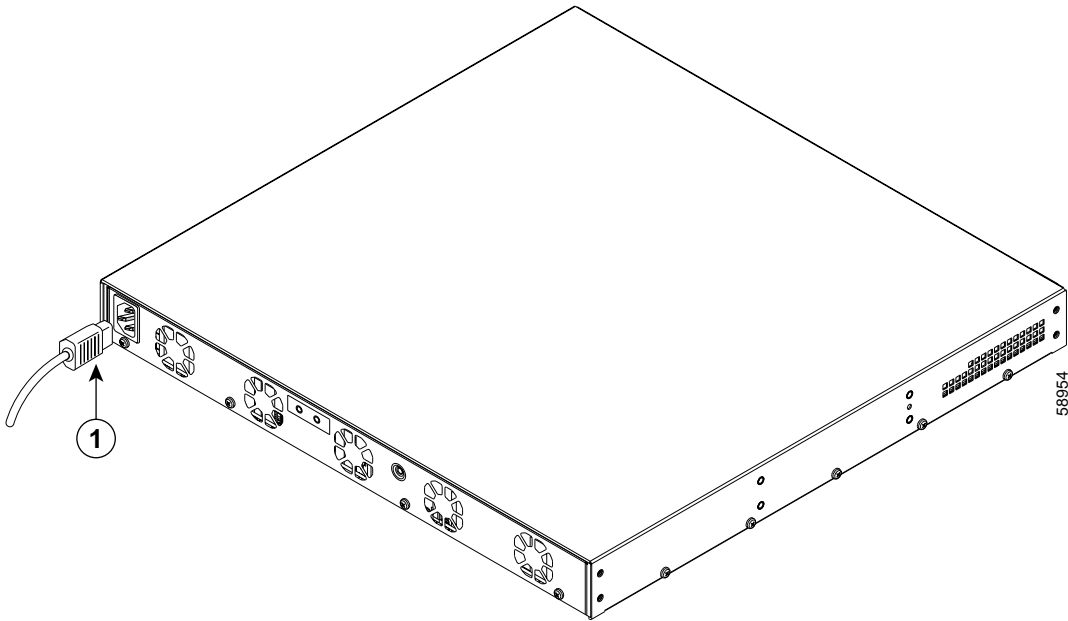
Figure 3-6 Connecting to the Telco Connectors on the VG248



1	FXS telco connectors
---	----------------------

Connecting Power

Provide power to the VG248 by plugging the power cord (included) into the AC power adapter on the rear panel (see Figure 3-7).

Figure 3-7 Connecting Power

1	Power Cord
---	------------

Verifying Installation

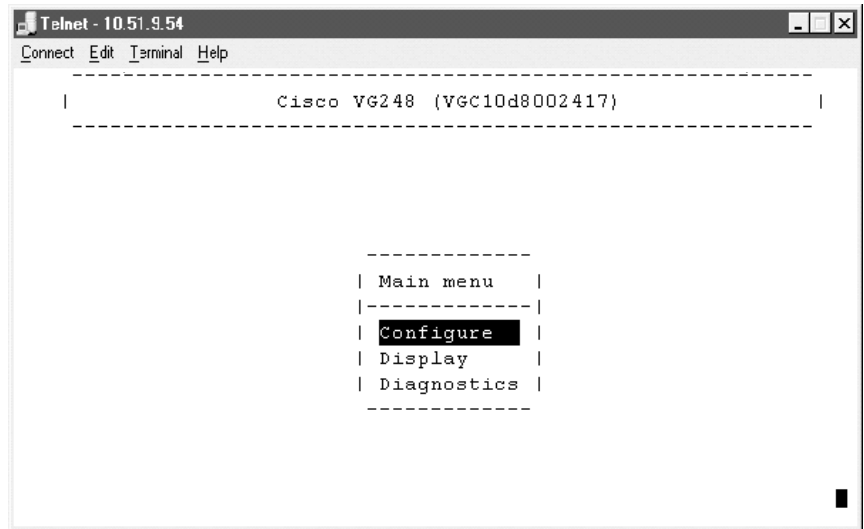
After you complete installation of the VG248 and have connected power to it, connect a console terminal to observe its initial startup procedure. You can only observe these initial startup messages when connected to the console port. Initially, the device uses DHCP by default, but you can reconfigure this after startup.

The startup process proceeds as follows:

1. Loads boot loader software image and starts up the VG248.
2. Performs self tests on the hardware, indicating whether the component passed; for example:


```
Testing RAM.....passed
Testing FLASH...passed
Testing EEPROM...passed
Testing Ethernet..passed
```
3. Pauses for 10 seconds, allowing you to perform the following tasks:
 - Initiate an FTP session to upgrade main software image before it loads, allowing recovery from a previous failed upgrade.
 - Press **Esc** on the console terminal to access the boot loader menu.
4. Loads the main software image and displays the main menu (see Figure 3-8):

Figure 3-8 VG248 Main Menu



If the main software menu displays successfully, you can begin configuring the device as described in the *Cisco VG248 Software Configuration Guide*.

If the menu does not display properly, verify your connections and follow suggestions in the *Cisco VG248 Software Configuration Guide*.



Regulatory Compliance and Technical Specifications

These sections provide regulatory compliance and technical specifications for the VG248:

- Regulatory Compliance, page A-1
- Technical Specifications, page A-4

Regulatory Compliance

The VG248 meets the following regulatory compliance:

Item	Description
Regulatory Compliance	Product will bear CE Marking indicating compliance with the 89/366/EEC, 73/23/EEC directive, which includes the following safety and EMC standards.
Safety	UL 1950, CSA C22.2 No. 950, EN 60950, IEC 60950, AS/NZS 3260, TS 001
EMC	FCC Part 15 (CFR 47) Class A, ICES 003 Class A, CISPR22 Class A, AS/NZS 3548 Class A, VCCI Class A, EN55022 Class A, EN 55024, EN 50082-1, ETS 300 386, EN 61000-3-2, EN 61000-3-3

EMC Environmental conditions for product to be installed in the European Union.

This equipment is intended to operate under the following environmental conditions with respect to EMC:

1. A separate defined location under user's control.
2. Earthing and bonding shall meet the requirements of ETS 300 253 or CCITT K27.
3. Where applicable, AC power distribution shall be one of the following types: TN-S and TN-C [as defined in IEC 364-3].

In addition, if equipment is operated in a domestic environment, interference may occur.

EMI Class A Warnings

(FCC) Class A Warning



Warning

Modifying the equipment without Cisco's authorization may result in the equipment no longer complying with FCC requirements for Class A or Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense. [cfr reference 15.21]



Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. [cfr reference 15.105]

Canada Class A Warning

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

63114

(CISPR 22) Class A Warning**Warning**

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Japan (VCCI)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

**Warning**

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Taiwan (BSMI) Class A Warning

警告使用者：這是甲類資訊產品，在居住環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

**Warning**

This is a Class A Information Product, when used in residential environment, it may cause radio frequency interference, under such circumstances, the user may be requested to take appropriate countermeasures.

Hungarian Class A Warning:

Figyelmeztetés a felhasználói kézikönyv számára: Ez a berendezés "A" osztályú termék, felhasználására és üzembe helyezésére a magyar EMC "A" osztályú követelményeknek (MSZ EN 55022) megfelelően kerülhet sor, illetve ezen "A" osztályú berendezések csak megfelelő kereskedelmi forrásból származhatnak, amelyek biztosítják a megfelelő speciális üzembe helyezési körülményeket és biztonságos üzemelési távolságok alkalmazását.

51265

**Warning**

This equipment is a class A product and should be used and installed properly according to the Hungarian EMC Class A requirements (MSZEN55022), the Class A equipment are derived for typical commercial establishments for which special conditions of installation and protection distance are used.

Technical Specifications

Table A-1 includes the physical and operating specifications of the VG248.

Table A-1 Cisco VG248 Specifications

Specification	Value or Range
Dimensions (H x W x D)	1.75 x 17.25 x 16.75 inches
Weight	6.6kg(14lbs 9oz)
Power	100-240 VAC, 50-60 Hz
Operating environment	0° to 40° C (32° to 104° F), 10% to 95% non-condensing humidity
Nonoperating environment	-10° to 60° C (14° to 140° F)
Talk battery	-35V
Ringing voltage	50V rms with a 15V DC offset
Loop current	21mA



Translated Safety Warnings

These sections include the translations for the safety warnings used in this guide.

Warning Definition for Installation Guides



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. (To see translations of the warnings that appear in this publication, refer to the appendix “Translated Safety Warnings.”)

Waarschuwing

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. (Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het aanhangsel “Translated Safety Warnings” (Vertalingen van veiligheidsvoorschriften) raadplegen.)

Varoitus	Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. (Tässä julkaisussa esiintyvien varoitusten käännökset löydät liitteestä "Translated Safety Warnings" (käännetyt turvallisuutta koskevat varoitukset).)
Attention	Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures. Avant d'accéder à cet équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures courantes de prévention des accidents. Pour obtenir les traductions des mises en garde figurant dans cette publication, veuillez consulter l'annexe intitulée « Translated Safety Warnings » (Traduction des avis de sécurité).
Warnung	Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. (Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Anhang mit dem Titel "Translated Safety Warnings" (Übersetzung der Warnhinweise).)
Avvertenza	Questo simbolo di avvertenza indica un pericolo. Si è in una situazione che può causare infortuni. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nell'appendice, "Translated Safety Warnings" (Traduzione delle avvertenze di sicurezza).

Advarsel	Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. (Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i vedlegget "Translated Safety Warnings" [Oversatte sikkerhetsadvarsler].)
Aviso	Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. (Para ver as traduções dos avisos que constam desta publicação, consulte o apêndice "Translated Safety Warnings" - "Traduções dos Avisos de Segurança").
¡Advertencia!	Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. (Para ver traducciones de las advertencias que aparecen en esta publicación, consultar el apéndice titulado "Translated Safety Warnings.")
Varning!	Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. (Se förklaringar av de varningar som förekommer i denna publikation i appendix "Translated Safety Warnings" [Översatta säkerhetsvarningar].)

Qualified Personnel Warning



Warning	Only trained and qualified personnel should be allowed to install or replace this equipment.
Waarschuwing	Installatie en reparaties mogen uitsluitend door getraind en bevoegd personeel uitgevoerd worden.
Varoitus	Ainoastaan koulutettu ja pätevä henkilökunta saa asentaa tai vaihtaa tämän laitteen.
Avertissement	Tout installation ou remplacement de l'appareil doit être réalisé par du personnel qualifié et compétent.
Achtung	Gerät nur von geschultem, qualifiziertem Personal installieren oder auswechseln lassen.
Avvertenza	Solo personale addestrato e qualificato deve essere autorizzato ad installare o sostituire questo apparecchio.
Advarsel	Kun kvalifisert personell med riktig opplæring bør montere eller bytte ut dette utstyret.
Aviso	Este equipamento deverá ser instalado ou substituído apenas por pessoal devidamente treinado e qualificado.
¡Atención!	Estos equipos deben ser instalados y reemplazados exclusivamente por personal técnico adecuadamente preparado y capacitado.
Varning	Denna utrustning ska endast installeras och bytas ut av utbildad och kvalificerad personal.

Installation Warning



Warning	Read the installation instructions before you connect the system to its power source.
Waarschuwing	Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.
Varoitus	Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.
Attention	Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.
Warnung	Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.
Avvertenza	Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.
Advarsel	Les installasjonsinstruksjonene før systemet kobles til strømkilden.
Aviso	Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.
¡Advertencia!	Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.
Varning!	Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

Restricted Area Warning



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.

Waarschuwing

Dit toestel is bedoeld voor installatie op plaatsen met beperkte toegang. Een plaats met beperkte toegang is een plaats waar toegang slechts door servicepersoneel verkregen kan worden door middel van een speciaal instrument, een slot en sleutel, of een ander veiligheidsmiddel, en welke beheerd wordt door de overheidsinstantie die verantwoordelijk is voor de locatie.

Varoitus

Tämä laite on tarkoitettu asennettavaksi paikkaan, johon pääsy on rajoitettua. Paikka, johon pääsy on rajoitettua, tarkoittaa paikkaa, johon vain huoltohenkilöstö pääsee jonkin erikoistyökalun, lukkoon sopivan avaimen tai jonkin muun turvalaitteen avulla ja joka on paikasta vastuussa olevien toimivaltaisten henkilöiden valvoma.

Attention

Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité. L'accès aux zones de sécurité est sous le contrôle de l'autorité responsable de l'emplacement.

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu dem nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüssel oder anderer Sicherheitsvorkehrungen Zugang hat, und der von dem für die Anlage zuständigen Gremium kontrolliert wird.

Avvertenza	Questa unità deve essere installata in un'area ad accesso limitato. Un'area ad accesso limitato è un'area accessibile solo a personale di assistenza tramite un'attrezzo speciale, lucchetto, o altri dispositivi di sicurezza, ed è controllata dall'autorità responsabile della zona.
Advarsel	Denne enheten er laget for installasjon i områder med begrenset adgang. Et område med begrenset adgang gir kun adgang til servicepersonale som bruker et spesielt verktøy, lås og nøkkel, eller en annen sikkerhetsanordning, og det kontrolleres av den autoriteten som er ansvarlig for området.
Aviso	Esta unidade foi concebida para instalação em áreas de acesso restrito. Uma área de acesso restrito é uma área à qual apenas tem acesso o pessoal de serviço autorizado, que possui uma ferramenta, chave e fechadura especial, ou qualquer outra forma de segurança. Esta área é controlada pela autoridade responsável pelo local.
¡Advertencia!	Esta unidad ha sido diseñada para instalarse en áreas de acceso restringido. Área de acceso restringido significa un área a la que solamente tiene acceso el personal de servicio mediante la utilización de una herramienta especial, cerradura con llave, o algún otro medio de seguridad, y que está bajo el control de la autoridad responsable del local.
Varning!	Denna enhet är avsedd för installation i områden med begränsat tillträde. Ett område med begränsat tillträde får endast tillträdas av servicepersonal med ett speciellt verktyg, lås och nyckel, eller annan säkerhetsanordning, och kontrolleras av den auktoritet som ansvarar för området.

Circuit Breaker (15A) Warning



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. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

Waarschuwing

Dit produkt is afhankelijk van de installatie van het gebouw voor kortsluit- (overstroom) beveiliging. Controleer of er een zekering of stroomverbreker van niet meer dan 120 Volt wisselstroom, 15 A voor de V.S. (240 Volt wisselstroom, 10 A internationaal) gebruikt wordt op de fasegeleiders (alle geleiders die stroom voeren).

Varoitus

Tämä tuote on riippuvainen rakennukseen asennetusta oikosulkusuojuksesta (ylivirtasuojauksesta). Varmista, että vaihevirtajohtimissa (kaikissa virroitetuissa johtimissa) käytetään Yhdysvalloissa alle 120 voltin, 15 ampeerin ja monissa muissa maissa 240 voltin, 10 ampeerin sulaketta tai suojakytintä.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifier qu'un fusible ou qu'un disjoncteur de 120 V alt., 15 A U.S. maximum (240 V alt., 10 A international) est utilisé sur les conducteurs de phase (conducteurs de charge).

Warnung

Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 10 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.

- Avvertenza** Questo prodotto dipende dall'installazione dell'edificio per quanto riguarda la protezione contro cortocircuiti (sovracorrente). Verificare che un fusibile o interruttore automatico, non superiore a 120 VCA, 15 A U.S. (240 VCA, 10 A internazionale) sia stato usato nei fili di fase (tutti i conduttori portatori di corrente).
- Advarsel** Dette produktet er avhengig av bygningens installasjoner av kortslutningsbeskyttelse (overstrøm). Kontroller at det brukes en sikring eller strømbryter som ikke er større enn 120 VAC, 15 A (USA) (240 VAC, 10 A internasjonalt) på faselederne (alle strømførende ledere).
- Aviso** Este produto depende das instalações existentes para protecção contra curto-circuito (sobrecarga). Assegure-se de que um fusível ou disjuntor não superior a 240 VAC, 10A é utilizado nos condutores de fase (todos os condutores de transporte de corrente).
- ¡Advertencia!** Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del propio edificio. Asegurarse de que se utiliza un fusible o interruptor automático de no más de 240 voltios en corriente alterna (VAC), 10 amperios del estándar internacional (120 VAC, 15 amperios del estándar USA) en los hilos de fase (todos aquellos portadores de corriente).
- Varning!** Denna produkt är beroende av i byggnaden installerat kortslutningsskydd (överströmsskydd). Kontrollera att säkring eller överspänningsskydd används på fasledarna (samtliga strömförande ledare) för internationellt bruk max. 240 V växelström, 10 A (i USA max. 120 V växelström, 15 A).

Battery Handling Warning



Warning

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Waarschuwing

Er is ontploffingsgevaar als de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type dat door de fabrikant aanbevolen is. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften weggegooid te worden.

Varoitus

Räjähdyksen vaara, jos akku on vaihdettu väärään akkuun. Käytä vaihtamiseen ainoastaan saman- tai vastaavantyyppistä akkua, joka on valmistajan suosittelema. Hävitä käytetyt akut valmistajan ohjeiden mukaan.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

Warnung

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Avvertenza

Pericolo di esplosione se la batteria non è installata correttamente. Sostituire solo con una di tipo uguale o equivalente, consigliata dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

Advarsel	Det kan være fare for eksplosjon hvis batteriet skiftes på feil måte. Skift kun med samme eller tilsvarende type som er anbefalt av produsenten. Kasser brukte batterier i henhold til produsentens instruksjoner.
Aviso	Existe perigo de explosão se a bateria for substituída incorrectamente. Substitua a bateria por uma bateria igual ou de um tipo equivalente recomendado pelo fabricante. Destrua as baterias usadas conforme as instruções do fabricante.
¡Advertencia!	Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.
Varning!	Explosionsfara vid felaktigt batteribyte. Ersätt endast batteriet med samma batterityp som rekommenderas av tillverkaren eller motsvarande. Följ tillverkarens anvisningar vid kassering av använda batterier.

Ground Conductor Warning



Warning

Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Waarschuwing

De aardingsleiding mag nooit buiten werking gesteld worden en de apparatuur mag nooit bediend worden zonder dat er een op de juiste wijze geïnstalleerde aardingsleiding aanwezig is. Neem contact op met de bevoegde instantie voor elektrische inspecties of met een electricien als u er niet zeker van bent dat er voor passende aarding gezorgd is.

Varoitus	Älä koskaan ohita maajohdinta tai käytä laitteita ilman oikein asennettua maajohdinta. Ota yhteyttä asianmukaiseen sähkötarkastusviranomaiseen tai sähköasentajaan, jos olet epävarma maadoituksen sopivuudesta.
Attention	Ne jamais rendre inopérant le conducteur de masse ni utiliser l'équipement sans un conducteur de masse adéquatement installé. En cas de doute sur la mise à la masse appropriée disponible, s'adresser à l'organisme responsable de la sécurité électrique ou à un électricien.
Warnung	Auf keinen Fall den Erdungsleiter unwirksam machen oder das Gerät ohne einen sachgerecht installierten Erdungsleiter verwenden. Wenn Sie sich nicht sicher sind, ob eine sachgerechte Erdung vorhanden ist, wenden Sie sich an den zuständigen elektrischen Fachmann oder einen Elektriker.
Avvertenza	Non escludere mai il conduttore di protezione né usare l'apparecchiatura in assenza di un conduttore di protezione installato in modo corretto. Se non si sa con certezza che è disponibile un collegamento di messa a terra adeguato, esaminare le Norme CEI pertinenti o rivolgersi a un elettricista qualificato.
Advarsel	Omgå aldri jordingslederen og bruk aldri utstyret uten riktig montert jordingsleder. Ta kontakt med det riktige organet for elektrisk inspeksjon eller en elektriker hvis du er usikker på om det finnes velegnet jording.
Aviso	Nunca anule o condutor à terra nem opere o equipamento sem ter um condutor à terra adequadamente instalado. Em caso de dúvida em relação ao sistema de ligação à terra, contacte os serviços locais de inspeção eléctrica ou um electricista qualificado.

- ¡Advertencia!** **No inhabilitar nunca el conductor de tierra ni hacer funcionar el equipo si no existe un conductor de tierra instalado correctamente. Póngase en contacto con una autoridad apropiada de inspección eléctrica o con un electricista competente si no está seguro de que hay una conexión a tierra adecuada.**
- Varning!** **Koppla aldrig från jordledningen och använd aldrig utrustningen utan en på lämpligt sätt installerad jordledning. Om det föreligger osäkerhet huruvida lämplig jordning finns skall elektrisk besiktningsauktoritet eller elektriker kontaktas.**
-

Main Disconnecting Device



Warning

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

Waarschuwing

De combinatie van de stekker en het elektrisch contactpunt moet te allen tijde toegankelijk zijn omdat deze het hoofdmecanisme vormt voor verbreking van de aansluiting.

Varoitus

Pistoke/liitinkohta toimii pääkatkaisumekanismina. Pääsy siihen on pidettävä aina esteettömänä.

Attention

La combinaison de prise de courant doit être accessible à tout moment parce qu'elle fait office de système principal de déconnexion.

Warnung

Der Netzkabelanschluß am Gerät muß jederzeit zugänglich sein, weil er als primäre Ausschaltvorrichtung dient.

Avvertenza

Il gruppo spina-presa deve essere sempre accessibile, poiché viene utilizzato come dispositivo di scollegamento principale.

Advarsel	Kombinasjonen støpsel/uttak må alltid være tilgjengelig ettersom den fungerer som hovedfrakoplingsenhet.
Aviso	A combinação ficha-tomada deverá ser sempre acessível, porque funciona como interruptor principal.
¡Advertencia!	El conjunto de clavija y toma ha de encontrarse siempre accesible ya que hace las veces de dispositivo de desconexión principal.
Varning!	Man måste alltid kunna komma åt stickproppen i uttaget, ettersom denna koppling utgör den huvudsakliga fråkopplingsanordningen.

Product Disposal Warning



Warning	Ultimate disposal of this product should be handled according to all national laws and regulations.
Waarschuwing	Het uiteindelijke wegruimen van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.
Varoitus	Tämä tuote on hävitettävä kansallisten lakien ja määräysten mukaisesti.
Attention	La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.
Warnung	Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.
Avvertenza	Lo smaltimento di questo prodotto deve essere eseguito secondo le leggi e regolazioni locali.

Advarsel	Endelig kassering av dette produktet skal være i henhold til alle relevante nasjonale lover og bestemmelser.
Aviso	Deitar fora este produto em conformidade com todas as leis e regulamentos nacionais.
¡Advertencia!	Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.
Varning!	Vid deponering hanteras produkten enligt gällande lagar och bestämmelser.

Restricted Area Warning



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.

Waarschuwing

Dit toestel is bedoeld voor installatie op plaatsen met beperkte toegang. Een plaats met beperkte toegang is een plaats waar toegang slechts door servicepersoneel verkregen kan worden door middel van een speciaal instrument, een slot en sleutel, of een ander veiligheidsmiddel, en welke beheerd wordt door de overheidsinstantie die verantwoordelijk is voor de locatie.

Varoitus

Tämä laite on tarkoitettu asennettavaksi paikkaan, johon pääsy on rajoitettua. Paikka, johon pääsy on rajoitettua, tarkoittaa paikkaa, johon vain huoltohenkilöstö pääsee jonkin erikoistyökalun, lukkoon sopivan avaimen tai jonkin muun turvalaitteen avulla ja joka on paikasta vastuussa olevien toimivaltaisten henkilöiden valvoma.

Attention	Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité. L'accès aux zones de sécurité est sous le contrôle de l'autorité responsable de l'emplacement.
Warnung	Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu dem nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüssel oder anderer Sicherheitsvorkehrungen Zugang hat, und der von dem für die Anlage zuständigen Gremium kontrolliert wird.
Avvertenza	Questa unità deve essere installata in un'area ad accesso limitato. Un'area ad accesso limitato è un'area accessibile solo a personale di assistenza tramite un'attrezzo speciale, lucchetto, o altri dispositivi di sicurezza, ed è controllata dall'autorità responsabile della zona.
Advarsel	Denne enheten er laget for installasjon i områder med begrenset adgang. Et område med begrenset adgang gir kun adgang til servicepersonale som bruker et spesielt verktøy, lås og nøkkel, eller en annen sikkerhetsanordning, og det kontrolleres av den autoriteten som er ansvarlig for området.
Aviso	Esta unidade foi concebida para instalação em áreas de acesso restrito. Uma área de acesso restrito é uma área à qual apenas tem acesso o pessoal de serviço autorizado, que possua uma ferramenta, chave e fechadura especial, ou qualquer outra forma de segurança. Esta área é controlada pela autoridade responsável pelo local.

- ¡Advertencia!** Esta unidad ha sido diseñada para instalarse en áreas de acceso restringido. Área de acceso restringido significa un área a la que solamente tiene acceso el personal de servicio mediante la utilización de una herramienta especial, cerradura con llave, o algún otro medio de seguridad, y que está bajo el control de la autoridad responsable del local.
- Varning!** Denna enhet är avsedd för installation i områden med begränsat tillträde. Ett område med begränsat tillträde får endast tillträdas av servicepersonal med ett speciellt verktyg, lås och nyckel, eller annan säkerhetsanordning, och kontrolleras av den auktoritet som ansvarar för området.
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No On/Off Switch Warning



Warning

Unplug the power cord before you work on a system that does not have an on/off switch.

Waarschuwing

Voordat u aan een systeem werkt dat geen aan/uit schakelaar heeft, dient u de stekker van het netsnoer uit het stopcontact te halen.

Varoitus

Ennen kuin teet mitään sellaiselle järjestelmälle, jossa ei ole kaksiasentokytkintä, kytke irti virtajohto.

Attention

Avant de travailler sur un système non équipé d'un commutateur marche-arrêt, débrancher le cordon d'alimentation.

Warnung

Bevor Sie an einem System ohne Ein/Aus-Schalter arbeiten, ziehen Sie das Netzkabel heraus.

Avvertenza

Prima di lavorare su un sistema che non è dotato di un interruttore on/off, scollegare il cavo di alimentazione.

Advarsel	Før det skal utføres arbeid på et system som ikke har en av/på-bryter, skal strømledningen trekkes ut.
Aviso	Antes de começar a trabalhar num sistema que não possua um interruptor ON/OFF, desligue o cabo de alimentação.
¡Advertencia!	Antes de trabajar sobre cualquier sistema que carezca de interruptor de Encendido/Apagado (ON/OFF), desenchufar el cable de alimentación.
Varning!	Dra ur nätsladden innan du utför arbete på ett system utan strömbrytare.

Main Disconnecting Device



Warning	The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.
Waarschuwing	De combinatie van de stekker en het elektrisch contactpunt moet te allen tijde toegankelijk zijn omdat deze het hoofdmechanisme vormt voor verbreking van de aansluiting.
Varoitus	Pistoke/liitinkohta toimii pääkatkaisumekanismina. Pääsy siihen on pidettävä aina esteettömänä.
Attention	La combinaison de prise de courant doit être accessible à tout moment parce qu'elle fait office de système principal de déconnexion.
Warnung	Der Netzkabelanschluß am Gerät muß jederzeit zugänglich sein, weil er als primäre Ausschaltvorrichtung dient.
Avvertenza	Il gruppo spina-presa deve essere sempre accessibile, poiché viene utilizzato come dispositivo di scollegamento principale.

Advarsel	Kombinasjonen støpsel/uttak må alltid være tilgjengelig ettersom den fungerer som hovedfrakoplingsenhet.
Aviso	A combinação ficha-tomada deverá ser sempre acessível, porque funciona como interruptor principal.
¡Advertencia!	El conjunto de clavija y toma ha de encontrarse siempre accesible ya que hace las veces de dispositivo de desconexión principal.
Varning!	Man måste alltid kunna komma åt stickproppen i uttaget, eftersom denna koppling utgör den huvudsakliga frånkopplingsanordningen.

Safety Cover Requirement



Warning

The safety cover is an integral part of the product. Do not operate the unit without the safety cover installed. Operating the unit without the cover in place will invalidate the safety approvals and pose a risk of fire and electrical hazards.

Waarschuwing

Het beveiligingsdeksel is een integraal onderdeel van het product. Deze eenheid niet bedienen als het beveiligingsdeksel niet geïnstalleerd is. Als het deksel niet op zijn plaats is tijdens de bediening, zal dit de veiligheidsaanbevelingen ongeldig maken en een risico op brand en elektrische gevaren vormen.

Varoitus

Suojakansi on tärkeä osa tuotetta. Yksikköä ei saa käyttää ilman suojakantta. Yksikön käyttö ilman suojakantta mitätöi turvallisuushyväksynnät ja aiheuttaa tulipalon ja sähköiskun vaaran.

- Attention** Le plateau de sécurité est une partie intégrante du produit. Pour éviter tout risque de feu ou d'accident électrique, n'utilisez jamais l'unité lorsque ce plateau n'est pas installé. Les garanties de sécurité seraient annulées.
- Warnung** Die Sicherheitsabdeckung ist integraler Bestandteil des Produkts. Die Einheit darf nicht ohne installierte Sicherheitsabdeckung betrieben werden. Ein Betreiben der Einheit ohne korrekt installierte Abdeckung verstößt gegen die Sicherheitsnormen und führt zu Brandgefahr sowie elektrischen Sicherheitsrisiken.
- Avvertenza** **Attenzione:** Il pannello di sicurezza è parte integrante del prodotto. Non fate funzionare il sistema senza il pannello di sicurezza. Far funzionare il sistema senza il pannello invaliderà le certificazioni di sicurezza e può dare luogo a rischi di incendio e a cortocircuiti.
- Advarsel** Dette sikkerhetsdekslet er en integral del av produktet. Enheten skal ikke brukes uten at sikkerhetsdekslet er montert. Bruk av enheten uten at sikkerhetsdekslet sitter på plass, vil ugyldiggjøre sikkerhetsgodkjenningene, og kan dessuten utgjøre fare for brann og faremomenter i forbindelse med elektrisitet.
- Aviso** A cobertura de segurança é uma parte integral do produto. Não opere a unidade sem a respectiva cobertura de segurança instalada. Operar a unidade sem esta cobertura anulará as aprovações de segurança e constituirá um risco de incêndio e perigo eléctrico.

- ¡Advertencia!** La cubierta de seguridad forma parte integral del producto. No haga funcionar este producto sin la cubierta de seguridad instalada, de lo contrario se invalidarían las aprobaciones de seguridad y se correría el riesgo de incendio o de descargas eléctricas.
- Varning!** Skyddshuven är en väsentlig del av produkten. Använd inte enheten utan installerad skyddshuv. Om enheten används utan skyddshuven på plats upphävs alla säkerhetsgodkännanden och risk för brandfara och elektrisk fara föreligger.

Jewelry Removal Warning



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 weld the metal object to the terminals.

Waarschuwing

Alvorens aan apparatuur te werken die met elektrische leidingen is verbonden, sieraden (inclusief ringen, kettingen en horloges) verwijderen. Metalen voorwerpen worden warm wanneer ze met stroom en aarde zijn verbonden, en kunnen ernstige brandwonden veroorzaken of het metalen voorwerp aan de aansluitklemmen lassen.

Varoitus

Ennen kuin työskentelet voimavirtajohtoihin kytkettyjen laitteiden parissa, ota pois kaikki korut (sormukset, kaulakorut ja kellot mukaan lukien). Metalliesineet kuumenevat, kun ne ovat yhteydessä sähkövirran ja maan kanssa, ja ne voivat aiheuttaa vakavia palovammoja tai hitsata metalliesineet kiinni liitäntänapoihin.

Attention	Avant d'accéder à cet équipement connecté aux lignes électriques, ôter tout bijou (anneaux, colliers et montres compris). Lorsqu'ils sont branchés à l'alimentation et reliés à la terre, les objets métalliques chauffent, ce qui peut provoquer des blessures graves ou souder l'objet métallique aux bornes.
Warnung	Vor der Arbeit an Geräten, die an das Netz angeschlossen sind, jeglichen Schmuck (einschließlich Ringe, Ketten und Uhren) abnehmen. Metallgegenstände erhitzen sich, wenn sie an das Netz und die Erde angeschlossen werden, und können schwere Verbrennungen verursachen oder an die Anschlußklemmen angeschweißt werden.
Avvertenza	Prima di intervenire su apparecchiature collegate alle linee di alimentazione, togliersi qualsiasi monile (inclusi anelli, collane, braccialetti ed orologi). Gli oggetti metallici si riscaldano quando sono collegati tra punti di alimentazione e massa: possono causare ustioni gravi oppure il metallo può saldarsi ai terminali.
Advarsel	Fjern alle smykker (inkludert ringer, halskjeder og klokker) før du skal arbeide på utstyr som er koblet til kraftledninger. Metallgjenstander som er koblet til kraftledninger og jord blir svært varme og kan forårsake alvorlige brannskader eller smelte fast til polene.
Aviso	Antes de trabalhar em equipamento que esteja ligado a linhas de corrente, retire todas as jóias que estiver a usar (incluindo anéis, fios e relógios). Os objectos metálicos aquecerão em contacto com a corrente e em contacto com a ligação à terra, podendo causar queimaduras graves ou ficarem soldados aos terminais.

- ¡Advertencia!** Antes de operar sobre equipos conectados a líneas de alimentación, quitarse las joyas (incluidos anillos, collares y relojes). Los objetos de metal se calientan cuando se conectan a la alimentación y a tierra, lo que puede ocasionar quemaduras graves o que los objetos metálicos queden soldados a los bornes.
- Varning!** Tag av alla smycken (inklusive ringar, halsband och armbandsur) innan du arbetar på utrustning som är kopplad till kraftledningar. Metallobjekt hettas upp när de kopplas ihop med ström och jord och kan förorsaka allvarliga brännskador; metallobjekt kan också sammansvetsas med kontakterna.
-

Lightning Activity Warning



Warning

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

Waarschuwing

Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.

Varoitus

Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.

Attention

Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.

Warnung

Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.

Avvertenza

Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.

Advarsel	Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lyner.
Aviso	Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).
¡Advertencia!	No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.
Varning!	Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.

SELV Circuit Warning



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.

Waarschuwing

Om elektrische schokken te vermijden, mogen veiligheidscircuits met extra lage spanning (genaamd SELV = Safety Extra-Low Voltage) niet met telefoonnetwerkspanning (TNV) circuits verbonden worden. LAN (Lokaal netwerk) poorten bevatten SELV circuits en WAN (Regionaal netwerk) poorten bevatten TNV circuits. Sommige LAN en WAN poorten gebruiken allebei RJ-45 connectors. Ga voorzichtig te werk wanneer u kabels verbindt.

Varoitus	Jotta välttyt sähköiskulta, älä kytke pienjännitteisiä SELV-suojapiirejä puhelinverkkojännitettä (TNV) käyttäviin virtapiireihin. LAN-portit sisältävät SELV-piirejä ja WAN-portit puhelinverkkojännitettä käyttäviä piirejä. Osa sekä LAN- että WAN-porteista käyttää RJ-45-liittimiä. Ole varovainen kytkiessäsi kaapeleita.
Attention	Pour éviter une électrocution, ne raccordez pas les circuits de sécurité basse tension (Safety Extra-Low Voltage ou SELV) à des circuits de tension de réseau téléphonique (Telephone Network Voltage ou TNV). Les ports du réseau local (LAN) contiennent des circuits SELV et les ports du réseau longue distance (WAN) sont munis de circuits TNV. Certains ports LAN et WAN utilisent des connecteurs RJ-45. Raccordez les câbles en prenant toutes les précautions nécessaires.
Warnung	Zur Vermeidung von Elektroschock die Sicherheits-Kleinspannungs-Stromkreise (SELV-Kreise) nicht an Fernsprechnetzspannungs-Stromkreise (TNV-Kreise) anschließen. LAN-Ports enthalten SELV-Kreise, und WAN-Ports enthalten TNV-Kreise. Einige LAN- und WAN-Ports verwenden auch RJ-45-Steckverbinder. Vorsicht beim Anschließen von Kabeln.
Avvertenza	Per evitare scosse elettriche, non collegare circuiti di sicurezza a tensione molto bassa (SELV) ai circuiti a tensione di rete telefonica (TNV). Le porte LAN contengono circuiti SELV e le porte WAN contengono circuiti TNV. Alcune porte LAN e WAN fanno uso di connettori RJ-45. Fare attenzione quando si collegano cavi.
Advarsel	Unngå å koble lavspenningskretser (SELV) til kretser for telenettspenning (TNV), slik at du unngår elektrisk støt. LAN-utganger inneholder SELV-kretser og WAN-utganger inneholder TNV-kretser. Det finnes både LAN-utganger og WAN-utganger som bruker RJ-45-kontakter. Vær forsiktig når du kobler kabler.

Aviso	Para evitar choques eléctricos, não conecte os circuitos de segurança de baixa tensão (SELV) aos circuitos de tensão de rede telefónica (TNV). As portas LAN contêm circuitos SELV e as portas WAN contêm circuitos TNV. Algumas portas LAN e WAN usam conectores RJ-45. Tenha o devido cuidado ao conectar os cabos.
¡Advertencia!	Para evitar la sacudida eléctrica, no conectar circuitos de seguridad de voltaje muy bajo (safety extra-low voltage = SELV) con circuitos de voltaje de red telefónica (telephone network voltage = TNV). Los puertos de redes de área local (local area network = LAN) contienen circuitos SELV, y los puertos de redes de área extendida (wide area network = WAN) contienen circuitos TNV. En algunos casos, tanto los puertos LAN como los WAN usan conectores RJ-45. Proceda con precaución al conectar los cables.
Varning!	För att undvika elektriska stötar, koppla inte säkerhetskretsar med extra låg spänning (SELV-kretsar) till kretsar med telefonnätspänning (TNV-kretsar). LAN-portar innehåller SELV-kretsar och WAN-portar innehåller TNV-kretsar. Vissa LAN- och WAN-portar är försedda med RJ-45-kontakter. Iaktta försiktighet vid anslutning av kablar.

TN Power Warning



Warning	The device is designed to work with TN power systems.
Waarschuwing	Het apparaat is ontworpen om te functioneren met TN energiesystemen.
Varoitus	Koje on suunniteltu toimimaan TN-sähkövoimajärjestelmien yhteydessä.

Attention	Ce dispositif a été conçu pour fonctionner avec des systèmes d'alimentation TN.
Warnung	Das Gerät ist für die Verwendung mit TN-Stromsystemen ausgelegt.
Avvertenza	Il dispositivo è stato progettato per l'uso con sistemi di alimentazione TN.
Advarsel	Utstyret er utfomet til bruk med TN-strømsystemer.
Aviso	O dispositivo foi criado para operar com sistemas de corrente TN.
¡Advertencia!	El equipo está diseñado para trabajar con sistemas de alimentación tipo TN.
Varning!	Enheten är konstruerad för användning tillsammans med elkraftssystem av TN-typ.

Service Personnel Warning



Warning	This equipment is to be installed and maintained by service personnel only as defined by AS/NZS 3260 Clause 1.2.14.3 Service Personnel.
Waarschuwing	Deze apparatuur mag slechts geïnstalleerd en onderhouden worden door servicepersoneel conform de definitie van AS/NZS 3260 Clausule 1.2.14.3 Service Personnel.
Varoitus	Tämän laitteen saa asentaa tai huoltaa ainoastaan Australiassa ja Uudessa Seelannissa sovellettavan AS/NZS 3260 -standardin kohdan 1.2.14.3 Service Personnel määrittelemä huoltohenkilöstö.

Attention	Cet équipement ne doit être installé et entretenu que par du personnel d'entretien comme défini par la réglementation AS/NZS 3260 Clause 1.2.14.3 Service Personnel.
Warnung	Dieses Gerät darf nur von Wartungspersonal gemäß AS/NZS-Definition 3260, Paragraph 1.2.14.3, "Service Personnel", installiert und gewartet werden.
Avvertenza	Questo apparecchio deve essere installato e mantenuto in efficienza esclusivamente da personale tecnico che soddisfi i requisiti specificati nella sezione 1.2.14.3 sul 'Service Personnel' contenuta nelle norme AS/NZS 3260.
Advarsel	Installasjon og vedlikehold av dette utstyret skal kun foretas av vedlikeholdspersonell som definert i AS/NZS 3260, klausul 1.2.14.3 Service Personnel.
Aviso	Este equipamento deverá ser instalado e reparado apenas por pessoal de manutenção qualificado, conforme estipulado em AS/NZS 3260 Cláusula 1.2.14.3 Service Personnel.
¡Advertencia!	Este equipo se debe instalar y mantener solamente por personal de servicio, según definido por AS/NZS 3260 Cláusula 1.2.14.3 Service Personnel.
Varning!	Installation och underhåll av denna utrustning får endast utföras av servicepersonal enligt definition i AS/NZS 3260 klausul 1.2.14.3 Service Personnel.

Chassis Warning—Rack-Mounting and Servicing



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:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Waarschuwing

Om lichamelijk letsel te voorkomen wanneer u dit toestel in een rek monteert of het daar een servicebeurt geeft, moet u speciale voorzorgsmaatregelen nemen om ervoor te zorgen dat het toestel stabiel blijft. De onderstaande richtlijnen worden verstrekt om uw veiligheid te verzekeren:

- Dit toestel dient onderaan in het rek gemonteerd te worden als het toestel het enige in het rek is.
- Wanneer u dit toestel in een gedeeltelijk gevuld rek monteert, dient u het rek van onderen naar boven te laden met het zwaarste onderdeel onderaan in het rek.
- Als het rek voorzien is van stabiliseringshulpmiddelen, dient u de stabilisatoren te monteren voordat u het toestel in het rek monteert of het daar een servicebeurt geeft.

Varoitus **Kun laite asetetaan telineeseen tai huolletaan sen ollessa telineessä, on noudatettava erityisiä varotoimia järjestelmän vakavuuden säilyttämiseksi, jotta vältetään loukkaantumiselta. Noudata seuraavia turvallisuusohjeita:**

- Jos telineessä ei ole muita laitteita, aseta laite telineen alaosaan.
- Jos laite asetetaan osaksi täytettyyn telineeseen, aloita kuormittaminen sen alaosasta kaikkein raskaimmalla esineellä ja siirry sitten sen yläosaan.
- Jos telinettä varten on vakaimet, asenna ne ennen laitteen asettamista telineeseen tai sen huoltamista siinä.

Attention **Pour éviter toute blessure corporelle pendant les opérations de montage ou de réparation de cette unité en casier, il convient de prendre des précautions spéciales afin de maintenir la stabilité du système. Les directives ci-dessous sont destinées à assurer la protection du personnel :**

- Si cette unité constitue la seule unité montée en casier, elle doit être placée dans le bas.
- Si cette unité est montée dans un casier partiellement rempli, charger le casier de bas en haut en plaçant l'élément le plus lourd dans le bas.
- Si le casier est équipé de dispositifs stabilisateurs, installer les stabilisateurs avant de monter ou de réparer l'unité en casier.

Warnung **Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt. Die folgenden Richtlinien sollen zur Gewährleistung Ihrer Sicherheit dienen:**

- Wenn diese Einheit die einzige im Gestell ist, sollte sie unten im Gestell angebracht werden.
- Bei Anbringung dieser Einheit in einem zum Teil gefüllten Gestell ist das Gestell von unten nach oben zu laden, wobei das schwerste Bauteil unten im Gestell anzubringen ist.
- Wird das Gestell mit Stabilisierungszubehör geliefert, sind zuerst die Stabilisatoren zu installieren, bevor Sie die Einheit im Gestell anbringen oder sie warten.

Avvertenza **Per evitare infortuni fisici durante il montaggio o la manutenzione di questa unità in un supporto, occorre osservare speciali precauzioni per garantire che il sistema rimanga stabile. Le seguenti direttive vengono fornite per garantire la sicurezza personale:**

- Questa unità deve venire montata sul fondo del supporto, se si tratta dell'unica unità da montare nel supporto.
- Quando questa unità viene montata in un supporto parzialmente pieno, caricare il supporto dal basso all'alto, con il componente più pesante sistemato sul fondo del supporto.
- Se il supporto è dotato di dispositivi stabilizzanti, installare tali dispositivi prima di montare o di procedere alla manutenzione dell'unità nel supporto.

Advarsel **Unngå fysiske skader under montering eller reparasjonsarbeid på denne enheten når den befinner seg i et kabinett. Vær nøye med at systemet er stabilt. Følgende retningslinjer er gitt for å verne om sikkerheten:**

- Denne enheten bør monteres nederst i kabinettet hvis dette er den eneste enheten i kabinettet.
- Ved montering av denne enheten i et kabinett som er delvis fylt, skal kabinettet lastes fra bunnen og opp med den tyngste komponenten nederst i kabinettet.
- Hvis kabinettet er utstyrt med stabiliseringsutstyr, skal stabilisatorene installeres før montering eller utføring av reparasjonsarbeid på enheten i kabinettet.

Aviso Para se prevenir contra danos corporais ao montar ou reparar esta unidade numa estante, deverá tomar precauções especiais para se certificar de que o sistema possui um suporte estável. As seguintes directrizes ajudá-lo-ão a efectuar o seu trabalho com segurança:

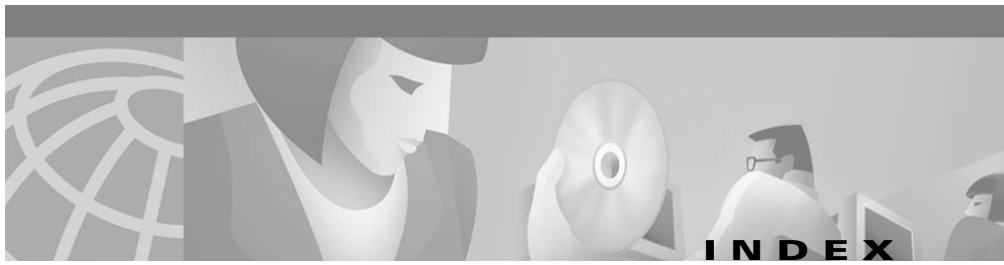
- Esta unidade deverá ser montada na parte inferior da estante, caso seja esta a única unidade a ser montada.
- Ao montar esta unidade numa estante parcialmente ocupada, coloque os itens mais pesados na parte inferior da estante, arrumando-os de baixo para cima.
- Se a estante possuir um dispositivo de estabilização, instale-o antes de montar ou reparar a unidade.

¡Advertencia! **Para evitar lesiones durante el montaje de este equipo sobre un bastidor, o posteriormente durante su mantenimiento, se debe poner mucho cuidado en que el sistema quede bien estable. Para garantizar su seguridad, proceda según las siguientes instrucciones:**

- Colocar el equipo en la parte inferior del bastidor, cuando sea la única unidad en el mismo.
- Cuando este equipo se vaya a instalar en un bastidor parcialmente ocupado, comenzar la instalación desde la parte inferior hacia la superior colocando el equipo más pesado en la parte inferior.
- Si el bastidor dispone de dispositivos estabilizadores, instalar éstos antes de montar o proceder al mantenimiento del equipo instalado en el bastidor.

Varning! **För att undvika kroppsskada när du installerar eller utför underhållsarbete på denna enhet på en ställning måste du vidta särskilda försiktighetsåtgärder för att försäkra dig om att systemet står stadigt. Följande riktlinjer ges för att trygga din säkerhet:**

- Om denna enhet är den enda enheten på ställningen skall den installeras längst ned på ställningen.
 - Om denna enhet installeras på en delvis fylld ställning skall ställningen fyllas nedifrån och upp, med de tyngsta enheterna längst ned på ställningen.
 - Om ställningen är försedd med stabiliseringsdon skall dessa monteras fast innan enheten installeras eller underhålls på ställningen.
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