



## 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.

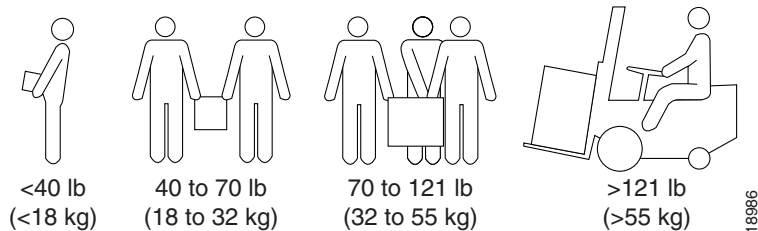
## Stabilizing the System

- 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.**

---