



Cisco VG202 and Cisco VG204 Voice Gateways Hardware Installation Guide

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You can determine whether your equipment is causing interference by turning it off. If the interference stops, it was probably caused by the Cisco equipment or one of its peripheral devices. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the equipment to one side or the other of the television or radio.
- Move the equipment farther away from the television or radio.
- Plug the equipment into an outlet that is on a different circuit from the television or radio. (That is, make certain the equipment and the television or radio are on circuits controlled by different circuit breakers or fuses.)

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Preface

This preface describes the audience, organization, and conventions of this publication, and describes how to obtain additional documentation.

Audience

This publication is designed for people who have some experience installing networking equipment such as routers, servers, and switches. The person installing Cisco VG202 and Cisco VG204 voice gateways (VGs) should be familiar with networks and telephony equipment and with electronic circuitry and wiring practices, and must have experience as an electronic or electromechanical technician.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.
Statement 1030

Organization

Table 1 *Major Sections of This Guide*

Chapter	Title	Description
Chapter 1	Overview of the Cisco VG202 and Cisco VG204 Voice Gateways	Features and specifications of the Cisco VG202 and Cisco VG204 voice gateways.
Chapter 2	Planning Your Installation	Environmental requirements and cable routing considerations.
Chapter 3	Installing Cisco VG202 and Cisco VG204 Voice Gateways	Instructions for installing the Cisco VG202 and Cisco VG204 voice gateways and connecting the cables.
Appendix A	Powering On the Cisco VG202 and Cisco VG204 Voice Gateways	Powering up the Cisco VG202 and Cisco VG204 voice gateways and preparing for configuration.

Conventions

Table 2 **Installation Guide Conventions**

Convention	Description
boldface font	Commands and keywords.
<i>italic font</i>	Variables for which you supply values.
[]	Keywords or arguments that appear within square brackets are optional.
{x y z}	A choice of required keywords appears in braces separated by vertical bars. You must select one.
screen font	Examples of information displayed on the screen.
boldface screen font	Examples of information you must enter.
< >	Nonprinting characters, for example passwords, appear in angle brackets in contexts where italic font is not available.
[]	Default responses to system prompts appear in square brackets.



Note

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this publication.



Timesaver

Means *the described action saves time*. You can save time by performing the action described in the paragraph.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



Tip

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

Safety Warnings

Safety warnings appear throughout this publication in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement. To see translations of the warnings that appear in this publication, see the [Regulatory Compliance and Safety Information for the Cisco VG202 and Cisco VG204 Voice Gateways](#).

Warning Definition



Warning

IMPORTANT SAFETY INSTRUCTIONS

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, see the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Waarschuwing

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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 de standaard praktijken om ongelukken te voorkomen. Voor een vertaling van de waarschuwingen die in deze publicatie verschijnen, dient u de vertaalde veiligheidswaarschuwingen te raadplegen die bij dit apparaat worden geleverd.

Opmerking **BEWAAR DEZE INSTRUCTIES.**

Varoitus

TÄRKEITÄ TURVALLISUUTEEN LIITTYVIÄ OHJEITA

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 asiakirjassa esitettyjen varoitusten käännökset löydät laitteen mukana toimitetuista ohjeista.

Huomautus **SÄILYTÄ NÄMÄ OHJEET**

Attention

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez les consignes de sécurité traduites qui accompagnent cet appareil.

Remarque **CONSERVEZ CES INFORMATIONS**

Warnung

WICHTIGE SICHERHEITSANWEISUNGEN

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 sind im Lieferumfang des Geräts enthalten.

Hinweis **BEWAHREN SIE DIESE SICHERHEITSANWEISUNGEN AUF**

Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Per le traduzioni delle avvertenze riportate in questo documento, vedere le avvertenze di sicurezza che accompagnano questo dispositivo.

Nota CONSERVARE QUESTE ISTRUZIONI

Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER

Dette varselssymbolet betyr fare. Du befinner deg i en situasjon som kan forårsake personskade. Før du utfører arbeid med utstyret, bør du være oppmerksom på farene som er forbundet med elektriske kretssystemer, og du bør være kjent med vanlig praksis for å unngå ulykker. For å se oversettelser av advarslene i denne publikasjonen, se de oversatte sikkerhetsvarslene som følger med denne enheten.

Merk TA VARE PÅ DISSE INSTRUKSJONENE

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. O utilizador encontra-se numa situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha em atenção os perigos envolvidos no manuseamento de circuitos eléctricos e familiarize-se com as práticas habituais de prevenção de acidentes. Para ver traduções dos avisos incluídos nesta publicação, consulte os avisos de segurança traduzidos que acompanham este dispositivo.

Nota GUARDE ESTAS INSTRUÇÕES

¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Vea las traducciones de las advertencias que acompañan a este dispositivo.

Nota GUARDE ESTAS INSTRUCCIONES

Varning! VIKTIGA SÄKERHETSANVISNINGAR

Denna varningssignal 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 vanliga förfaranden för att förebygga olyckor. Se översättningarna av de varningsmeddelanden som finns i denna publikation, och se de översatta säkerhetsvarningarna som medföljer denna anordning.

OBS! SPARA DESSA ANVISNINGAR

Figyelem **FONTOS BIZTONSÁGI ELOÍRÁSOK**

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение **ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ**

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告 **重要的安全性说明**

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告 **安全上の重要な注意事項**

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

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이 지시 사항을 보관하십시오.

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES**Advarsel VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemeskade. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER

تحذير

إرشادات الأمان الهامة

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje VAŽNE SIGURNOSNE NAPOMENE

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE**Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY

Προειδοποίηση	<p>ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ</p> <p>Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθειες πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.</p> <p>ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ</p>
אזהרה	<p>הוראות בטיחות חשובות</p> <p>סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במגעלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.</p> <p>שמור הוראות אלה</p>
Opomena	<p>ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА</p> <p>Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.</p> <p>ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА</p>
Ostrzeżenie	<p>WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA</p> <p>Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.</p> <p>NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ</p>
Upozornenie	<p>DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY</p> <p>Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.</p> <p>USCHOVAJTE SI TENTO NÁVOD</p>

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

Statement 1030

**Warning****Do not use this product near water; for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.** Statement 1035**Warning****Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.** Statement 1036**Warning****Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.** Statement 1037**Warning****Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.** Statement 1038**Warning****To report a gas leak, do not use a telephone in the vicinity of the leak.** Statement 1039**Warning****Do not work on the system or connect or disconnect cables during periods of lightning activity.**

Statement 1001

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

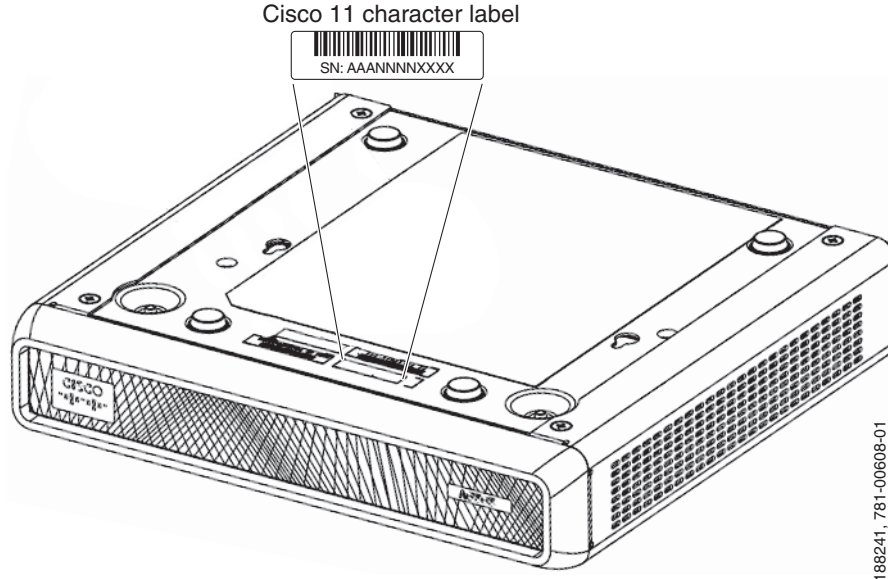
Statement 1040

**Warning****This equipment must be installed and maintained by service personnel as defined by AS/NZS 3260. Incorrectly connecting this equipment to a general-purpose outlet could be hazardous. The telecommunications lines must be disconnected 1) before unplugging the main power connector or 2) while the housing is open, or both.** Statement 1043

Product Serial Number Location

The serial number label for the Cisco VG202 and Cisco VG204 voice gateways (see [Figure 0-1](#)) is located on the bottom of the chassis, near the compliance label. The size of the serial number label is 0.25 x 1 inch (0.635 x 2.54 centimeters). It has the letters “SN:” followed by eleven characters. (See [Figure 0-1](#).)

Figure 0-1 Serial Number Location on Cisco VG202 and Cisco VG204 Voice Gateways



Accessibility

These voice gateways can be configured by using the Cisco command-line interface (CLI). The CLI conforms to code 508 because it is text based and it relies on a keyboard for navigation. All functions of the voice gateway can be configured and monitored through the CLI.

For a complete list of guidelines and Cisco products' adherence to accessibility, see Cisco Accessibility Products at the following URL:

<http://www.cisco.com/web/about/responsibility/accessibility/products>

Related Documentation

The Cisco IOS software running your Cisco voice gateway includes extensive features and functionality. For information that is beyond the scope of this document, or for additional information, use the resources listed in [Table 3 on page xvi](#).



Timesaver

Make sure that you have access to the documents listed in [Table 3](#). See the “[Obtaining Documentation and Submitting a Service Request](#)” section on [page xvi](#) for information about obtaining these documents.

Table 3 **Related and Referenced Documents**

Cisco Product	Document Title
Cisco VG202 and Cisco VG204 voice gateways	<ul style="list-style-type: none"> • Cisco VG202 and Cisco VG204 Voice Gateways Hardware Installation Guide (this book) • Cisco VG202 and Cisco VG204 Voice Gateways Quick Start Guide • Cisco VG202 and Cisco VG204 Voice Gateways Software Configuration Guide • Regulatory Compliance and Safety Information for the Cisco VG202 and Cisco VG204 Voice Gateways
Cisco IOS software	<ul style="list-style-type: none"> • Release Notes for Cisco VG202 and Cisco VG204 Voice Gateways for Cisco IOS Release 12.5(1)T

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.



CHAPTER 1

Overview of the Cisco VG202 and Cisco VG204 Voice Gateways

This chapter provides a brief description of the Cisco VG202 and Cisco VG204 voice gateways (VGs) and contains the following sections:

- [Overview, page 1-1](#)
- [Physical Description, page 1-2](#)
- [Chassis Grounding, page 1-5](#)
- [Memory, page 1-5](#)
- [Port Numbering Conventions, page 1-6](#)
- [Specifications, page 1-6](#)
- [Software Elements, page 1-6](#)
- [Interfaces and Service Capabilities, page 1-7](#)
- [Cisco VG202 and Cisco VG204 Voice Gateway Deployment, page 1-7](#)

Overview

The Cisco VG202 and Cisco VG204 voice gateways are analog voice gateways for the service provider, commercial, and enterprise unified communication markets. Both voice gateways provide voice connectivity to devices such as analog phones, fax machines, and modems.

The Cisco VG202 and Cisco VG204 voice gateways provide support for 2-FXS (Cisco VG202) and 4-FXS (Cisco VG204) ports and parity with Cisco IOS fax/modem, security, and Session Initiation Protocol (SIP) features. Both voice gateways are configurable with Cisco Unified Communications Manager Express (CUCME) or Cisco Unified Communications Manager (CUCM).

The Cisco VG202 and Cisco VG204 voice gateways support the following interfaces:

- 10/100 Fast Ethernet connection
- RJ-11 Foreign Exchange Station (FXS) interface
- DC input



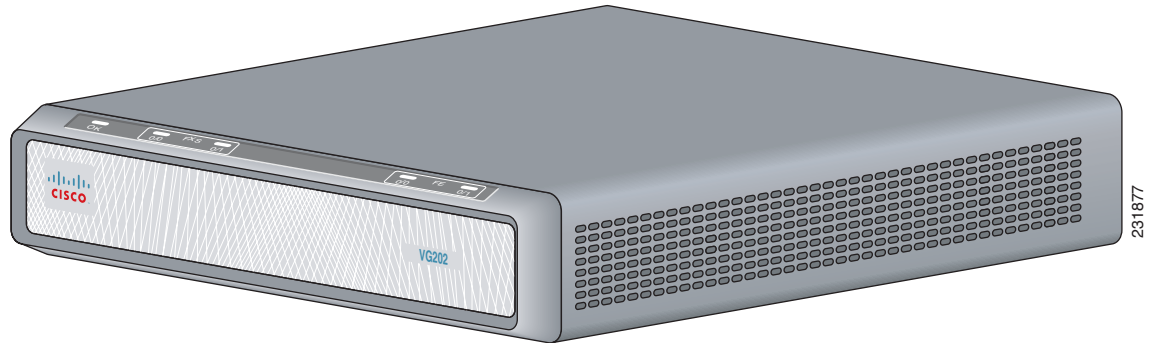
Note

The Cisco VG202 and Cisco VG204 voice gateways are fixed-configuration voice gateways and do not support interface cards.

The Cisco VG202 and Cisco VG204 voice gateways can be mounted on a wall or set on a desktop surface.

Figure 1-1 shows the Cisco VG202 chassis as seen from the front panel.

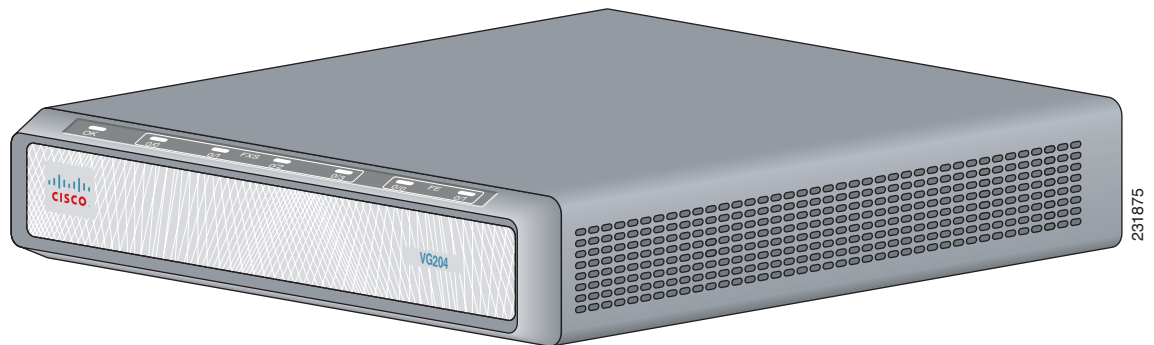
Figure 1-1 Cisco VG202 Voice Gateway Front Panel



The Cisco VG202 voice gateway supports two RJ-11 ports and supports two FXS voice ports with two 10/100 Fast Ethernet ports.

Figure 1-2 shows the Cisco VG204 chassis as seen from the front panel.

Figure 1-2 Cisco VG204 Voice Gateway Front Panel

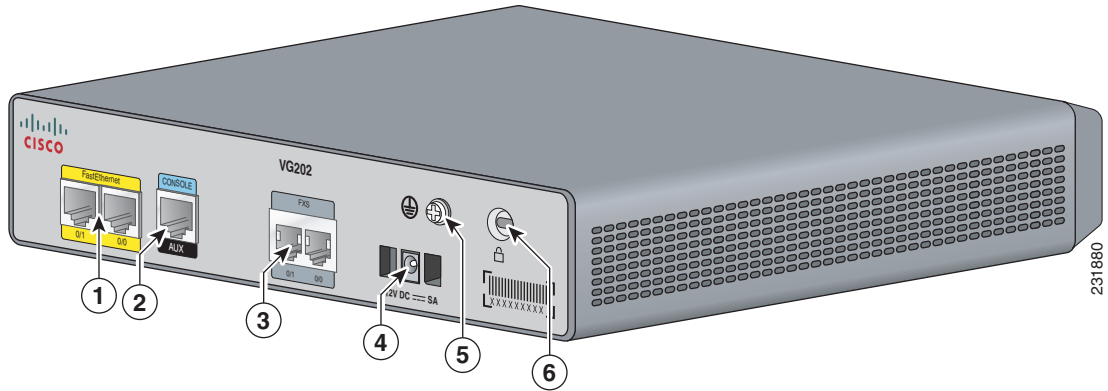


The Cisco VG204 voice gateway supports four RJ-11 ports and supports four FXS voice ports with two 10/100 Fast Ethernet ports.

Physical Description

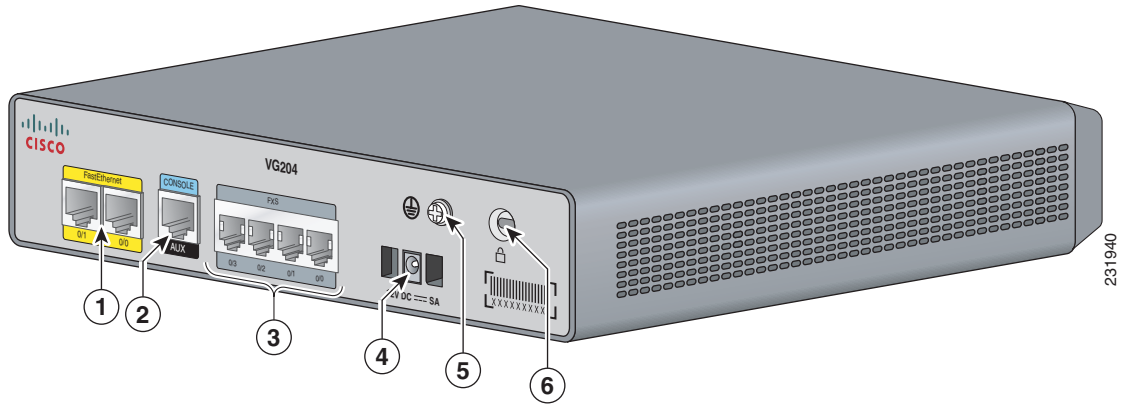
Figure 1-3 shows the interfaces and ports on the Cisco VG202 voice gateway. Figure 1-4 shows the interfaces and ports on the Cisco VG204 voice gateway. All interface ports are on the back of the chassis.

Figure 1-3 Cisco VG202 Voice Gateway Chassis



1	Fast Ethernet port 1, Fast Ethernet port 0	2	Serial port—console or auxiliary	3	FXS ports
4	Power connector	5	Chassis ground connection	6	Kensington security slot

Figure 1-4 Cisco VG204 Voice Gateway Chassis



1	Fast Ethernet port 1, Fast Ethernet port 0	2	Serial port—console or auxiliary	3	FXS ports
4	Power connector	5	Chassis ground connection	6	Kensington security slot

Note

A Kensington security slot is located on the back panel of the voice gateway. To secure the voice gateway to a desktop or other surface, use the Kensington lockdown equipment.

Note

The Fast Ethernet built-in switch ports provide connections to 10/100BASE-T (10/100-Mbps) Fast Ethernet networks.

LEDs

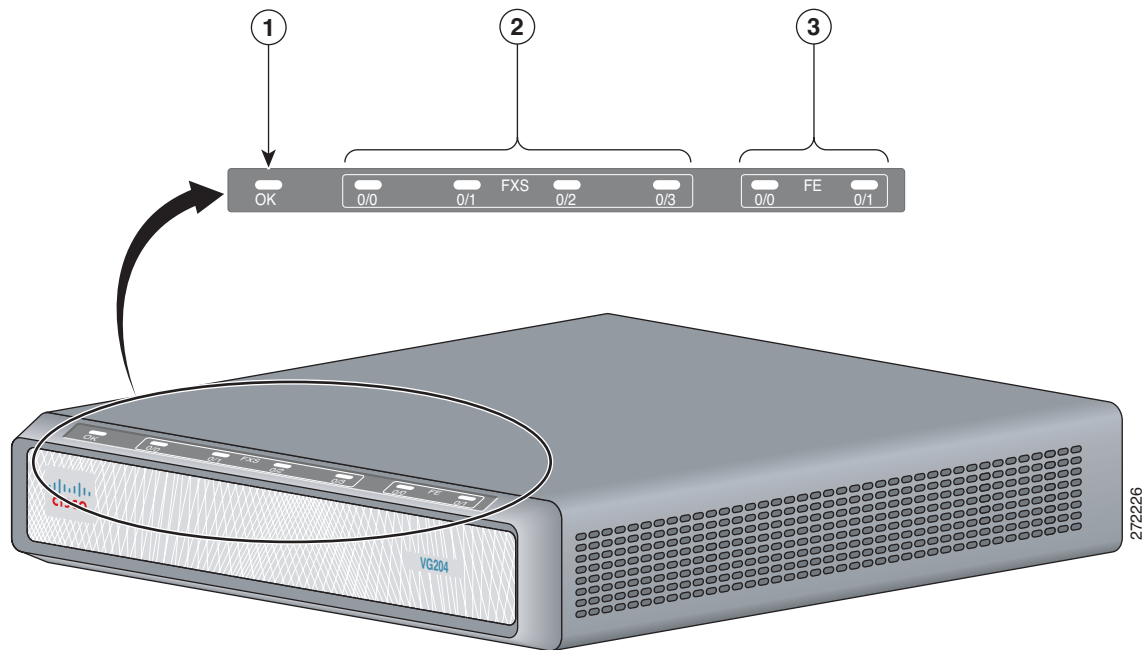
Figure 1-5 shows the LEDs on the Cisco VG204 voice gateway. All LEDs are on the front of the chassis.

**Note**

LEDs on the Cisco VG202 and Cisco VG204 are the same; however, the Cisco VG202 has LEDs for only two FXS ports.

Table 1-1 describes the status of each LED on the Cisco VG202 and Cisco VG204.

Figure 1-5 Cisco VG204 Voice Gateway LEDs



1	OK LED	2	FXS0, FXS1, FXS2, FXS3 LEDs
3	Fast Ethernet 0/0 and 0/1 LEDs		

Table 1-1 Cisco VG202 and Cisco VG204 LEDs

No	LED/Color	Description
1	PWR OK—green	Off—no power Steady on—normal operation Slow blink—bootup phase or in ROMMON monitor mode
2	FXS ports 0 through 3—green	Off—On hook Steady On—Off hook
3	FE ports 0/1—green	Off—No link Steady on—link Blinking—TXD/RXD data

Chassis Grounding

For information on grounding the chassis, see the “[Installing the Ground Connection](#)” section on page 3-7.



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. Statement 1015



Warning

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means by security. Statement 1017



Warning

No user-serviceable parts inside. Do not open. Statement 1073



Warning

This equipment needs to be grounded. Use a green and yellow 12 to 14 AWG ground wire to connect the host to earth ground during normal use. Statement 242



Warning

The importance of proper grounding cannot be overemphasized. It will minimize the potential for damage to your system and maximize safety at the system site. We recommend you consult a licensed electrician or your local electric utility company if you have any questions. Statement 269



Warning

A ground wire must always be a single piece of wire. Never splice two wires together for a ground. Corrosion and weathering can lead to a poor connection at the splice, making the ground ineffective and dangerous. Statement 270



Warning

Use copper conductors only. Statement 1025



Warning

Installation of the equipment must comply with local and national electrical codes. Statement 1074



Warning

Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040

Memory

The Cisco VG202 and VG204 voice gateways contain flash memory and main memory.

The onboard flash memory contains the Cisco IOS software image, boot flash contains the ROMMON boot code, and the anti-counterfeiting solution contains the cookie configuration.

The Cisco IOS software is contained in 128 MB of flash memory on the Cisco VG202 and VG204 voice gateways. Onboard CPU memory is 128 MB.

Port Numbering Conventions

Port numbering conventions for the Cisco VG202 and VG204 voice gateways are as follows:

- Fast Ethernet ports are numbered 0 and 1, from left to right.
- FXS voice port numbering begins at 0 and reaches a maximum of 2 or 4, depending on the number of voice ports, from left to right.

Specifications

Table 1-2 shows the hardware and electrical specifications for the Cisco VG202 and VG204 voice gateways.

Table 1-2 Cisco VG202 and Cisco VG204 Voice Gateway Technical Specifications

Characteristic	Value
Dimensions	1.75H x 9.75W x 8.0D in. (44.45 x 247.65 x 203.2 mm)
Weight	3.422 lb (1.55 kg) max
Input power	30 W
Operating temperature	32 to 104° F (0 to 40° C)
Operating humidity	5 to 95%, noncondensing
Noise level	n/a
Agency approvals	See the Regulatory Compliance and Safety Information for the Cisco VG202 and Cisco VG204 Voice Gateways document.

Software Elements

The operating system for the Cisco VG202 and VG204 voice gateways is the Cisco IOS software that resides in flash memory.

Configuration Connections

You can use an ASCII terminal or a PC to configure a Cisco VG202 or Cisco VG204 voice gateway. The configuration can be performed in several ways:

- Locally, with a direct connection through the serial port
- Remotely, with a connection through the serial port
- Through Telnet and TFTP

Interfaces and Service Capabilities

Table 1-3 describes the various physical ports and the services that each port type supports, including the following.

- The Cisco VG202 and VG204 voice gateways provide a connection to the terminal or PC for software configuration or troubleshooting. The console port may be configured as a virtual auxiliary port for dial backup and remote management.
- Two Fast Ethernet ports.
- Two or four FXS ports.

Table 1-3 Cisco VG202 and VG204 Voice Gateways Interfaces and Service Capabilities

Port	Interface Configurations	Interface To	Services Supported	Details
Console/AUX Port	EIA/TIA-232 asynchronous serial (DCE)	ASCII terminal or personal computer	Local administrative access	RJ-45 physical interface
Fast Ethernet Ports 0/0, 0/1	10/100BASE-T (802.3)	LAN	Data	RJ-45 physical interface
Ports 0 to 2, or 0 to 4	FXS (loop-start or ground-start)	Analog phone, fax, or modem	Analog voice/fax or modem	2-port FXS, on premises only 4-port FXS, on premises only

Interface Options

Table 1-4 lists the interface options that are available in the Cisco VG202 and Cisco VG204 voice gateways.

Table 1-4 Interface Options for Cisco VG202 and Cisco VG204 Voice Gateways

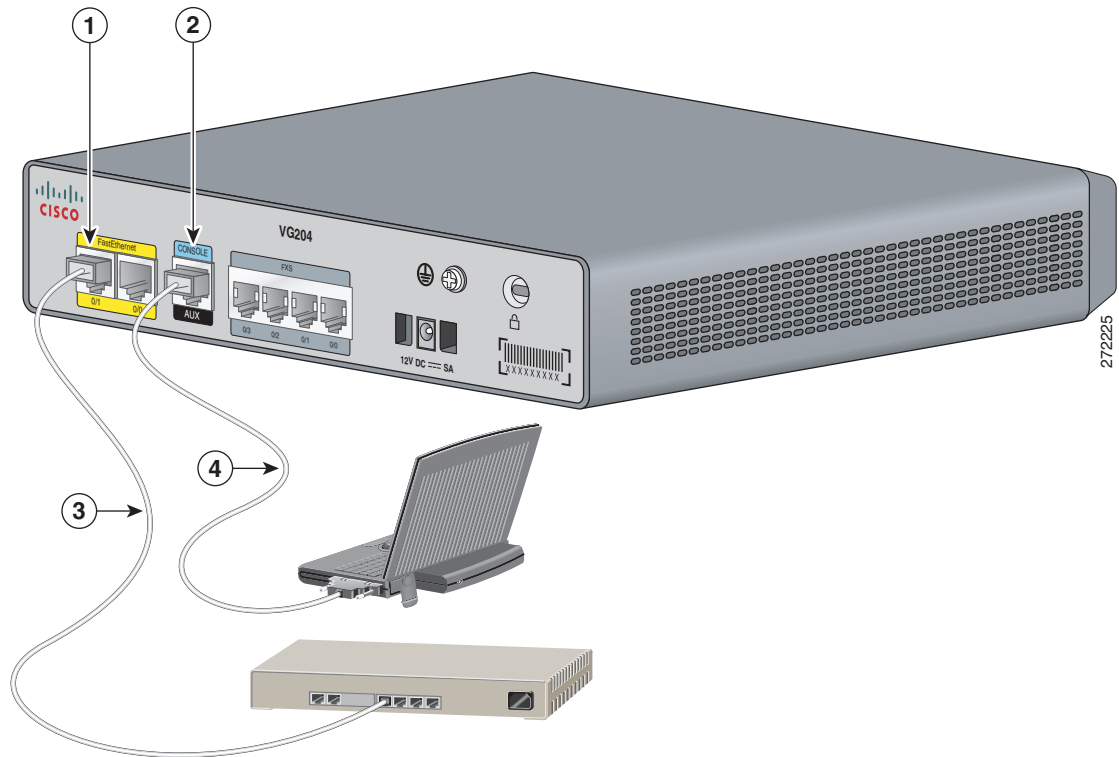
Voice Gateway	RJ-11 ¹	RJ-45 ²	FE ³	FXS ⁴
Cisco VG202 voice gateway	2	Yes	2	2
Cisco VG204 voice gateway	4	Yes	2	4

1. Analog voice interface.
2. Analog voice interface.
3. 10/100BASE-T ports.
4. Foreign exchange station.

Cisco VG202 and Cisco VG204 Voice Gateway Deployment

Figure 1-6 shows a typical deployment scenario for the Cisco VG202 and Cisco VG204 voice gateways.

Figure 1-6 Typical Deployment of Cisco VG202 and Cisco VG204 Voice Gateways



1	Fast Ethernet port	2	Console port
3	Fast Ethernet straight-through cable connected to an Ethernet hub	4	RJ-45-to-DB9 console cable connected to a PC



CHAPTER 2

Planning Your Installation

Before you install your Cisco VG202 and Cisco VG204 voice gateways, consider the information in this chapter:

- [Location and Mounting Requirements, page 2-1](#)
- [Distance Limitations for Interface Cables, page 2-2](#)
- [Interference Considerations, page 2-3](#)

Location and Mounting Requirements

There are two ways of mounting the Cisco VG202 and Cisco VG204 voice gateways:

- Wall mounting
- Desktop mounting

Whether wall or desktop, the mounting location must provide the following:

- Access to the chassis
- Access to a suitable power source
- Access to an appropriate earth ground
- Allowance for adequate heat dissipation and airflow around the chassis

Temperature Control and Ventilation

The installation area (room, closet, or cabinet) for the Cisco VG202 and Cisco VG204 voice gateways should always be well ventilated and should provide adequate air circulation to ensure proper cooling. The room temperature should be maintained from 32 to 122°F (0 to 50°C).

Wall Mounting

If the Cisco VG202 and Cisco VG204 voice gateways are installed on a wall, there should be plenty of space on both sides to ensure that there is adequate airflow through the chassis.

Desktop Mounting

If the voice gateway is placed on a desktop, do not stack other equipment or paper on the chassis. Provide plenty of space for air circulation at all four sides of the gateway. Inadequate ventilation can result in overheating and damage.

Access to Chassis

Allow space at the back of the chassis for cable connections. Also consider the need to access the chassis for future upgrades, maintenance, and troubleshooting.

Power Source



Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity. Statement 1001



Warning

Read the installation instructions before you connect the system to its power source. Statement 1004



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 120 VAC, 15A U.S. (240 VAC, 10A international) Statement 1005



Warning

The device is designed for connection to TN and IT power systems. Statement 1007

Cable Types

For information on cable types, see the white papers associated with this product.

Distance Limitations for Interface Cables

When planning your installation, consider distance limitations and potential electromagnetic interference (EMI) as defined by the Electronic Industries Association (EIA). Distance limitation information is included for the following voice gateway ports:

- [Fast Ethernet Maximum Distance, page 2-2](#)
- [FXS Analog Voice Port Maximum Distance, page 2-3](#)

Fast Ethernet Maximum Distance

The maximum segment distance for Fast Ethernet is 330 feet (100 meters) (specified in IEEE 802.3).

FXS Analog Voice Port Maximum Distance

The maximum distance is established by a total allowable loop resistance, including the phone or terminal equipment, of 600 ohm.

Interference Considerations

When you run cables for any significant distance in an electromagnetic field, interference can occur between the electromagnetic field and the signals on the cables. This has two implications for the installation of terminal plant cabling:

- Unshielded plant cabling can emit radio interference.
- Strong electromagnetic interference (EMI), especially that caused by lightning or radio transmitters, can destroy the EIA/TIA-232 drivers and receivers in the Cisco VG202 and Cisco VG204 voice gateways.

If you use twisted-pair cables with a good distribution of grounding conductors in your plant cabling, then emitted radio interference is unlikely.

If your cables exceed the recommended distances, or if your cables pass between buildings, you must give special consideration to the effect of lightning strikes or ground loops. If your site has these characteristics, consult experts in lightning suppression and shielding. The electromagnetic pulse caused by lightning or other high-energy phenomena can easily couple enough energy into unshielded conductors to destroy electronic devices.

Most data centers cannot resolve the infrequent but potentially catastrophic problems of EMI without using pulse meters and other special equipment. Take precautions to avoid these problems by providing a properly grounded and shielded environment and by installing electrical surge suppression.

If you remove any module, you must either install a module in its place or install a cover plate over the opening. To prevent electromagnetic interference, all module openings must be either occupied or covered.

For advice on the prevention of electromagnetic interference, consult experts in radio-frequency interference (RFI).



CHAPTER 3

Installing Cisco VG202 and Cisco VG204 Voice Gateways

This chapter provides the procedures for installing your Cisco VG202 and Cisco VG204 voice gateways and consists of the following sections:

- [Safety Recommendations, page 3-1](#)
- [Site Log, page 3-3](#)
- [Keeping Track—Checklist, page 3-3](#)
- [Mounting Tools and Equipment, page 3-4](#)
- [Unpacking and Inspection, page 3-4](#)
- [Wall-Mounting the Chassis, page 3-5](#)
- [Desktop-Mounting the Chassis, page 3-7](#)
- [Installing the Ground Connection, page 3-7](#)
- [Connecting Cables, page 3-9](#)



Tip

While you perform this installation, record your progress and site information. See the suggested format in the “[Keeping Track—Checklist](#)” section on [page 3-3](#).



Warning

Read the installation instructions before connecting the system to the power source. Statement 1004

Safety Recommendations

The following information is included to alert you to safety recommendations and best practices when working with this equipment.

Maintaining Safety with Electricity

Follow these guidelines when working on equipment powered by electricity.

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

Statement 1001

**Warning****This equipment must be installed and maintained by service personnel as defined by AS/NZS 3260. Incorrectly connecting this equipment to a general-purpose outlet could be hazardous. The telecommunications lines must be disconnected 1) before unplugging the main power connector or 2) while the housing is open, or both.** Statement 1043

General Safety Practices

Follow these guidelines to ensure personal safety and protect the equipment:

- Keep the chassis area clear and dust-free during and after installation.
- Put the removed chassis cover in a safe place.
- Keep tools away from walk areas where you and others could fall over them.
- Do not wear loose clothing that could get caught in the chassis.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.

Safety Tips

Use these tips as safety guidelines when installing or working around this equipment:

- Locate the emergency power-off switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn off the power.
- Disconnect all power before installing or removing a chassis.
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit. Always check.
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- If an electrical accident occurs, proceed as follows:
 - Use caution; do not become a victim yourself.
 - Turn off power to the system.
 - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim and then call for help.
 - Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

Preventing Electrostatic Discharge Damage

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

Always follow ESD-prevention procedures when removing and replacing components.

- Ensure that the chassis is electrically connected to earth ground.
- Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact.
- Connect the clip to the ESD-strap connection jack (to the left of the power switch on the back of the chassis) or to an unpainted chassis frame surface.



Caution

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

Site Log

We recommend that you maintain a Site Log to record all actions relevant to the system. Site Log entries might include the following:

- Installation—Print a copy of the Installation Checklist and insert it into the Site Log.
- Upgrades and maintenance—Use the Site Log to record ongoing maintenance and expansion history. Update the Site Log to reflect the following:
 - Configuration changes
 - Maintenance schedules, requirements, and procedures performed
 - Comments, notes, and problems
 - Changes and updates to Cisco IOS software

Keeping Track—Checklist

We recommend that you use an installation checklist and maintain a Site Log.

Installation Checklist

The Installation Checklist (see [Figure 3-1](#)) lists the tasks for installing Cisco VG202 and Cisco VG204 voice gateways. Print a copy of this checklist and mark the entries as you complete each task. For each Cisco VG202 or Cisco VG204 voice gateway, include a copy of the checklist in your Site Log.

Figure 3-1 *Installation Checklist*

Installation Checklist for site _____

Cisco VG name/serial number _____

Task	Verified by	Date
Background information placed in Site Log		
Environmental specifications verified		
Site power voltages verified		

Task	Verified by	Date
Installation site prepower check completed		
Required tools available		
Additional equipment available		
Cisco VG received		
Quick start guide received		
Regulatory compliance and safety information received		
Information packet, warranty card, and Cisco.com card received		
Software version verified		
Rack, desktop, or wall-mounting of chassis completed		
Initial electrical connections established		
ASCII terminal attached to console port		
Modem attached to console port (for remote configuration)		
Signal distance limits verified		
Startup sequence steps completed		
Initial operation verified		

Mounting Tools and Equipment

Obtain the following tools and parts to install Cisco VG202 and Cisco VG204 voice gateways:

- Screws and anchors for wall-mounting
 - Eight wood screws or other fasteners, for installing the chassis on a wall. An additional starter screw can be used to facilitate wall-mounting.
- ESD-preventive wrist strap

In addition, you might need the following external equipment:

- Console terminal or personal computer with terminal emulation software
- PC running terminal emulation software for administrative access
- Modem for remote access
- Analog voice RJ-11 cable

Unpacking and Inspection

Do not unpack the Cisco VG202 or Cisco VG204 voice gateway until you are ready to install the equipment. If the installation site is not ready, keep the chassis in its shipping container to prevent accidental damage.

The Cisco VG202 or Cisco VG204 voice gateway, cables, and any optional equipment that you ordered might be shipped in more than one container. When you unpack each shipping container, check the packing list to ensure that you received all the following items:

- Cisco VG202 or Cisco VG204 voice gateway

- Power cord, 6 feet (1.8-meters long)
- RJ-45-to-DB-25 adapter cable (labeled *Console*)
- Grounding lug and fasteners

Inspect all items for shipping damage. If anything appears damaged, or if you encounter problems when installing or configuring your system, contact a customer service representative. (See the “[Obtaining Documentation and Submitting a Service Request](#)” section on page xvi.)

Wall-Mounting the Chassis

The following warning applies only when the unit is wall-mounted:

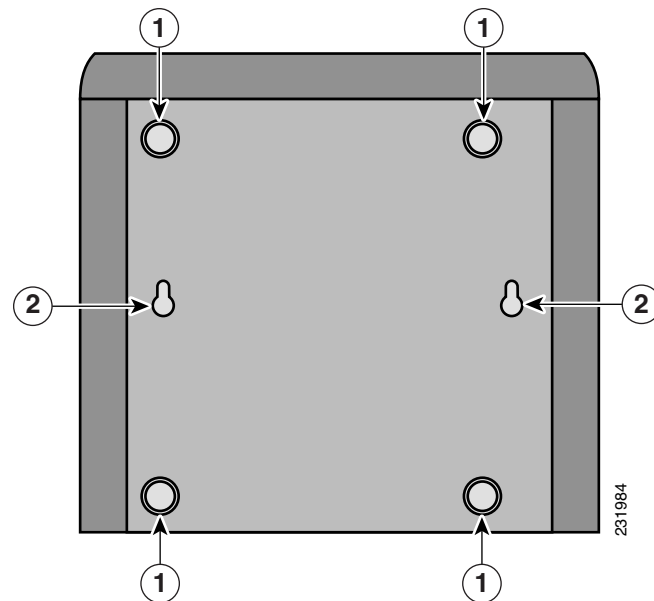


Warning

This unit is intended to be mounted on a wall. Please read the wall-mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system. Statement 248

You can mount the voice gateway on a wall or other vertical surface by using the molded mounting-screw slots on the bottom of the voice gateway and two number-six, 3/4 inch (M3.5 x 20 mm) screws. You must provide the screws. [Figure 3-2](#) shows the mounting-screw slots.

Figure 3-2 Mounting-Screw Slots for Wall-Mounting a VG202 or VG204 Voice Gateway



1	Rubber feet	2	Mounting-screw slots
----------	-------------	----------	----------------------

The following conditions must be met when you mount the voice gateway:

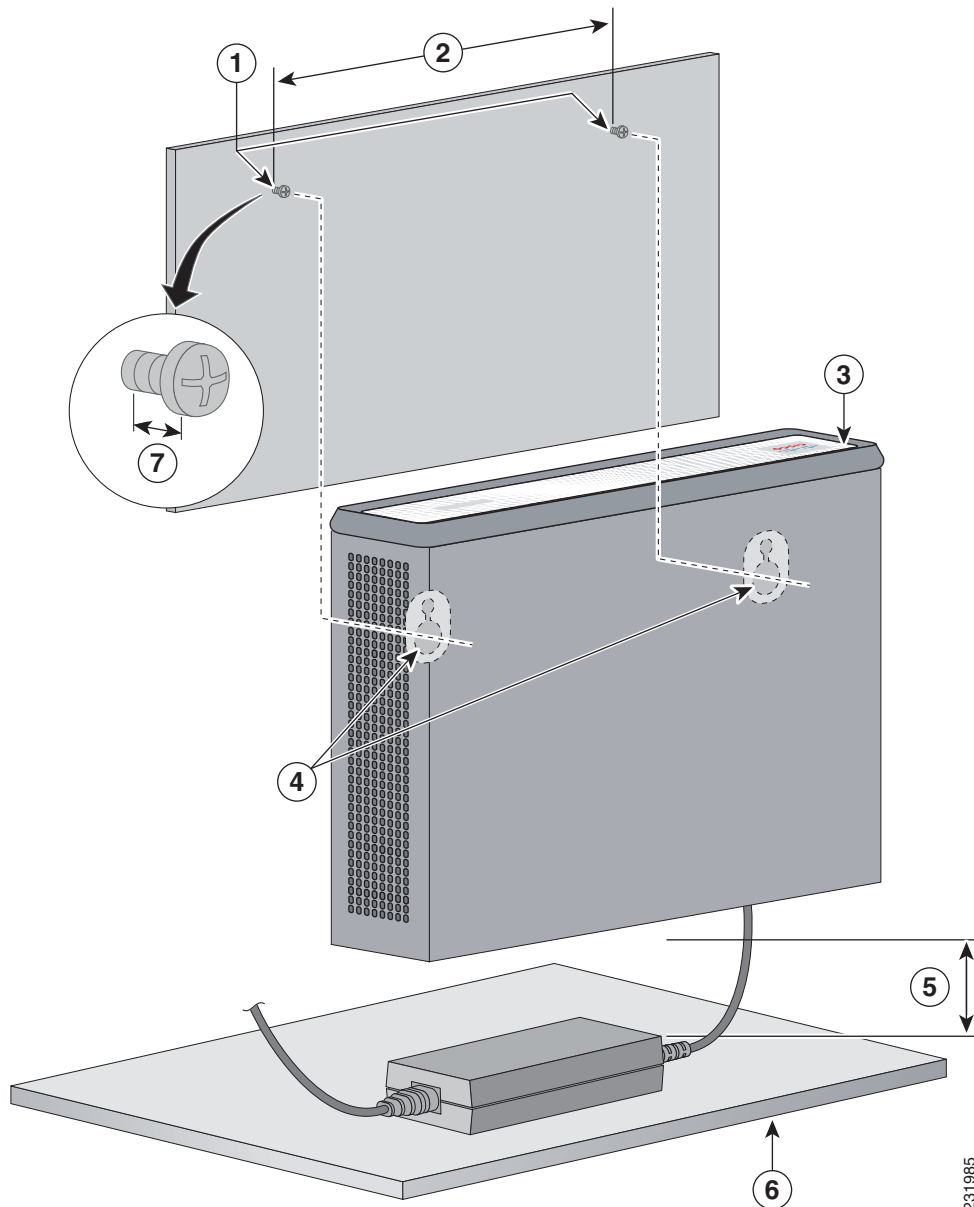
- Because you will use the LEDs as status and problem indicators, the LEDs on the front panel must face upward and must be easily visible.
- The back panel must face downward to reduce strain on the cable connections.

- The power supply must rest on a horizontal surface such as the floor or a table. If the power supply is not supported, it could place strain on the power supply cable and cause it to disconnect from the connector on the voice gateway back panel.

To wall-mount a Cisco VG202 or VG204 voice gateway, follow these steps:

-
- Step 1** Secure two screws 5 7/16 inches (13.81 centimeters) apart into a wall and 5/32 inch (0.40 centimeter) from the wall.
- Step 2** Hang the voice gateway on the screws as shown in [Figure 3-3](#).
- Step 3** Place the power supply on a horizontal surface.

Figure 3-3 Mounting the VG202 or VG204 Voice Gateway on a Wall



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1	Two number-six, 3/4-in. screws	2	Distance between the two screws (5 7/16 in. [13.8 cm])
3	Cisco VG202 or VG204 voice gateway	4	Mounting-screw slots
5	Maximum distance between the voice gateway and the power supply (6 ft [1.8 m])	6	Horizontal surface on which to place the power supply
7	Distance between the screw and the wall (5/32 in. [0.40 cm])		

**Caution**

If you are mounting the voice gateway on drywall, use hollow-wall anchors (1/8 inch with 5/16-inch drill bit, or M3 with 8-mm drill bit) to secure the screws. If the screws are not properly anchored, the strain of the network cable connections could pull the voice gateway from the wall.

**Note**

For hollow-wall mounting, use two wall anchors with washers. Wall anchors and washers must be size number 10.

Desktop-Mounting the Chassis

To set the Cisco VG202 or Cisco VG204 voice gateway on a desktop, follow these steps:

- Step 1** Place the four rubber feet (from the accessory kit) in the four indentations on the underside of the chassis. This helps provide proper airflow through and around the chassis.

**Caution**

Do not place anything on top of the chassis that weighs more than 10 lb (4.5 kg). Excessive weight on top can damage the chassis.

- Step 2** Place the Cisco VG202 or Cisco VG204 voice gateway on a smooth, flat surface.

Installing the Ground Connection

You must connect the chassis to a reliable earth ground; the ground wire must be installed in accordance with local electrical safety standards.

- For NEC-compliant grounding, use size AWG 14 (2 mm²) or larger wire and an appropriate user-supplied ring terminal.
- For EN/IEC 60950-compliant grounding, use size AWG 18 (1 mm²) or larger wire and an appropriate user-supplied ring terminal.

**Warning**

This equipment must be grounded. 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. Statement 1024

**Warning**

Use copper conductors only. Statement 1025

To connect the chassis to a reliable earth ground, perform the following steps:

Step 1 Locate a suitable ground.

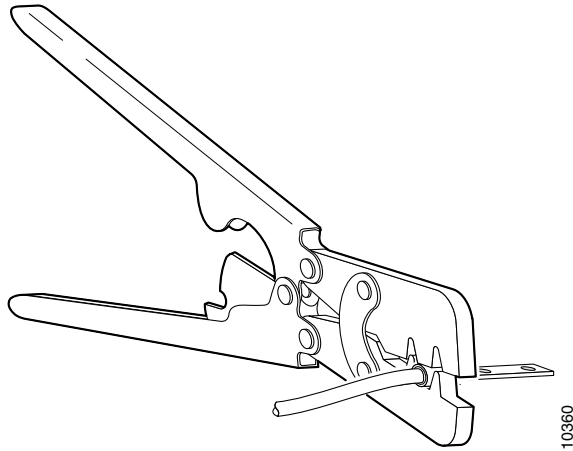
**Tip**

Using a multimeter, measure the resistance between various possible ground locations, such as between the ground of a junction box (outlet) and the ground of a power tap, between the ground of a junction box and a metal water pipe, between the Cisco VG202 or Cisco VG204 chassis and the ground of a power tap, and between the Cisco VG202 or Cisco VG204 chassis and the ground of a junction box. A good ground connection should read between 0.0 and 0.5 ohms.

Step 2 Strip one end of the ground wire to the length required for the ring terminal.

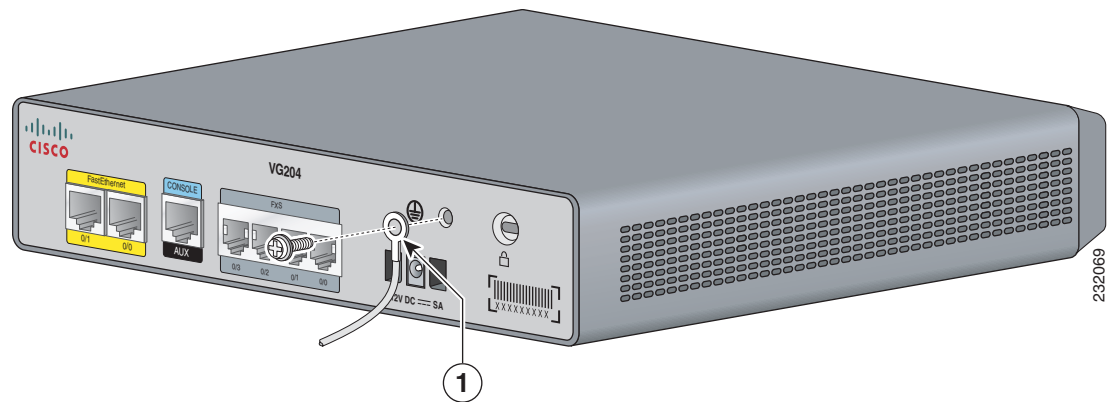
Step 3 Crimp the ground wire to the ground lug or ring terminal, using a crimp tool of the appropriate size. (See [Figure 3-4](#).)

Figure 3-4 Crimping a Ground Lug onto the Ground Wire



Step 4 Attach the ring terminal to the chassis as shown in [Figure 3-5](#). For a ring terminal, use one of the screws provided. Use a number-2 Phillips screwdriver, and tighten the screws to a torque of 8 to 10 in-lb (0.9 to 1.1 N-m).

Figure 3-5 Chassis Ground Connection Using Ring Terminal



1	Ring terminal attachment
----------	--------------------------

Step 5 Connect the other end of the ground wire to a grounding point at your site.

Connecting Cables

This section provides the procedures for connecting cables to your voice gateway.

Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity. Statement 1001

Warning

Take care when connecting units to the supply circuit so that wiring is not overloaded. Statement 1018

Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 120 VAC, 15A (240 VAC, 10A international) Statement 1005

Warning

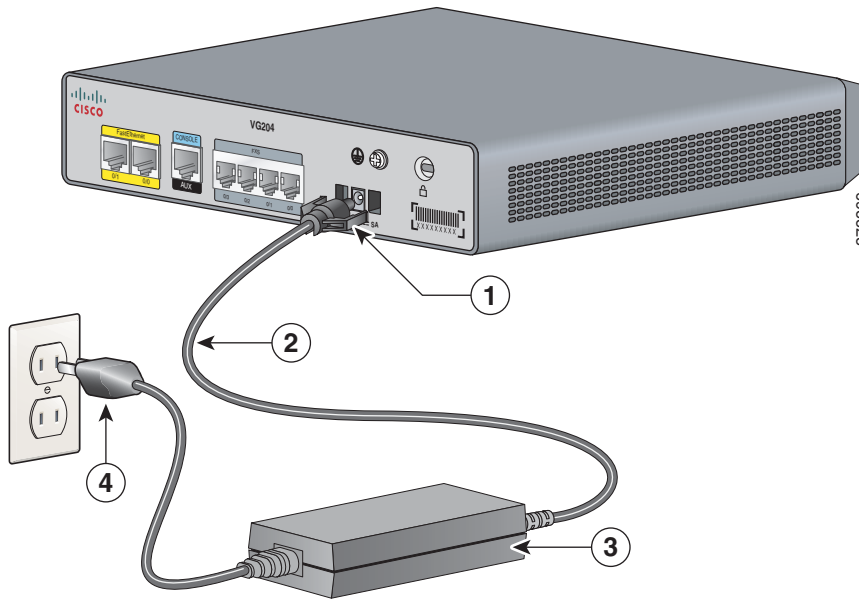
To prevent accidental discharge in the event of a power line cross, route on-premise wiring away from power cables and off-premise wiring, or use a grounded shield to separate the on-premise wiring from the power cables and off-premise wiring. A power line cross is an event, such as a lightning strike, that causes a power surge. Off-premise wiring is designed to withstand power line crosses. On-premise wiring is protected from power line crosses by a device that provides overcurrent and overvoltage protection. Nevertheless, if the on-premise wiring is in close proximity to, or not shielded from, the off-premise wiring or power cables during a lightning strike or power surge, the on-premise wiring can carry a dangerous discharge to the attached interface, equipment, and nearby personnel. Statement 338

Connecting Input Power to the Voice Gateway

To connect input power to the Cisco VG202 or Cisco VG204 voice gateway, follow these steps:

- Step 1** Connect the voice gateway to an AC power outlet as shown in [Figure 3-6](#).

Figure 3-6 Connecting the External Power Supply to the Cisco Voice Gateway



1	Power lock clip	2	Power cord
3	Power adapter	4	AC plug

- Step 2** To secure the power cord to the voice gateway, attach the power lock clip to the power cord, and slide the clip to the end of the DC plug. See location 1 in [Figure 3-6](#).

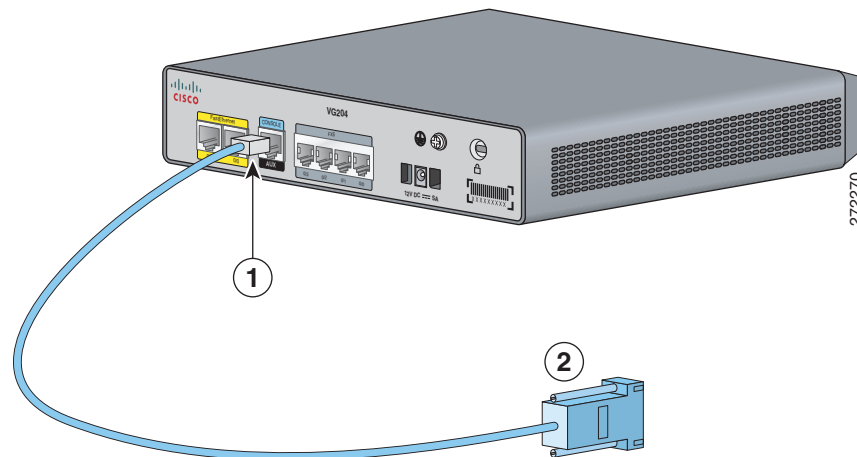
Connecting a Terminal or PC to the Console Port

Connect a terminal or PC to the Console Aux port either to configure the software by using the command-line interface (CLI) or to troubleshoot problems with the voice gateway.

To connect a terminal or PC to the console port on the voice gateway and access the CLI, follow these steps:

- Step 1** Connect the RJ-45 end of a DB-9-to-RJ-45 serial cable to the RJ-45 Console Aux port on the voice gateway. [Figure 3-7](#) shows the RJ-45 end of the serial cable connected to the Console Aux port on the voice gateway.

Figure 3-7 Connecting a Terminal or PC to the Console Port



1	RJ-45 connector to the Console Aux port on the voice gateway	2	DB-9 connector
----------	--	----------	----------------

- Step 2** Connect the DB-9 end of the RJ-45-to-DB-9 serial cable to the to the COM port on your laptop or PC.



Note Some laptops and personal computers do not have DB-9 serial port connectors and may require a USB-to-serial port adapter.

- Step 3** To communicate with the voice gateway, begin a terminal emulator application.

Connecting an FXS line

Use a standard straight-through RJ-11 modular telephone cable to connect a Foreign Exchange Service (FXS) port to a telephone or fax machine.



Warning

This equipment contains a ring signal generator (ringer), which is a source of hazardous voltage. Do not touch the RJ-11 (phone) port wires (conductors), the conductors of a cable connected to the RJ-11 port, or the associated circuit-board when the ringer is active. The ringer is activated by an incoming call.

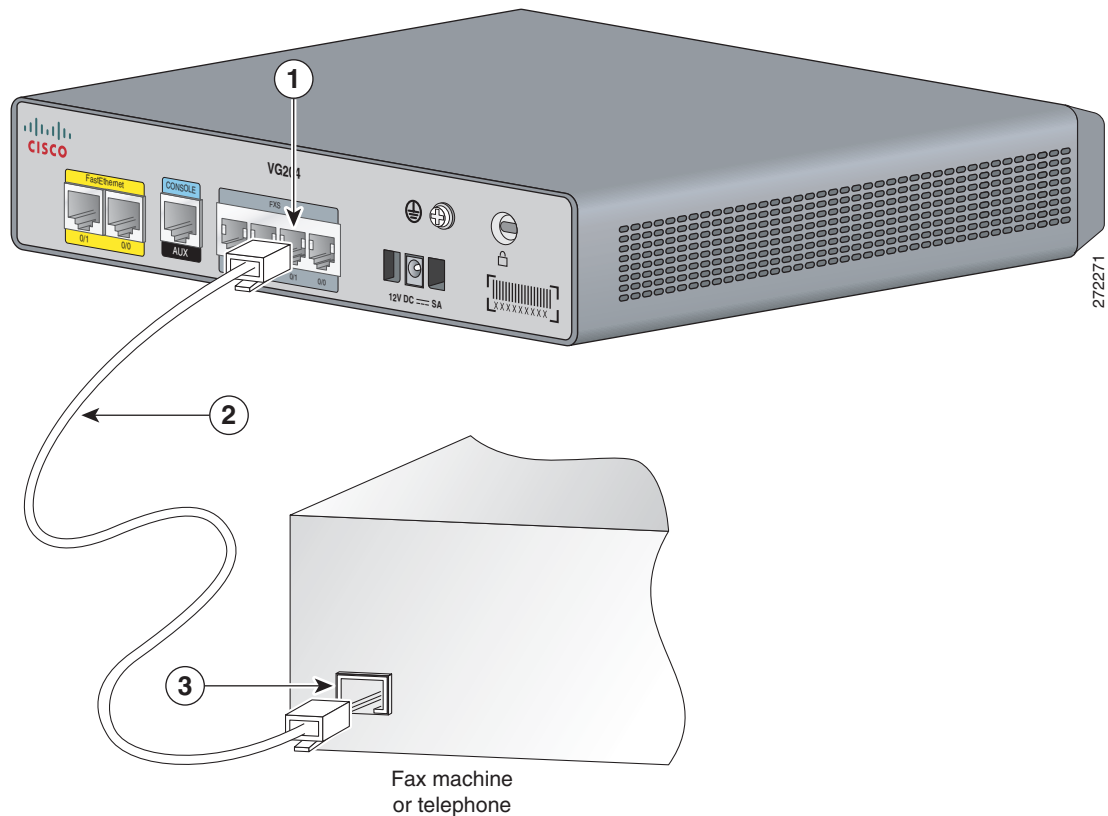
**Warning**

For connections outside the building where the equipment is installed, the following ports must be connected through an approved network termination unit with integral circuit protection: FXS.

To connect the FXS line, follow these steps:

- Step 1** Connect one end of the straight-through RJ-11 cable to the FXS port. [Figure 3-8](#) shows an FXS line connection.

Figure 3-8 Connecting an FXS Line



1	FXS port	2	RJ-11 cable
3	RJ-11 port		

- Step 2** Connect the other end of the cable to the RJ-11 port on the telephone or fax machine.



CHAPTER 4

Powering On the Cisco VG202 and Cisco VG204 Voice Gateways

To power on your Cisco VG202 and Cisco VG204 voice gateways, perform the following tasks in the order listed, as required:

- [Checklist for Power-On, page 4-1](#)
- [Power-On Procedure, page 4-1](#)
- [Initial Configuration Procedures, page 4-2](#)
- [Troubleshooting, page 4-6](#)

Checklist for Power-On

You can power on a Cisco VG202 or Cisco VG204 voice gateway if it meets the requirements described in [Chapter 3, “Installing Cisco VG202 and Cisco VG204 Voice Gateways”](#):

- The chassis is securely mounted.
- The power cable is connected.
- The interface cables are connected.

Power-On Procedure

Perform this procedure to power on your Cisco VG202 or Cisco VG204 voice gateway and to verify that the device completes its initialization and self-test. Then, the Cisco VG202 or Cisco VG204 voice gateway is ready to configure.

To power on a Cisco VG202 or Cisco VG204 voice gateway, follow these steps:

Step 1 Plug in the external power supply.

The green OK LED should come on. If this does not happen, see the [“Troubleshooting” section on page 4-6](#).

The following message appears at the end of the bootup messages:

```
--- System Configuration Dialog ---  
Continue with configuration dialog? [yes/no]:
```

Step 2 Enter **no** to proceed with manual configuration using the command-line interface (CLI):

```
Would you like to enter the initial configuration dialog? [yes/no]: no
Would you like to terminate autoinstall? [yes]
```

Step 3 Press **Return** to terminate autoinstall and to continue with manual configuration.

Several messages appear, ending with lines similar to the following:

```
...
Copyright (c) 2008 by cisco Systems, Inc.
Compiled <date> <time> by <person>
```

Step 4 Press **Return** to bring up the voice gateway prompt:

```
...
flashfs[4]: Initialization complete.
VG>
```

Step 5 Enter privileged EXEC mode:

```
VG> enable
VG#
```

Step 6 Continue with the “[Initial Configuration Procedures](#)” section on page 4-2.



Note

If the `rommon 1>` prompt appears, your system has booted in ROM monitor mode. For information on the ROM monitor, see the voice gateway rebooting and ROM monitor information in the [Cisco IOS Configuration Fundamentals Configuration Guide](#) for your Cisco IOS software release.

Initial Configuration Procedures

This section shows how to prepare the Cisco VG202 and Cisco VG204 to perform basic communication functions. You may initially configure your voice gateway by using the Cisco IOS command-line interface (CLI) or by using the setup command facility. To create the initial configuration, the setup command facility prompts you for basic information about your voice gateway and network.

Cisco IOS CLI

To configure the initial voice gateway settings by using Cisco IOS CLI, follow these steps:

Step 1 Set up a console connection to your voice gateway. The following message is displayed:

```
...
voice gateway con0 is now available
```

Step 2 Press **Return** or **Enter**. The following message is displayed:

```
Cisco Configuration Professional Express (Cisco CP Express) is installed on this device.
This feature requires the one-time use of the username "cisco"
with the password "cisco." The default username and password have a privilege level of 15.

Please change these publicly known initial credentials using Cisco CP Express or the Cisco
IOS CLI.
```

Here are the Cisco IOS commands.

```
username <myuser> privilege 15 secret 0 <mypassword>
no username cisco
```

Replace <myuser> and <mypassword> with the username and password you want to use.

For more information about Cisco CP please follow the instructions in the QUICK START GUIDE for your voice gateway...

...

User Access Verification

Username:

Step 3 Enter the username *cisco*, and press **Return** or **Enter**. The following prompt is displayed:

Password:

Step 4 Enter the password *cisco*, and press **Return** or **Enter**. The following prompt is displayed:

VG#

A message is displayed that is similar to the first warning message. The message directs you to change the username and password.

You are now in privileged EXEC mode.



Note

You must change the username and password before you log off the voice gateway. You cannot use the username *cisco* or password *cisco* after you log off from this session.

Step 5 To change the username and password, enter the following at the prompt:

```
username username privilege 15 secret 0 password
```

Username and *password* are the username and password that you wish to use.



Note

Use the **copy running-config startup-config** command at the privileged EXEC mode prompt (VG#) to save the configuration to NVRAM.

Verify the initial configuration. See the [“Verifying and Saving Your Configuration”](#) section on page 4-6.

Setup Command Facility

The setup command facility guides you through the configuration process by prompting you for the specific information that is needed to configure your system. Use the setup command facility to configure a hostname for the voice gateway, to set passwords, and to configure an interface for communication with the management network.

To use the setup command facility, you will need to set up a console connection with the voice gateway and enter the privileged EXEC mode.

To configure the initial voice gateway settings with setup command facility, follow these steps:

Step 1 Set up a console connection to your voice gateway, and enter privileged EXEC mode. For instructions on how to enter privileged EXEC mode, see [Step 1](#) through [Step 4](#) in the “Cisco IOS CLI” section on [page 4-2](#).

Step 2 In privileged EXEC mode, at the prompt, enter **setup**.

```
yourname# setup
```

The following message is displayed:

```
--- System Configuration Dialog ---
```

```
Continue with configuration dialog? [yes/no]:
```

You are now in setup command facility.

The prompts in the setup command facility vary, depending on your voice gateway model, on the installed interface modules, and on the software image. The following steps and the user entries (in bold) are shown as examples only.



Note If you make a mistake while using the setup command facility, you can exit and run the setup command facility again. Press **Ctrl-C**, and enter the **setup** command at the privileged EXEC mode prompt (VG#).

Step 3 To proceed using the setup command facility, enter **yes**:

```
Continue with configuration dialog? [yes/no]: yes
```

Step 4 When the following messages appear, enter **yes** to enter basic management setup:

```
At any point you may enter a question mark '?' for help.  
Use ctrl-c to abort configuration dialog at any prompt.
```

```
Default settings are in square brackets '['].
```

```
Basic management setup configures only enough connectivity  
for management of the system, extended setup will ask you  
to configure each interface on the system
```

```
Would you like to enter basic management setup? [yes/no]: yes
```

Step 5 Enter a hostname for the voice gateway (this example uses *VG*):

```
Configuring global parameters:  
Enter host name [VG]: VG
```

Step 6 Enter an enable secret password. This password is encrypted (more secure) and cannot be seen when viewing the configuration.

```
The enable secret is a password used to protect access to  
privileged EXEC and configuration modes. This password, after  
entered, becomes encrypted in the configuration.
```

```
Enter enable secret: XXXXXXXX
```

Step 7 Enter an enable password that is different from the enable secret password. This password is not encrypted (less secure) and can be seen when viewing the configuration.

```
The enable password is used when you do not specify an  
enable secret password, with some older software versions, and  
some boot images.
```

```
Enter enable password: XXXXXXXX
```

- Step 8** Enter the virtual terminal password, which prevents unauthenticated access to the voice gateway through ports other than the console port:

The virtual terminal password is used to protect access to the voice gateway over a network interface.
Enter virtual terminal password: **xxxxxxx**

- Step 9** Respond to the following prompt as appropriate for your network:

Configure SNMP Network Management? [yes]:
Community string [public]:

A summary of the available interfaces is displayed.

- Step 10** Choose one of the available interfaces for connecting the voice gateway to the management network:

Enter interface name used to connect to the management network from the above interface summary: fastethernet4

- Step 11** Respond to the following prompts as appropriate for your network:

Configuring interface FastEthernet0/0:
Use the 100 Base-TX (RJ-45) connector? [yes]: **yes**
Operate in full-duplex mode? [no]: **yes**
Configure IP on this interface? [yes]: **yes**
IP address for this interface: **172.1.2.3**
Subnet mask for this interface [255.255.0.0] : **255.255.0.0**
Class B network is 172.1.0.0, 26 subnet bits; mask is /16

The configuration is displayed:

The following configuration command script was created:

```
hostname VG
enable secret 5 $1$D5P6$PYx41/lQIASK.HcSbf05q1
enable password xxxxxx
line vty 0 4
password xxxxxx
snmp-server community public
!
no ip routing
!
interface FastEthernet0/0
no shutdown
speed 100
duplex auto
ip address 172.1.2.3 255.255.0.0
!
```

- Step 12** Respond to the following prompts. Enter **2** to save the initial configuration.

[0] Go to the IOS command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration to nvram and exit.

Enter your selection [2]: **2**
Building configuration...
Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started! **RETURN**

The user prompt is displayed.
VG>

- Step 13** Verify the initial configuration. See the “[Verifying and Saving Your Configuration](#)” section on page 4-6 for verification procedures.
-

Manual Configuration

To configure the Cisco VG202 or Cisco VG204 from a console (locally or remotely), see the [Cisco VG202 and Cisco VG204 Voice Gateways Feature Module](#) for configuration instructions.

For information about obtaining any referenced documentation, see the “[Obtaining Documentation and Submitting a Service Request](#)” section on page xvi.

Verifying and Saving Your Configuration

To verify the configuration and save it in NVRAM so that the configuration remains in effect if the Cisco VG202 or Cisco VG204 voice gateway is restarted, enter the following commands:

	Command	Purpose
Step 1	VG# <code>show running-config</code>	Displays the current operating configuration, including any changes you have just made.
Step 2	VG# <code>show startup-config</code>	Displays the configuration currently stored in NVRAM.
Step 3	VG# <code>copy running-config startup-config</code>	Writes the current running configuration to NVRAM, where it overwrites the startup configuration and becomes the new startup configuration. Note If you reboot the Cisco VG202 or Cisco VG204 voice gateway or turn off the power before you complete this step, you lose the configuration.

Troubleshooting

This section describes possible mechanical problems and corrective actions.

If there appears to be a malfunction, first check all cables and connections. If these are in order, see [Table 4-1](#) for specific troubles and solutions.

For problems with the configuration, see the [Cisco VG202 and Cisco VG204 Voice Gateways Feature Module](#) for configuration instructions.

Table 4-1 Troubleshooting the Cisco VG204 Voice Gateway

Symptom	Possible Cause	Corrective Action
OK LED is off	Faulty DC cable	Check or replace cable.
	Faulty DC power supply	Check or replace DC power supply. Check that DC is plugged in. Check that the AC cable is plugged in.
	Faulty power source	Check or correct input power.
	Faulty internal power supply	Contact Cisco ¹ or your Cisco reseller.
Unit shuts off after operating for some time	Overheating	Check ventilation.
	Faulty Cisco VG202 or Cisco VG204	Contact Cisco ¹ or your Cisco reseller.
Console screen display freezes	Console fault	Reset or replace console.
	Software error	Repeat power-on procedure.
	Faulty Cisco VG202 or Cisco VG204	Contact Cisco ¹ or your Cisco reseller.

1. See the [“Obtaining Documentation and Submitting a Service Request”](#) section on page xvi.



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