Installation of the Avaya G350 Media Gateway

555-245-104
Issue 2
June 2004

Notice

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Warranty

Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language as well as information regarding support for this product, while under warranty, is available through the following Web site: http://www.avaya.com/support.

Preventing Toll Fraud

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, in the United States and Canada, call the Technical Service Center's Toll Fraud Intervention Hotline at 1-800-643-2353.

Disclaimer

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How to Get Help

For additional support telephone numbers, go to the Avaya support Web site: http://www.avaya.com/support. If you are:

- Within the United States, click the *Escalation Management* link. Then click the appropriate link for the type of support you need.
- Outside the United States, click the *Escalation Management* link. Then click the *International Services* link that includes telephone numbers for the international Centers of Excellence.

Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based), or asynchronous (character-, message-, or packet-based) equipment, or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Responsibility for Your Company's Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you - Avaya's customer system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

TCP/IP Facilities

Customers may experience differences in product performance, reliability and security depending upon network configurations/design and topologies, even when the product performs as warranted.

Standards Compliance

Avaya Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Avaya Inc. The correction of interference caused by such unauthorized modifications, substitution or attachment will be the responsibility of the user. Pursuant to Part 15 of the Federal Communications Commission (FCC) Rules, the user is cautioned that changes or modifications not expressly approved by Avaya Inc. could void the user's authority to operate this equipment.

Product Safety Standards

This product complies with and conforms to the following international Product Safety standards as applicable:

Safety of Information Technology Equipment, IEC 60950, 3rd Edition, or IEC 60950-1, 1st Edition, including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition, or CAN/CSA-C22.2 No. 60950-1-03 / UL 60950-1.

Safety Requirements for Customer Equipment, ACA Technical Standard (TS) 001 - 1997.

One or more of the following Mexican national standards, as applicable: NOM 001 SCFI 1993, NOM SCFI 016 1993, NOM 019 SCFI 1998.

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices used in Avaya equipment typically operate within the following parameters:

Typical Center Wavelength	Maximum Output Power
830 nm - 860 nm	-1.5 dBm
1270 nm - 1360 nm	-3.0 dBm
1540 nm - 1570 nm	5.0 dBm

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Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11

Power Line Emissions, IEC 61000-3-2: Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions.

Power Line Emissions, IEC 61000-3-3: Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.

Federal Communications Commission Statement

Part 15:

Note: 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.

Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

REN Number

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

Canadian Department of Communications (DOC) Interference Information

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.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Installation and Repairs

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Declarations of Conformity

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC)

Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria.

Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids.

Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: http://www.part68.org by conducting a search using "Avaya" as manufacturer.

European Union Declarations of Conformity

CE

Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Europeénne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC).

Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

Japan

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 occur, in which case, the user may be required to take corrective actions.

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。

To order copies of this and other documents:

Call: Avaya Publications Center
Voice 1.800.457.1235 or 1.207.866.6701
FAX 1.800.457.1764 or 1.207.626.7269

Write: Globalware Solutions
200 Ward Hill Avenue
Haverhill, MA 01835 USA
Attention: Avaya Account Management

E-mail: totalware@gwsmail.com

For the most current versions of documentation, go to the Avaya support Web site: http://www.avaya.com/support.

Contents

About this book

Overview

Installation of the Avaya G350 Media Gateway describes how to:

- Physically install the Avaya G350 Media Gateway
- Establish connectivity to a remote installation technician, if necessary
- Prepare for configurations performed by a supporting technician
- Perform some basic configurations

Audience

This book is for the following audiences:

- Trained field installation personnel
- Technical support personnel
- Network engineers and technicians
- Authorized business partners

Downloading this book and updates from the Web

You can download the latest version of *Installation of the Avaya G350 Media Gateway* from the Avaya Web site. You must have access to the Internet, and a copy of Acrobat Reader must be installed on your personal computer.

Avaya makes every effort to ensure that the information in this book is complete and accurate. However, information can change after we publish this book. Therefore, the Avaya Web site might also contain new product information and updates to the information in this book. You can also download these updates from the Avaya Web site.

Downloading this book

To download the latest version of this book:

1. Access the Avaya web site at http://www.avaya.com/support.
2. On the left side of the page, click **Product Documentation**.

   The system displays the Welcome to Product Documentation page.
3. On the right side of the page, type 555-245-104 and then click **Search**.

   The system displays the Product Documentation Search Results page.

4 Scroll down to find the latest issue number, and then click the book title that is to the right of the latest issue number.

5 On the next page, scroll down and click one of the following options:

— **PDF Format** to download the book in regular PDF format.

— **ZIP Format** to download the book as a zipped PDF file.

Safety labels and security alert labels

Observe all caution, warning, and danger statements to help prevent loss of service, equipment damage, personal injury, and security problems. This book uses the following safety labels and security alert labels:

CAUTION:
A caution statement calls attention to a situation that can result in harm to software, loss of data, or an interruption in service.

WARNING:
A warning statement calls attention to a situation that can result in harm to hardware or equipment. A warning can also indicate the presence of a hazard that could cause personal injury if the hazard is not avoided by following the instructions provided.

WARNING:
An ESD warning calls attention to situations that can result in ESD damage to electronic components.

DANGER:
A danger statement indicates the presence of a hazard that can result in severe personal injury or death if the hazard is not avoided by following the instructions provided.

SECURITY ALERT:
A security alert calls attention to a situation that can increase the potential for unauthorized use of a telecommunications system.

Related resources

For more information on the Avaya G350 Media Gateway and related features, see the following books:

Title	Number
Administration of the Avaya G350 Media Gateway	555-245-501
Avaya G350 Media Gateway CLI Reference	555-245-202
Avaya G350 Media Gateway Glossary	555-245-301
Maintenance of the Avaya G350 Media Gateway	555-245-105
Overview of the Avaya G350 Media Gateway	555-245-201
Upgrade and Service Guide for the Avaya G350 Media Gateway	555-245-106
Quick Start for Hardware Installation for the Avaya G350 Media Gateway	03-300148

Technical assistance

Avaya provides the following resources for technical assistance.

Within the US

For help with:

- Feature administration and system applications, call the Avaya Technical Consulting Support System at 1-800-225-7585
- Maintenance and repair, call the Avaya National Customer Care Support Line at 1-800-242-2121
- Toll fraud, call Avaya Toll Fraud Intervention at 1-800-643-2353

International

For all international resources, contact your local Avaya authorized dealer.

Trademarks

Sending us comments

Avaya welcomes your comments about this book. To reach us by:

- Mail, send your comments to:

  Avaya Inc.

  Product Documentation Group

  Room B3-H13

  1300 W. 120th Ave.

  Westminster, CO 80234 USA
- E-mail, send your comments to:

  document@avaya.com
- Fax, send your comments to:

  1-303-538-1741

Ensure that you mention the name and number of this book, *Installation of the Avaya G350 Media Gateway, 555-245-104*.

1 Before you start

Read this chapter carefully before you begin the installation. If you are installing the G350 at a customer site, read this chapter before going to the customer site.

This chapter includes:

Installation workflows

You can use this guide to help perform any of the following:

- A full installation, in which the G350 is shipped to the customer site with no media modules installed and not configured.
- A staging, in which you install media modules and have a supporting technician configure the G350 before shipping it to the customer site.
- An installation of a staged G350, in which you receive the G350 after staging. The G350 has the media modules already installed and is already configured.

Full installation

If you are performing the entire installation at the customer site, work through the guide from beginning to end. The workflow is as follows:

1. Read the rest of this chapter.
2. Mount the G350, install the required media modules in the G350, install ground conductors, and connect power to the G350 (Chapter 2, “Installing the Avaya G350 Media Gateway”).
3. Prepare the G350 for configuration (Chapter 3, “Preparing for configuration”).
4. Connect endpoint devices, such as telephones or LAN and WAN computers, to the G350 and collaborate with a supporting technician who configures the G350 (Chapter 4, “Connecting devices”).
5. Test the installation and remove the installation equipment (Chapter 5, “After installation”).

Staging

If you are using this guide to take you through staging the G350, work through the guide as follows:

1. Read the rest of this chapter.
2. Read Step 2: Install the media modules on page 25, and install the media modules in the G350 chassis.
3. Read Step 4: Connect power to the G350 on page 33, and apply power to the G350.
4. Have the G350 configured and tested by a supporting technician. Do not connect a modem for the configuration. Read Assisting an off-site configuration (staging) on page 52. If you are performing the configuration yourself, see Appendix B, “Configuring the G350”.
5. Disconnect from the G350 any external equipment used in the configuration and testing process.
6. Disconnect power from the G350 and pack it up with the media modules installed.

Installation of a staged G350

If you receive the G350 after staging, pre-configured with the media modules already installed, work through the guide as follows:

1. Read Step 1: Mount the G350 chassis on page 21, and mount the G350 with the media modules already installed.
2. Read Step 4: Connect power to the G350 on page 33, and apply power to the G350.
3. Read Chapter 4, “Connecting devices” and connect devices to the G350.
4. Read Chapter 5, “After installation” and test the installation.

Before going to the site

Before going to the site, work through the following sections to prepare required information and equipment.

Read the planning documentation

Before you begin the installation, read the planning documentation.

The planning documentation provides you with information about:

- What media modules you will be installing. Take note of whether or not you are installing an S8300 Media Server module. The installation process is different depending on whether or not you are installing an S8300.
- Which voice devices and data devices need to be connected to the G350.
- Whom to contact on site about delivery, system questions, or network concerns.
- Whom to contact at your home office in case of questions.
- Whether you need a special pass or an escort.
- How to gain entrance to the installation location if it is locked.

- Where to install equipment.
- Where to find a telephone near the installation location.

Prepare required equipment

You need the following equipment to assist you in the installation:

- One loop start analog trunk for connecting a modem
- A separate telephone line for speaking to the service technician

You may also need some of the following equipment for mounting the G350:

- A Phillips screwdriver if rack mounting or wall mounting the G350
- If you will mount the G350 to a flat wall: screws to fasten the G350 to the wall
- If you will mount the G350 to a non-flat wall:
    - A 415 x 465 mm plywood board, 20 mm (0.79 in) thick
    - Wood screws to fasten the G350 to plywood
    - Screws to fasten the plywood board to the wall

If you are installing an S8300 media server in the G350, you also need:

- One USB modem. The recommended USB modem is Multitech MultiModemUSB MT5634ZBA-USB-V92.
- One USB CD-ROM drive.
- A laptop computer with internet browser.

If you are not installing an S8300 media server in the G350, you also need:

- A PC on the local network with a CD-ROM drive.
- A laptop computer running Windows XP or Windows 2000 with a serial port recognized by the operating system on the laptop. If the port is recognized, it is listed by the Device Manager.
- A modem to connect to the G350 to enable dial-in configuration. You can use either a serial modem or a USB modem. The recommended serial modem is the Multitech MultiModemZBA MT5634ZBA-V-V92. The only supported USB modem for this purpose is the Multitech MultiModemUSB MT5634ZBA-USB-V92.

Obtain the G350 serial number

You will need the serial number for the G350 to create the customer’s license file. To get this number, look for the serial number sticker on the back of the G350 chassis. If the unit is delivered directly to the customer and you will not have phone or LAN line access from the customer site to access the rfa.avaya.com web site, this task will require a preliminary trip to the customer site.

Obtain RFA access

Obtain a personal Single Sign-On (SSO) for Remote Feature Activation (RFA) website authentication login before going to the site for installation. You must complete the authentication process before you can be assigned an SSO authentication login.

As a first-time user:

- Business Partners should point their browsers to the Business Partner portal option sales_market, services-voice, training tools and procedures to select RFA (or go directly to: http://rfa.avaya.com).
- Associates should point their browsers to the Avaya Associate portal (or go directly to: http://rfa.avaya.com).
- Contractors should point their browsers to Avaya.com (or go directly to: http://rfa.avaya.com).

From that point, log into SSO and complete the process to obtain your personal login.

Check license file and Communication Manager versions for a Local Survivable Processor (LSP)

If you are installing an S8300 as a Local Survivable Processor (LSP), the license file for the S8300 must have a feature set that is equal to or greater than that of the media server that acts as primary controller (an S8300 or S8700). This is necessary so that if control passes to the LSP, it can allow the same level of call processing as that of the primary controller.

Additionally, the LSP must have a version of Communication Manager that is identical to that of the primary controller.

The license file requirements of the LSP should be identified in your planning documentation.

Download License and Authentication Files to Your Laptop

To download the customer's license and authentication files to your laptop:

1. Use Windows File Explorer or another file management program to create a directory on your laptop for storing license and authentication files (for example, C:\licenses).
2. Access the Internet from your laptop and go to rfa.avaya.com.
3. Use the System ID or the SAP ID of the customer to locate the license and authentication files for the customer.
4. Check that the license and authentication files are complete.
5. If the files are not complete, complete them. You might need to add the serial number of the customer's G350. See Obtain the G350 serial number on page 15. If any other information is missing, contact your project manager.
6. Use the download or e-mail capabilities of the RFA web site to download the license and authentication files to your laptop.

Run the Automatic Registration Tool (ART) for the RAS IP address

NOTE:
ART is available only to Avaya associates. Business Partners call 800-295-0099.

The ART tool is a software tool that generates a remote access (RAS) IP address and password, for accessing a product attached to a customer's modem. This IP address is required for configuring remote access to a modem on the S8300 or G350. If you need to configure remote access to both the G350 and the S8300, follow this procedure twice, once for the G350 and once for the S8300.

NOTE:
You must generate a license and authentication file before you use the ART tool. In addition, the ART process is available *only* to Avaya personnel. You need an ART user name and password, which you can set up at the ART web site. Non-Avaya personnel must contact their service support or customer care center for INADS addresses, if required.

To obtain the RAS IP address and password:

1. Access the ART web site on your laptop at http://spiexp1.eng.avaya.com:8000/cgi-bin/ARTexp/ARTgltop.cgi.
2. From the User menu, select **Administer an S8x00, G350, CCS, CVLAN, or ASG Guard II**. The Enter Network Password dialog box appears.
3. Enter your ART user name and password.
4. Click **OK**. The **Start of Installation script & IP Addr Admin** screen appears.
5. In the FL Number field, enter the customer's FL number.
6. In the Session Type field, select **Installation Script Administration**.
7. In the Product Type field, select **G350 MEDIA GATEWAY** if you want to configure remote access for the G350, or **S8300 MEDIA SERVER** if you want to configure remote access for the S8300.
8. Click **Start Installation script & IP Addr Admin**. ART validates your input and the Customer Validation screen appears.
9. Read the customer information displayed, to check that it is correct.
10. In the Customer Type field, select **Other**.
11. Click **Continue Installation Script Administration**. A product list appears.
12. Click the number of the product for which you are configuring remote access. The G350 MEDIA GATEWAY Installation Script Administration Data screen appears.
13. In the Product Name field, enter the product name.
14. In the INADS Number field, make sure the correct customer provided dial-in number for the G350 Media Gateway appears.
15. Click **Continue Installation Script Administration**. ART generates the RAS IP address and password (CHAP secret key) and generates an installation script for the product. Keep the RAS IP address and password to configure your modem later.
16. Click **Download Installation Script File** to download the installation script to your laptop, or **Email Installation Script File** to have the script emailed to you.

    A script file is created and downloaded or emailed to you.

You can use the installation script to automatically set up an IP address and other alarming parameters.

If the G350 will be configured using Gateway Installation Wizard (GIW) or Avaya Installation Wizard (AIW), and you have an Electronic Planning Worksheet (EPW), enter the ART information contained in the installation script into the EPW (see Obtain the Electronic Preinstallation Worksheet (EPW) on page 18). When you run GIW, you will have the opportunity to import the EPW. The ART information will be imported along with all the other information in the EPW. Alternatively, if the G350 will be configured using the CLI, keep the installation script to run as a CLI command at the configuration stage.

Download recent firmware

Download any recently updated firmware for the G350 and media modules to your laptop. Visit the Avaya support web site to check the latest firmware image file versions against the factory installed versions in the hardware you are installing. Download any firmware image file upgrades you need from the Avaya Support Web site.

Obtain the Electronic Preinstallation Worksheet (EPW)

For greatest efficiency, obtain the Electronic Preinstallation Worksheet (EPW), which is filled in by the customer and Avaya project manager. This worksheet is an Excel spreadsheet from which Avaya configuration wizards automatically pull data to configure and install the S8300 Media Server and the G350 Media Gateway.

Site requirements

Inspect the site before you begin the installation. Verify that the site requirements have been met for adequate environmental conditions, power and grounding availability, safety, and security conditions. If you find discrepancies between the specifications necessary for proper installation of equipment and the conditions on site, contact your supporting technician before proceeding with the installation.

The G350 may be installed in a 19” rack, mounted on a wall, or placed on a sturdy table. Installation instructions are provided in Chapter 2, “Installing the Avaya G350 Media Gateway”. The surrounding temperature should be in the range 0-40°C. The humidity should not be higher than 95%.

Environmental Verification

Verify that temperatures and clearances are within the recommended technical parameters. Consult the table of Technical Specifications in Appendix A, “Technical specifications”.

WARNING:

Verify that temperature and clearance ranges are within tolerable limits. The thermal sensors may shut down equipment if it is subjected to conditions beyond the recommended limits. Equipment can be damaged if these restrictions are not respected.

Power Verification

Check that an adequate number of power outlets are available.Verify that the G350 Media Gateway and the other equipment in the rack do not present a possible overcurrent or overload to the customer's branch circuit and/or power distribution strip. Power requirements are listed in Appendix A, "Technical specifications".

WARNING:
Do not overload the power circuit.

Grounding Verification

Ensure that the installation site has access to approved grounds and that either a trained technician or a licensed electrician will be verifying all grounds and installing the Supplementary Ground Conductor (consult Step 3: Attach ground conductors on page 30).

WARNING:
Installation in a Restricted Access Location and secure access are required in Finland and Norway.

The G350 Media Gateway relies on two ground connections (mains plug with an earth contact and a permanent Supplementary Ground Conductor). Because of unreliable earthing concerns in Finland, Norway, and Sweden, the G350 Media Gateway must be installed in a Restricted Access Location (RAL). An RAL is defined as an access that can be gained only by trained service personnel or customers who have been instructed about the reasons for the restricted access and any safety precautions that must be taken. In these cases, access to the G350 Media Gateway is gained by the use of a tool (such as a lock and key) or other means of security. If you have any questions about the safety conditions, contact your supporting technician. When you have verified that the site is ready for a safe installation, proceed with the installation.

Unpacking

The G350 chassis and accessories are shipped in a box. The package should contain the following items:

- One empty Avaya G350 Media Gateway chassis, with blanking plates over empty module slots.
- One accessories box, containing:
  - One power cord. If the power cord provided does not have the correct plug configuration needed in a particular country, see the power cord specifications in Appendix A, "Technical specifications".
  - One flat RJ-45 to RJ-45 cable.
  - One RJ-45 to DB-9 cable adapter.
  - One RJ-45 to DB-25 cable adapter.
  - Two standard mounting brackets.
  - One mounting bracket with cable guides.
  - One Supplementary Ground Conductor.
  - Nine 3/8" flat head screws.
  - One 5/16" Phillips screw.
  - One washer.
  - Four rubber feet.
- Documentation CD.
- Auto-run CD.
- Release notes.

Media modules for connecting voice and data devices and outside lines are packaged and shipped in separate boxes. The Avaya Partner Contact Closure adjunct box, if ordered, is also packaged separately.

Before you begin the installation:

1. Unpack the G350 and accessories.
2. Unpack each media module.

   CAUTION:
   Wear an anti-static wrist ground strap whenever handling components of an Avaya G350 Media Gateway. Connect the strap to an approved ground, such as an unpainted metal surface.
3. Check the contents of the packaging against the customer order.
4. Cross-check the customer order with the planning documentation you have been given. Media modules, telephones and other equipment are listed on your planning and shipping documentation. Placement for the media modules and other equipment are also indicated.
5. Verify that all necessary elements have been received and are in good condition. If there are missing or damaged elements, contact the supporting technician for instructions. The planning documentation will list contact information for the supporting technician and other key personnel.

If you have any questions about the equipment order, or if the equipment has been damaged, contact your supporting technician.

2 Installing the Avaya G350 Media Gateway

This chapter describes the physical installation of the G350. Perform the following steps in the order in which they are listed:

The steps above are described in the sections below.

When you have installed the chassis and media modules, and connected the power, you can move on to Chapter 4, “Connecting devices”, and connect external devices to the G350.

Step 1: Mount the G350 chassis

Mount the G350 in one of the following ways:

- In a rack
- On a wall
- On a table

CAUTION:
When handling any components of an S8300 Media Server or G350 Media Gateway, wear an anti-static wrist ground strap. Connect the strap to an approved ground, such as an unpainted metal surface.

NOTE:
Avaya has developed special hardware platforms for customers with harsh environmental conditions. These platforms have been tested to meet stringent physical and environmental requirements (i.e., shock, vibration, EMI, etc.) imposed by the United States Navy for use on their ships. The platforms make use of specialized racks and reinforcements. If you wish to obtain information about the design and implementation of such a ruggedized solution, contact the Avaya Navy Shipboard Services organization.

Mounting the G350 in a rack

The G350 mounts in a standard 19-inch rack.

If the G350 is to be mounted in a rack, you can fasten the G350 to the rack either at the front of the G350 or at the middle. In either case, mounting brackets must be attached to the G350.

There are two types of mounting brackets provided with the G350:

- Without cable guides. Two mounting brackets without cable guides are provided.
- With cable guides. One mounting bracket with cable guides is provided. This bracket provides guides for electrical cables.

Mounting brackets without cable guides can be attached in either of the following positions:

- To each side of the front of the G350 for fastening the unit to the rack at the front
- To the middle of each side panel of the G350 for fastening the chassis to the rack at the middle

Figure 1: Attaching a mounting bracket to the front of the G350

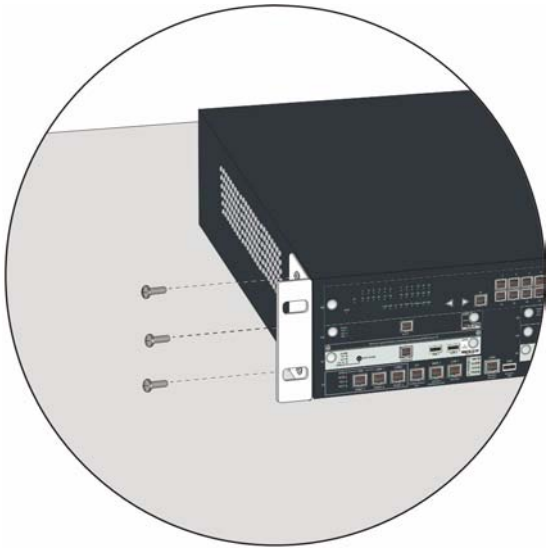
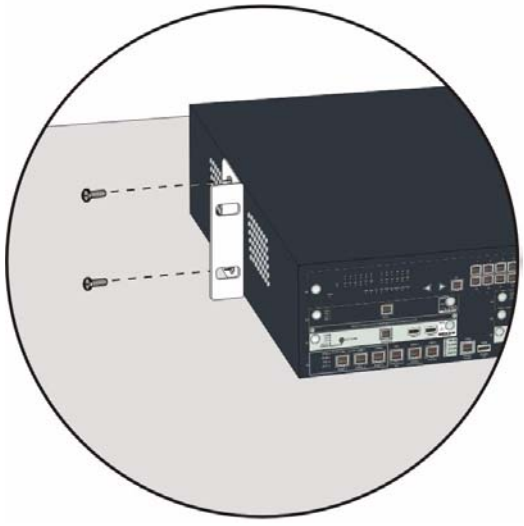


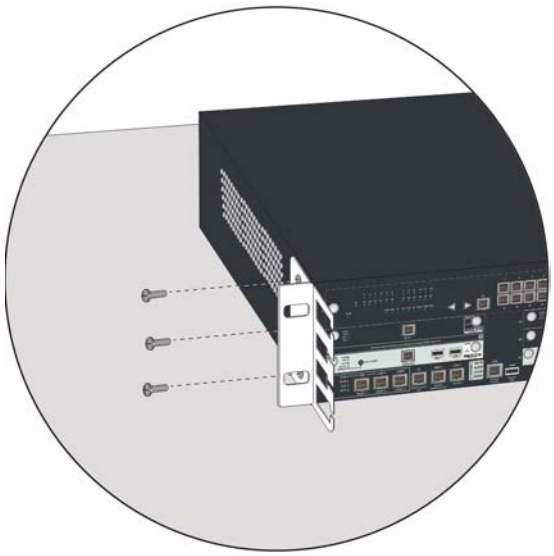
Figure 2: Attaching a mounting bracket to the middle of the G350



The mounting bracket with cable guides is useful for cable management. You can attach the mounting bracket with cable guides to the front of the G350 at one side, as shown in the following figure. If you are fastening the chassis to the rack at the front, use the mounting bracket with cable guides as one of the two front brackets. If you are fastening the chassis to the rack at the middle, use the mounting bracket with cable guides at the front of the chassis, in addition to the two regular mounting brackets on the sides of the chassis. In this case, the mounting bracket with cable guides serves for cable management only — you do not fasten it to the rack.

NOTE:
If you are installing an MM717 media module, attach the mounting bracket with cable guides to the right side of the rack, to support the weight of the amphenol cable you will connect to the MM717 media module. See Connecting a DCP telephone on page 56.

Figure 3: Attaching a mounting bracket with cable guides



To attach each mounting bracket to the G350:

1. Position a bracket over the desired mounting position.
2. Affix the bracket to the chassis with three of the nine 6-32 x 3/8 screws provided.
3. Tighten with a screwdriver.

The G350 is held in place by mounting screws through the two mounting ears. To avoid balancing problems and cabling complications, the racks should be filled from the bottom; that is, mount units in the lower positions first.

Before mounting the G350, check for the following:

- Ensure that the rack is bolted to the floor and is earthquake-protected, if required. If the rack is not securely fixed in place, do not proceed with the installation.
- If the G350 is being mounted in a rack with other equipment already installed, the G350 must be positioned to avoid imbalance.

- The G350 is shipped with 3 sets of four mounting screws. Choose the set of screws that match the screw holes in the rack being used.
- The G350 weighs 22.5 pounds (10 kg) empty and between 33 and 35 pounds (between 15 and 16 kg) when equipped with media modules. Two people may be needed to mount the G350 Media Gateway in the rack.

To mount the G350 in the rack:

1. Position the G350 in the rack. Ensure that there is adequate ventilation.
2. Verify that the screw holes are aligned with the rack hole positions.
3. Insert two mounting screws on each side.
4. Tighten the mounting screws. Avoid overtightening.
5. Verify that ventilation vents are not obstructed.

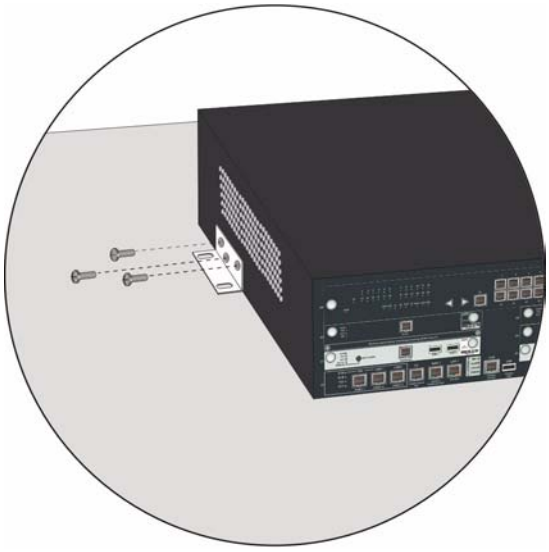
At this point, you have mounted the G350 chassis in the rack and are ready to insert media modules as required in the planning documentation.

Mounting the G350 on a wall

To mount the G350 on a wall, use the two mounting brackets without cable guides. If the wall is flat, you can screw the G350 directly to the wall. If the wall is not flat, screw a plywood board (415 x 465 mm, 20 mm thick) to the wall with wood screws, and fasten the G350 to the board.

To attach brackets to the G350 for wall mounting:

1. Attach a bracket to each side of the G350, as shown in the figure below.



Placing the G350 on a table

If you will be installing the G350 as a tabletop unit, you need to affix the provided rubber feet to the underside of the G350.

To affix the feet:

1. Remove the four feet from their packaging.
2. Turn the G350 upside down.
3. Position each foot into one of the mounting sites, near each corner of the chassis.
4. Press the plastic rivet into the foot with a stylus until it is firmly seated on the chassis.

Step 2: Install the media modules

When the G350 chassis is installed, you can insert the media modules. Each module is shipped with two thumb screws for securing the position of the module in the G350 chassis.

Before inserting media modules into the G350 chassis, make sure:

- Not to install an unsupported combination of media modules. See Combination limitations.
- To allocate a permissible slot to each media module. See Allocating slots on page 26.

To install an S8300 media module, see Inserting the S8300 Media Server module on page 27.

To install each of the other media modules, see Inserting media modules on page 28.

WARNING:
The Avaya G350 Media Gateway must not be operated with any open slots. Failure to cover empty slots with the supplied blank plates can cause overheating due to inadequate air distribution.

Combination limitations

The following combinations of media modules are *not* supported by the G350:

- More than three of the following voice media modules: MM711, MM712, MM714, MM717, MM720, and MM722
- More than one MM710 media module
- More than one MM712 or MM717 media module
- More than two MM711 and/or MM714 media modules
- More than two MM720 or MM722 media modules
- More than two MM340 and/or MM342 media modules

CAUTION:
Do not install an unsupported combination of media modules in the G350. Installation of an unsupported media module combination could result in malfunction.

Allocating slots

You insert media modules into the slots marked V1, V2, V3, V4, V5, and V6 on the G350 front panel, shown in Figure 4 below.

Figure 4: The G350 front panel ports and slots

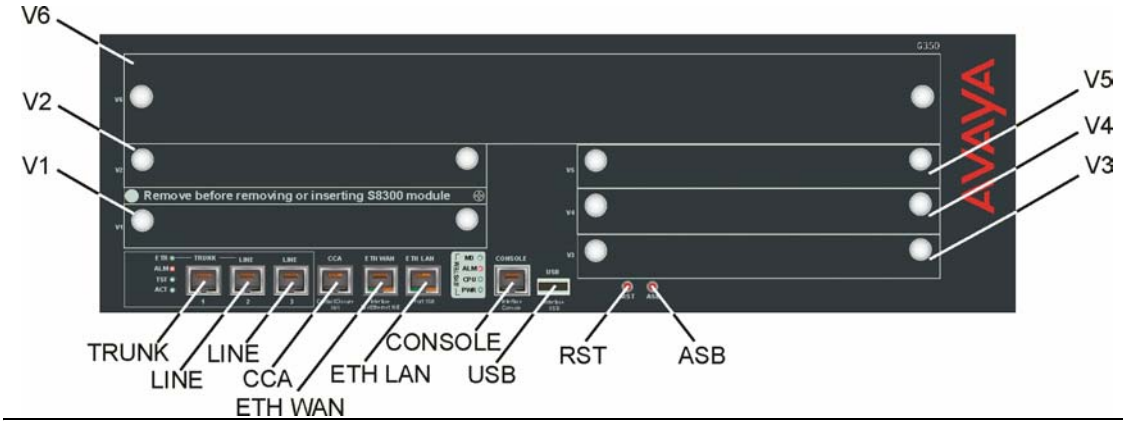


Table 1 describes which media modules can be inserted into which slots:

Table 1: Permitted slots for media modules

Media module	Permitted slots	Description
MM312	V6	Provides 24 ports for connecting DCP telephones.
MM314	V6	Provides one Gigabit Ethernet port and 24 10/100 Ethernet ports for connecting data devices. The 24 10/100 Ethernet ports can provide power to connected devices using Power over Ethernet (PoE).
MM340	V2, V3, V4, V5	Provides one E1/T1 WAN port for connecting to a WAN endpoint device.
MM342	V2, V3, V4, V5	Provides one USP WAN port for connecting to a WAN endpoint device.
MM710	V1, V2, V3, V4, V5	Provides one E1/T1 trunk port for connecting an E1/T1 telephone trunk.
MM711	V1, V2, V3, V4, V5	Provides eight universal analog ports for connecting analog telephones or trunks.
MM712	V1, V2, V3, V4, V5	Provides eight ports for connecting DCP telephones.
MM714	V1, V2, V3, V4, V5	Provides four analog ports for analog telephones and four analog ports for analog trunks.
MM717	V1, V2, V3, V4, V5	Provides one amphenol connector that connects to a punch down block to provide 24 ports for connecting DCP telephones.

1 of 2

Table 1: Permitted slots for media modules

Media module	Permitted slots	Description
MM720	V1, V2, V3, V4, V5	Provides eight ports for connecting ISDN trunks.
MM722	V1, V2, V3, V4, V5	Provides two ports for connecting ISDN trunks.
S8300	V1	Media Server

2 of 2

Allocate a slot for the media module. Make sure your slot allocations allow a permissible slot for every media module.

NOTE:
If you install in slot V1 an S8300 media server that has a CWY1 module, slot V2 cannot be used.

Inserting the S8300 Media Server module

CAUTION:
Hold media modules only by the edges to avoid damage from static electricity. Do not touch the top or bottom of the circuit board. If possible, wear an anti-static wrist-strap and use an anti-static bag.

CAUTION:
The connector pins can be bent or damaged if the module is handled roughly, or if misaligned and then forced into position.

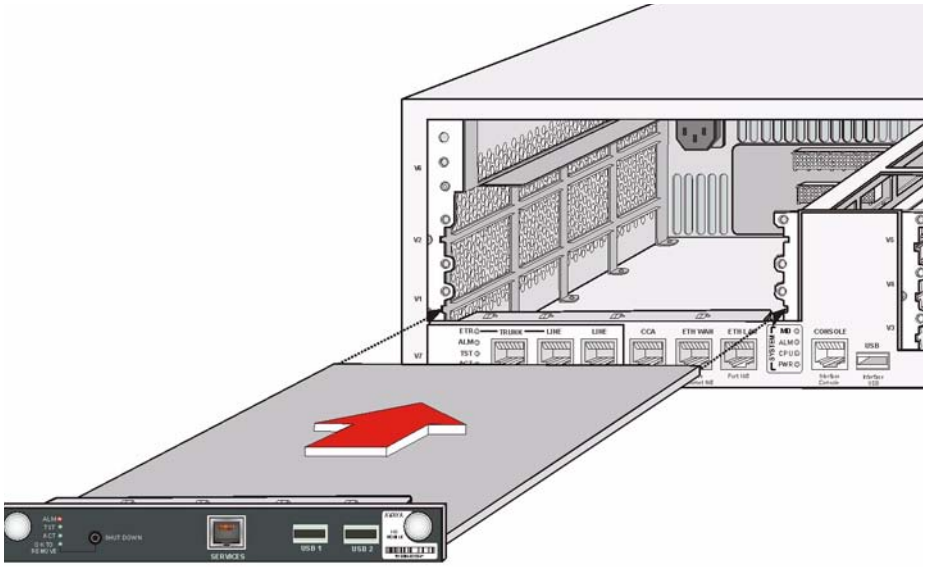
CAUTION:
Separate ESD paths to the chassis ground connect to the media modules at the spring-loaded captive screws. Use a screwdriver to ensure the captive screws are securely tightened to prevent damage to the equipment.

The S8300 can only be inserted in slot V1 on the left side of the G350 Media Gateway.

To insert the S8300 Media Server module

1. Remove the plate between slots V1 and V2, labelled “Remove before removing or inserting S8300 module.”
2. Remove the blank plate from slot V1.
3. Position the media module before the V1 bay opening and engage both sides of the module in the interior guides.
4. Slide the S8300 module slowly into the chassis, maintaining an even pressure to assure that the module does not become twisted or disengaged from the guides.

Figure 5: Inserting the S8300 media server module.



5 Apply firm pressure to engage the connectors.

The connector has different length pins. The long pins will engage first to provide grounding. Medium length and short pins will provide power and signal.

6 Lock the S8300 Media Server module into the chassis by tightening the spring-loaded captive screws on the front of the module.

7 Replace the plate labelled “Remove before removing or inserting S8300 module” between slots V1 and V2, and tighten the screws on the front of the plate.

DANGER:
To prevent access to electrical hazards by unauthorized personnel and to ensure continued compliance to radiated emissions requirements, all captive screws must be securely tightened such that they cannot be loosened without the use of a tool.

Inserting media modules

After you have inserted the S8300 Media Server module, if applicable, insert the rest of the media modules. Make sure to insert each module in a permissible slot. For information about which slots to allocate to which modules, see Allocating slots on page 26.

CAUTION:
Hold media modules only by the edges to avoid damage from static electricity. Do not touch the top or bottom of the circuit board. If possible, wear a wrist-strap and use an anti-static bag.

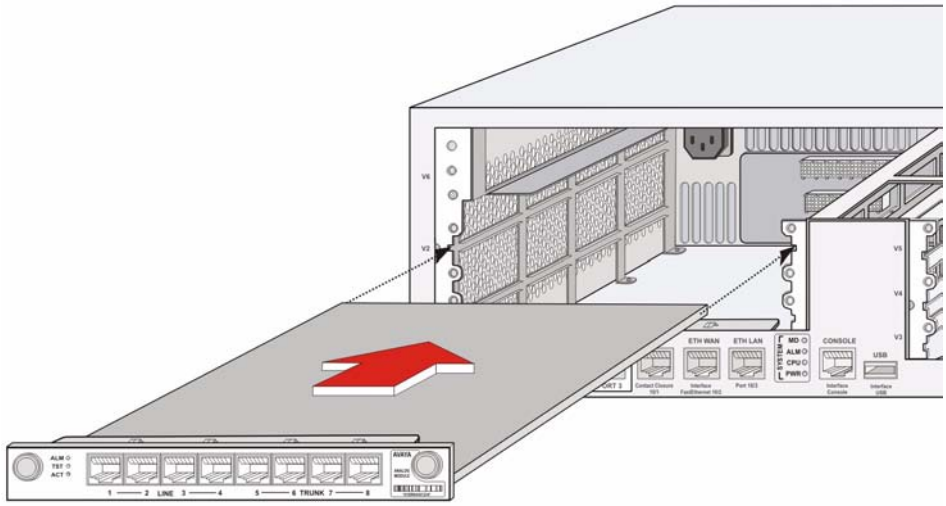
CAUTION:
The connector pins can be bent or damaged if the module is handled roughly, or if misaligned and then forced into position.

CAUTION:
Separate ESD paths to the chassis ground connect to the media modules at the spring-loaded captive screws. Use a screw driver to ensure the captive screws are securely tightened to prevent damage to the equipment.

To insert a media module:

1. Remove the blank plate from the empty bay.
2. Position the media module before the selected bay on the front of the G350 chassis and engage both sides of the module in the interior guides.
3. Slide the module slowly into the chassis, maintaining an even pressure to assure that the module does not become twisted or disengaged from the guides.

Figure 6: Inserting a media module



4. Apply firm pressure to engage the connectors.

   The media module connector has different length pins. The long pins will engage first to provide grounding. Medium length and short pins will provide power and signal.
5. Lock the media module into the chassis by tightening the spring-loaded captive screws on the front of the module.

DANGER:
To prevent access to electrical hazards by unauthorized personnel and to ensure continued compliance to international radiated emissions requirements, all captive screws must be securely tightened such that they cannot be loosened without the use of a tool.

WARNING:
After you have connected telephones to the various media modules, be sure to add circuit protection to the lines (See Step 4: Install circuit protection on page 59).

Step 3: Attach ground conductors

To assure safe installation and operation, carefully read all requirements, recommendations, and instructions. Pay special attention to all CAUTION, WARNING, and DANGER statements.

WARNING:
System grounding must comply with the general rules for grounding provided in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electrical code in the country of installation.

General grounding requirements

Two safety grounds are required to ensure safe operation of the G350 Media Gateway: the ground conductor that is part of the AC power cord and the field-installed green/yellow conductor referred to as the Supplementary Ground Conductor. Both safety grounds must be connected to an approved ground. If a power cord accompanies the G350, use that cord whenever possible.

The customer must select a location for the G350 Media Gateway installation that is no more than 50 feet (15 m) from an approved ground. If this location requirement is not met, the customer must contact a licensed electrician to install a Supplementary Ground Conductor per Article 250 of the National Electrical Code (NEC).

WARNING:
If the installation location is greater than 50 feet (15 m) from an approved ground, do not install the Avaya G350 Media Gateway until a licensed electrician is present to install a Supplementary Ground Conductor.

A 55-foot (16-m) Supplementary Ground Conductor is provided with the equipment, and is constructed of 10 AWG (4.0 mm^2) wire, with an insulated ring terminal crimped to one end that is suitable for the #8 (M4) stud/screw on the rear of the G350 chassis.

The customer will need to provide a means of connecting this Supplementary Ground Conductor to an approved ground according to Article 250 of the National Electrical Code (NEC).

A ground block is available for use when multiple G350 Media Gateways are being installed. The ground block, intended for rack mounting, has ten terminals available for terminating Supplementary Ground Conductors. Up to ten G350 Media Gateways can be grounded at the block installed close to the equipment (on a rack) and then a single ground conductor can be routed from the same block to an approved ground. If the ground block is to be used, it must be ordered separately.

DANGER:

Failure to install both grounds will void the Product Safety certifications (UL and the CE Mark) on the product, as well as allow a hazard to be present that could result in death or severe personal injury.

In Finland and Norway, the G350 Media Gateway must be installed in a Restricted Access Location, due to unreliable earthing concerns. A Restricted Access Location is defined as access that can be gained by only Service Personnel or Customers who have been instructed about the reasons for the restricted access and any safety precautions that must be taken. In these cases, access to the G350 is gained by the use of a tool (such as a lock and key) or other means of security.

WARNING:

For installations in Finland and Norway, the Avaya G350 Media Gateway relies on two ground connections (mains plug with an earth contact and a Supplementary Ground Conductor).

Approved grounds

An approved ground is the closest acceptable medium for grounding the building entrance protector, entrance cable shield, or a single-point ground of electronic telephony equipment. If more than one type of approved ground is available on the premises, the grounds must be bonded together as required in Section 250-81 of the NEC for the US or per the local electrical code regulations in the country of installation.

- Grounded Building Steel. The metal frame of the building where it is effectively grounded by one of the following grounds: acceptable metallic water pipe, concrete encased ground, or a ground ring.
- Acceptable Water Pipe. A metal underground water pipe, at least 1/2-in. (1.3 cm) in diameter, in direct contact with the earth for at least 10 ft. (3m). The pipe must be electrically continuous (or made electrically continuous by bonding around insulated joints, plastic pipe, or plastic water meters) to the point where the protector ground wire connects. A metallic underground water pipe must be supplemented by the metal frame of the building, a concrete-encased ground, or a ground ring. If these grounds are not available, the water pipe ground can be supplemented by one of the following types of grounds:
  - — Other local metal underground systems or structures, such as tanks and piping systems.
  - — Rod and pipe electrodes. A 5/8-in. (1.6 cm) solid rod or 3/4-in. (2 cm) conduit or pipe electrode driven to a minimum depth of 8 ft. (2.4 m).
  - — Plate electrodes. Must have a minimum of 2 sq. ft. (0.185 sq. m) of metallic surface exposed to the exterior soil.
- Concrete Encased Ground. An electrode encased by at least 2 in. (5.1 cm) of concrete and located within and near the bottom of a concrete foundation or footing in direct contact with the earth. The electrode must be at least 20 ft. (6.1 m) of one or more steel reinforcing bars or rods, 1/2-in. (1.3 cm) in diameter, or at least 20 ft. (6.1 m) of bare solid copper, 4 AWG (26 mm^2) wire.

- Ground Ring. A buried ground that encircles a building or structure at a depth of at least 2.5 ft (0.76 m) below the earth's surface. The ground ring must be at least 20 ft. (6.1 m) of 2 AWG (35 mm^2), bare copper wire.
- Approved Floor Grounds. Floor grounds are those grounds on each floor of a high-rise building that are suitable for connection to the ground terminal in the riser closet and to the cabinet single-point ground terminal. Approved floor grounds may include the following:
  - — Building steel.
  - — The grounding conductor for the secondary side of the power transformer feeding the floor.
  - — Metallic water pipes.
  - — Power-feed metallic conduit supplying panel boards on the floor.
  - — A grounding point specifically provided in the building for that purpose.

WARNING:
If the approved ground or approved floor ground can only be accessed inside a dedicated power equipment room, then connections to this ground must be made by a licensed electrician.

Connect the safety ground

Proper grounding of the G350 Media Gateway installation safeguards the system, users, and service personnel by providing protection from lightning, power surges, AC mains faults, power crosses on central office trunks, and electrostatic discharge (ESD).

Local electrical installation codes must be followed when installing the G350.

DANGER:
Connection of both grounds (through the AC Power Cord and the Supplementary Ground Conductor) is required for safe operation of the G350 Media Gateway.

WARNING:
An improper ground can cause electrical shock as well as equipment failures and service outages.

To attach the ground wires:

1. Remove the ground screw on the rear of the chassis adjacent to the ground symbol.
2. Place the ring terminal of the 10 AWG (4.0 mm^2) Supplementary Ground Conductor on the screw.
3. Replace the ground screw on the chassis and securely tighten the screw such that it cannot be loosened without the use of a tool.

If the ground block has been purchased:

1. Cut the Supplementary Ground Conductor (which has one end attached to the grounding screw on the chassis) to the length needed to terminate it into one of the terminals of the ground block. Do not coil the Supplementary Ground Conductor.
2. Attach one end of the remaining 10 AWG (4 mm^2) ground wire to one of the terminals in the ground block and the other end to an approved ground.
3. Cut this ground wire to the length needed to reach the approved ground. Do not coil this wire.

NOTE:
The ground block is provided for use with more than one G350 in the rack. It is usually mounted by the customer electrician.

If the ground block is not being used:

1. Attach the Supplementary Ground Conductor to an approved ground.
2. Connect the AC power cable to the inlet receptacle on the rear of the chassis.

You have now mounted the fully equipped G350 Media Gateway and connected to electrical ground conductors. You are now ready to connect power.

Step 4: Connect power to the G350

After you have mounted the G350, installed the media modules, and attached grounding conductors, you can connect power to the G350.

To connect power to the G350:

1. Connect the power cable to the power connector on the G350 back panel.
2. Plug the power cable into a mains socket. The G350 is now powered. The PWR LED on the front panel lights. The CPU LED lights up if the firmware is running. At least one LED on each media module, except the S8300, lights up initially and then goes off after about 20 seconds.

3 Preparing for configuration

This chapter explains how to prepare for a supporting technician to configure the G350 either remotely or on-site.

For information about configuring the G350 without the assistance of a supporting technician, see Appendix B,"Configuring the G350".

> **NOTE:**
> If you received the G350 after staging, the G350 is already configured, and you should skip this chapter.

When you have mounted the G350 and inserted the media modules, you are ready to connect endpoint devices to the front panel ports. Before you connect devices, make the preparations described in this chapter to enable the supporting technician to access the G350 for configuration.

> **NOTE:**
> If you are staging the G350 before taking it to the customer site, do not connect endpoint devices unless the supporting technician requests you to do so to assist the configuration. The supporting technician will need to connect some devices to test endpoints.

When you have completed the preparations described in this chapter, contact the supporting technician to help establish configuration access. Be prepared to assist the supporting technician throughout the configuration. For information about how you might need to assist in the configuration, see Step 2: Assist the configuration on page 51.
While the supporting technician is configuring the G350, you can connect endpoint devices to the G350. For information about connecting devices to the front panel ports of the G350, see Chapter 4, "Connecting devices". The supporting technician will need you to connect the endpoint devices to enable testing of the configuration.

Step 1: Prepare configuration equipment

If the configuration will be done on-site, no preparations are necessary. You will need to assist the supporting technician throughout the configuration (see Assisting an on-site configuration on page 51).

If you are having the G350 staged, skip to Assisting an off-site configuration (staging) on page 52.

If the configuration will be done either remotely, or partly remotely and partly on-site, you need to prepare certain equipment for use in the configuration process.

> **NOTE:**
> If a supporting technician, who will be performing part of the configuration, is coming to do so on-site, that technician might perform these preparations.

The preparations are different depending on whether or not you installed an S8300 in the G350. See one of the following sections below:

- Preparing a G350 without an S8300 for configuration on page 36
- Preparing a G350 with an S8300 for configuration on page 47

Preparing a G350 without an S8300 for configuration

If some of the configuration will be done on-site and some remotely, the supporting technician will perform the local configuration and set up the G350 for the remote configuration. You will need to assist the technician (see Assisting a combined remote and on-site configuration on page 52).

If the complete configuration will be done remotely:

1. Enable and connect a modem to the G350. You can either use a serial modem and connect it to the CON port on the G350 front panel or a USB modem connected to the USB port on the G350 front panel. For instructions on enabling and connecting the modem, see the relevant section:
   - Enabling and connecting a serial modem
   - Enabling and connecting a USB modem on page 41
2. Test the modem connection. See Test the modem connection on page 46.

Enabling and connecting a serial modem

To enable and connect a serial modem:

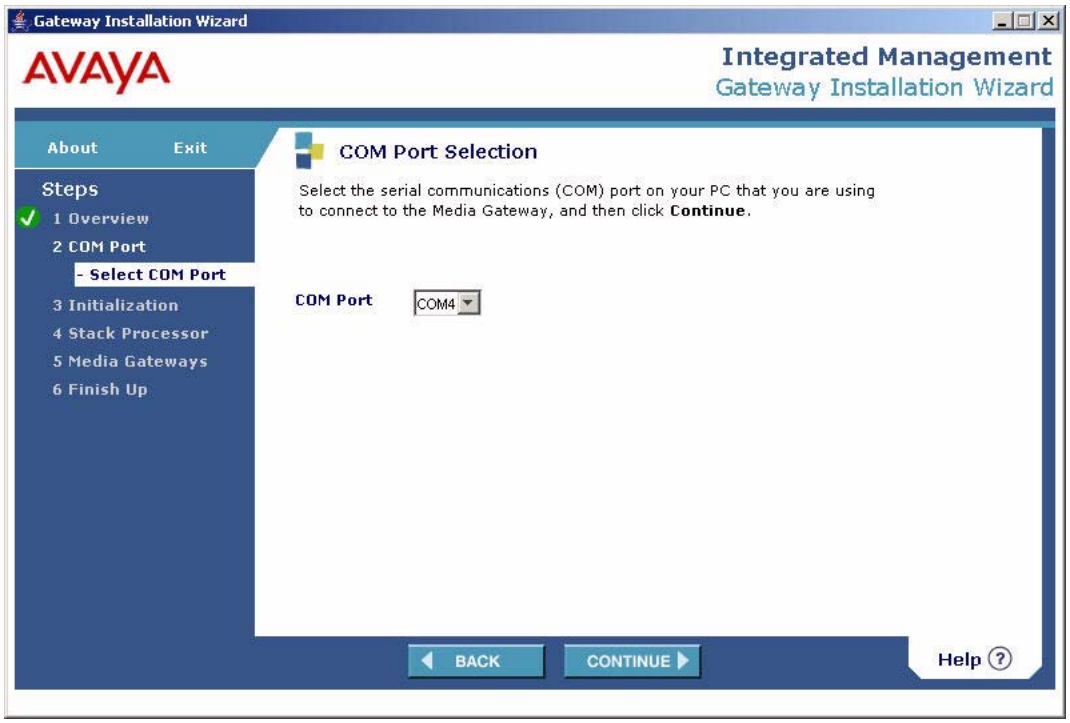
1. Prepare a PC with a CD-ROM drive and a TFTP server on the network. This may be needed for installing software and firmware upgrades.

   NOTE:
   When uploading firmware from the S8300 using TFTP, you may need to enable TFTP service in the Set LAN Security parameters of your web server.

   NOTE:
   Firmware upgrades for the G350 and media modules can either be installed from CD or downloaded from the Web.

2. Download Gateway Installation Wizard (GIW) from the Avaya website (support.avaya.com/avaygiw) to the laptop computer. The laptop should be running Windows 2000 or Windows XP to support GIW.
3. Plug one end of the provided flat RJ-45 to RJ-45 cable into the provided DB-9 adapter.
4. Plug the RJ-45 connector at the other end of the cable into the CON port of the G350.
5. Plug the DB-9 end of the flat cable into the COM port of the laptop computer.
6. From your laptop computer, double-click the GIW icon to run GIW. The Overview screen appears.
7. Click **Continue**. The COM Port Selection screen appears.

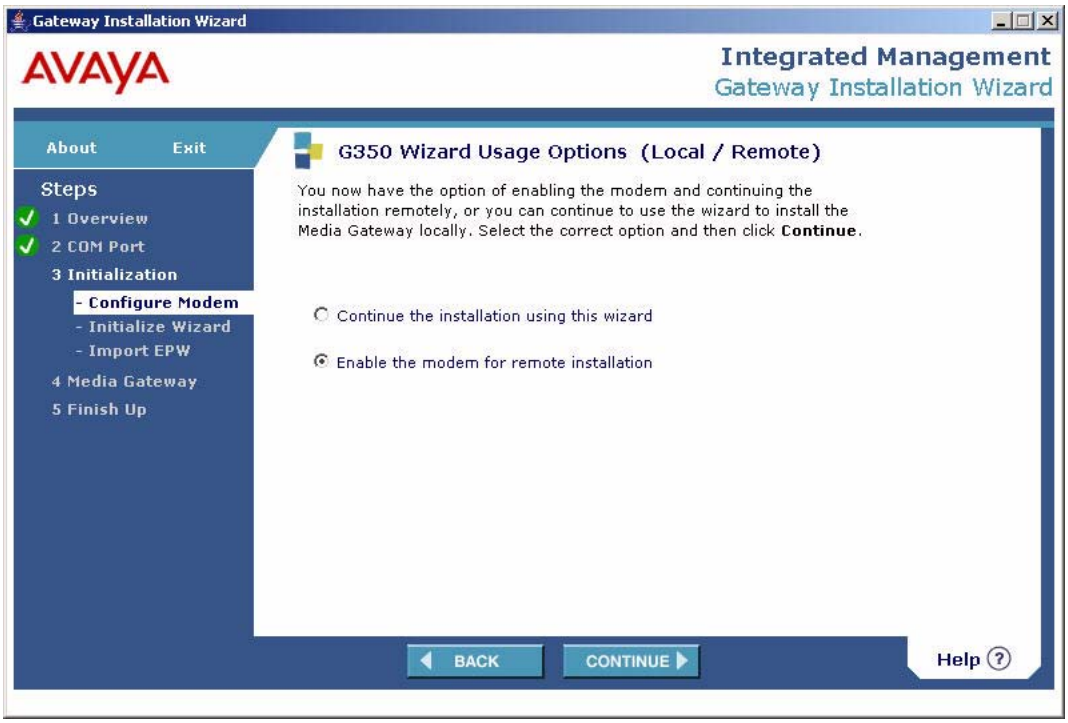
Figure 7: COM Port Selection screen



8 Select the COM port on the laptop that you are using to connect to the G350.

9 Click **Continue**. The G350 Wizard Usage Options screen appears.

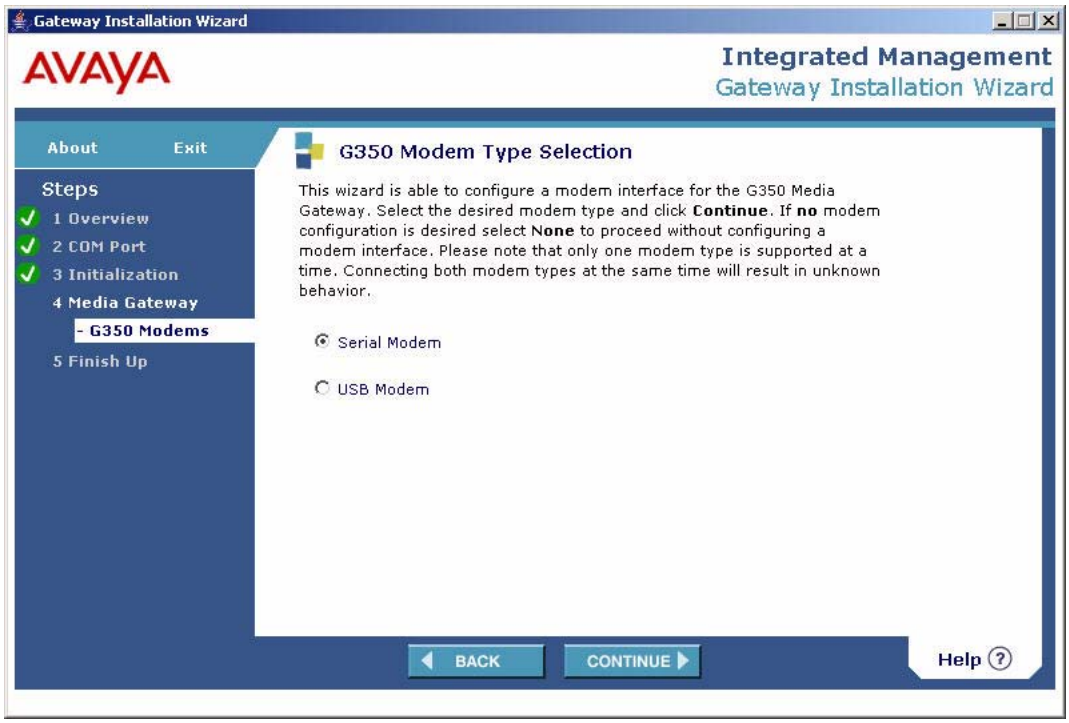
Figure 8: G350 Wizard Usage Options screen



10 Select **Enable the modem for remote installation**.

11 Click **Continue**. The G350 Modem Type Selection screen appears.

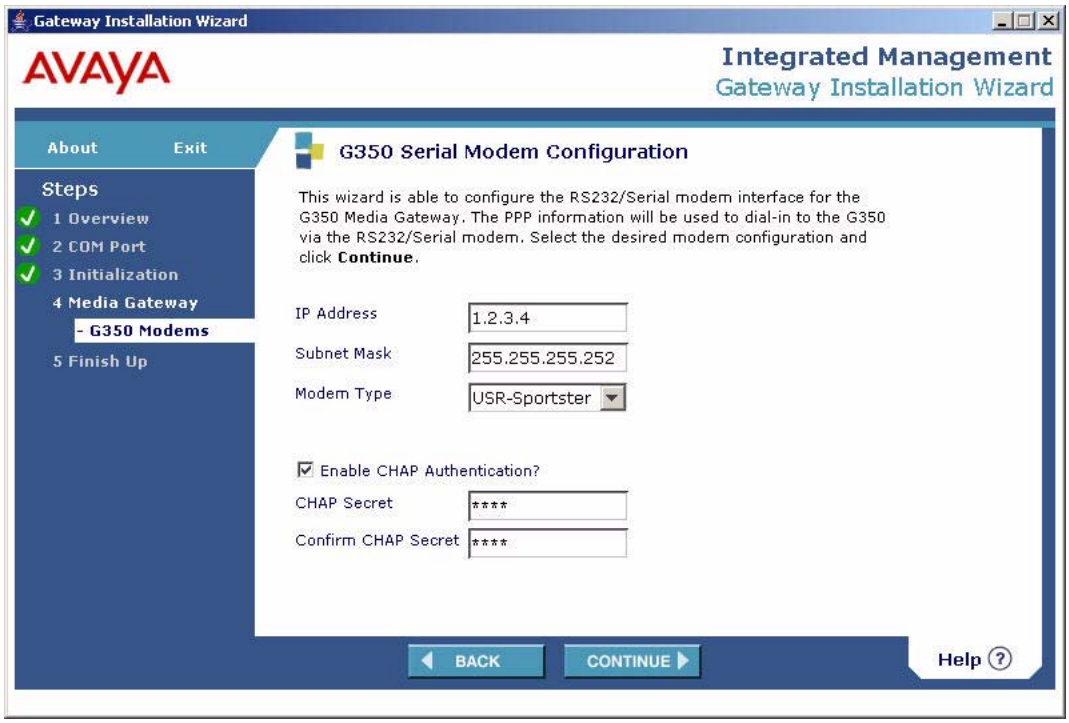
Figure 9: G350 Modem Type Selection screen



12 Select **Serial Modem**.

13 Click **Continue**. The G350 Serial Modem Configuration screen appears.

Figure 10: G350 Serial Modem Configuration screen



14 In the IP Address field, enter the RAS IP address of the modem obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

15 Fill in the remaining modem information fields.

16 Check **Enable CHAP Authentication**.

17 In the CHAP Secret field, enter the CHAP secret key obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

18 In the Confirm CHAP Secret field, reenter the CHAP secret key.

19 Click **Continue**. The Connect Modem screen appears.

Figure 11: Connect Modem screen

20 Click **Finish**.

21 Connect the serial modem to a working telephone line.

22 Connect the provided DB-25 adapter to the modem.

23 Disconnect the flat cable from the COM port of the laptop computer.

24 Connect the flat cable to the DB-25 connector on the modem.

Enabling and connecting a USB modem

You can enable a MultiTech MT5634ZBA-USB USB modem on the USB port on the G350 front panel.

NOTE:
The MultiTech model MT5634ZBA-USB USB modem is the only USB modem supported by the G350.

To enable and connect a USB modem:

1 Prepare a PC with a CD-ROM drive and a TFTP server on the network. This may be needed for installing software and firmware upgrades.

NOTE:
When uploading firmware from the S8300 using TFTP, you may need to enable TFTP service in the Set LAN Security parameters of your web server.

NOTE:
Firmware upgrades for the G350 and media modules can either be installed from CD or downloaded from the Web.

2 Download GIW (Gateway Installation Wizard) from the Avaya website (support.avaya.com/avaygiw) to the laptop computer. The laptop should be running Windows 2000 or Windows XP to support GIW.

3 Plug one end of the provided flat RJ-45 to RJ-45 cable into the provided DB-9 adapter.

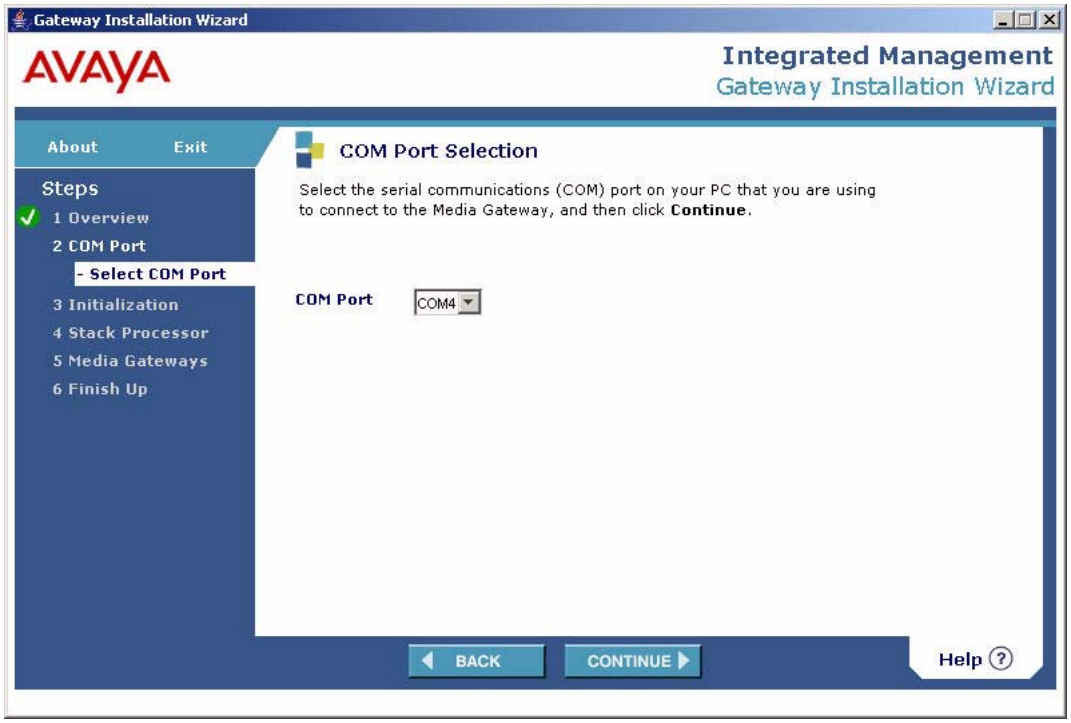
4 Plug the RJ-45 connector at the other end of the cable into the CON port of the G350.

5 Plug the DB-9 end of the flat cable into the COM port of the laptop computer.

6 From your laptop computer, double-click the GIW icon to run GIW. The Overview screen appears.

7 Click **Continue**. The COM Port Selection screen appears.

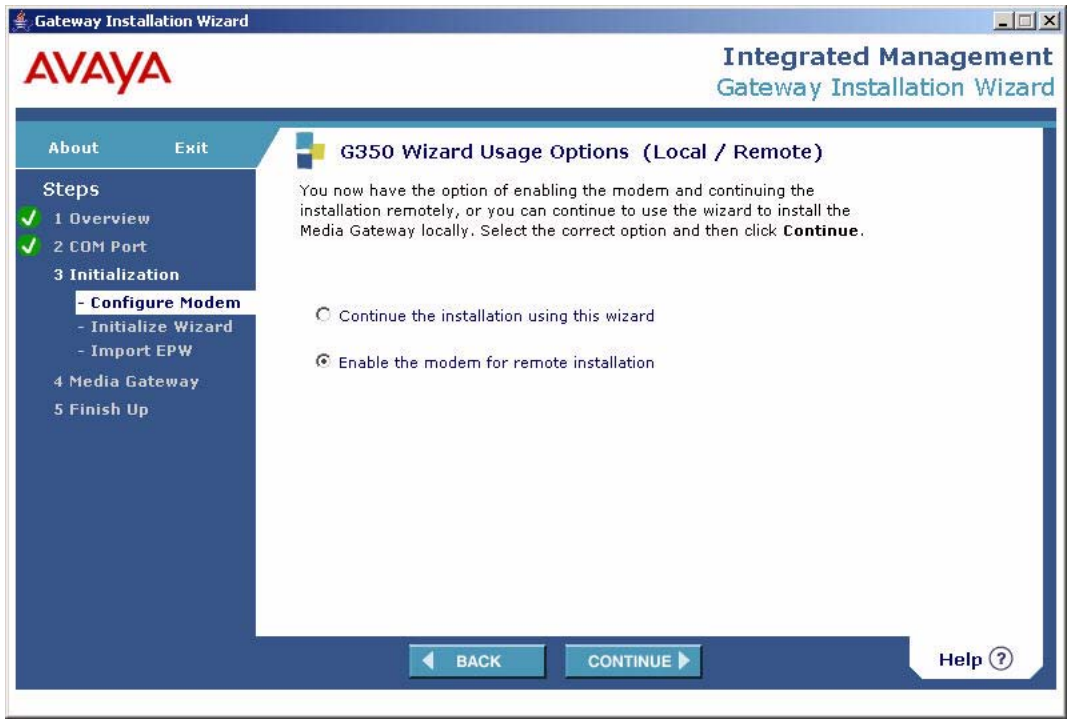
Figure 12: COM Port Selection scree



8 Select the COM port on the laptop that you are using to connect to the G350.

9 Click **Continue**. The G350 Wizard Usage Options screen appears.

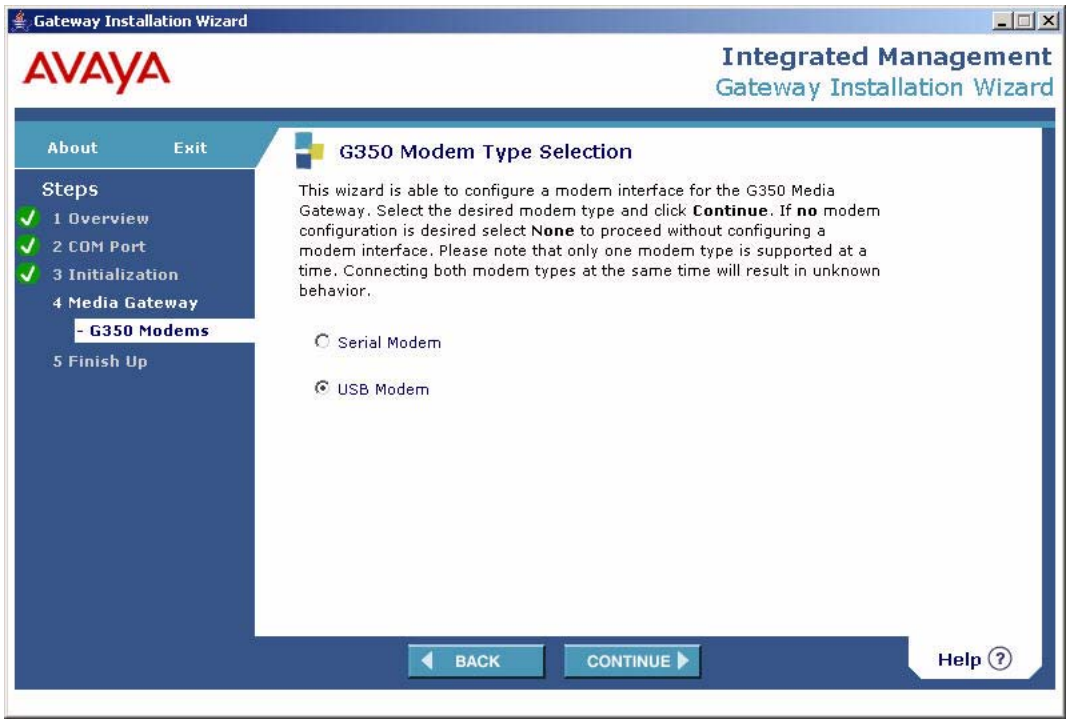
Figure 13: G350 Wizard Usage Options screen



10 Select **Enable the modem for remote installation**.

11 Click **Continue**. The G350 Modem Type Selection screen appears.

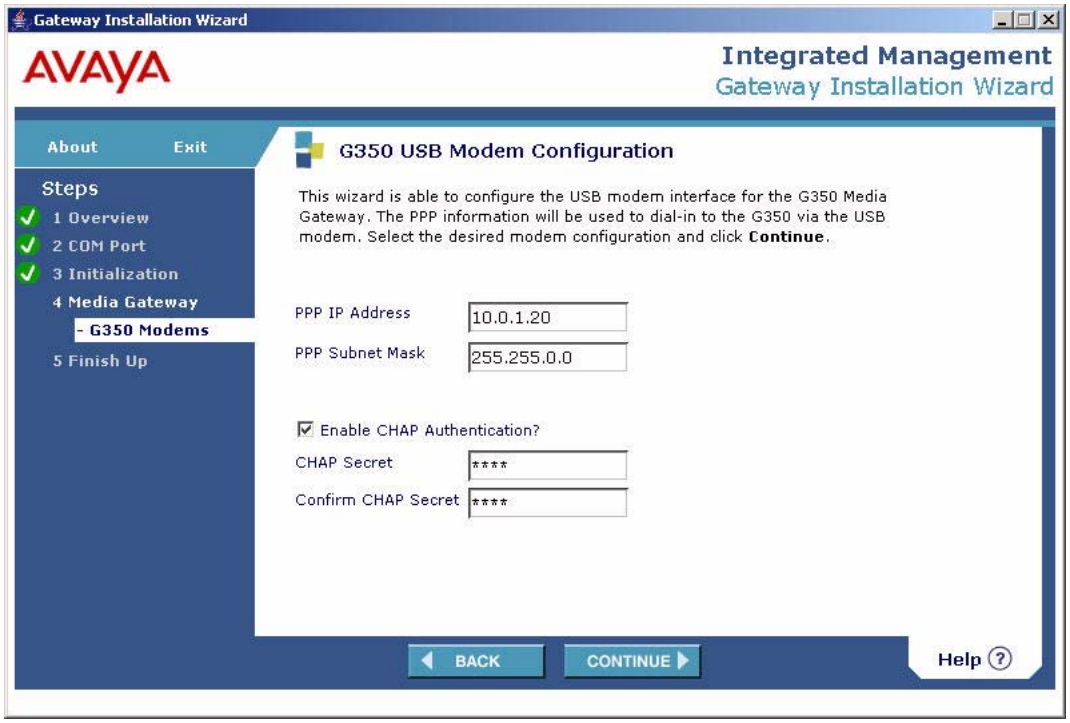
Figure 14: G350 Modem Type Selection screen



12 Select **USB Modem**.

13 Click **Continue**. The G350 USB Modem Configuration screen appears.

Figure 15: G350 USB Modem Configuration screen



14 In the PPP IP Address field, enter the RAS IP address of the modem obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

15 Enter the PPP Subnet Mask.

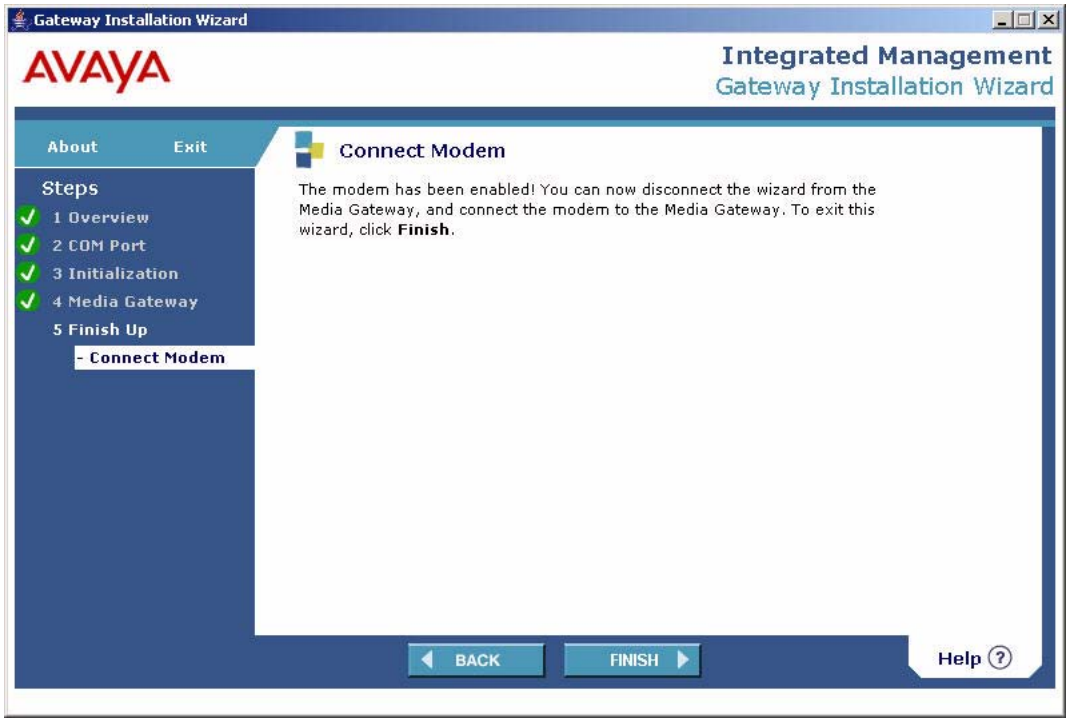
16 Check **Enable CHAP Authentication**.

17 In the CHAP Secret field, enter the CHAP secret key obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

18 In the Confirm CHAP Secret field, reenter the CHAP secret key.

19 Click **Continue**. The Connect Modem screen appears.

Figure 16: Connect Modem screen



20 Click **Finish**.

21 Connect a USB modem to a working telephone line.

22 Connect one end of a USB cable to the modem.

23 Connect the other end of the USB cable to the USB port on the G350 front panel.

Test the modem connection

Dial into the modem to verify that you can authenticate to the modem.

The G350 is now prepared for remote configuration via the modem. See Step 2: Assist the configuration on page 51 for information about how you will need to assist the supporting technician to configure the G350 from a remote location.

Preparing a G350 with an S8300 for configuration

If you installed an S8300 in the G350 and all the configuration will be done on-site, the G350 is ready for the supporting technician to set up the G350 for configuration and perform the configuration. You will need to assist the technician (see Assisting an on-site configuration on page 51).

If you installed an S8300 in the G350, and some or all of the configuration will be done remotely (see Step 2: Assist the configuration on page 51), prepare for configuration as follows:

1. Access the Maintenance web pages.
2. Change the modem settings on the Configure Server Maintenance web pages.
3. Connect and enable the USB modem.
4. Test the modem connection.
5. If the supporting technician requires a USB CD-ROM drive to download software upgrades, connect the USB CD-ROM drive to the remaining available USB port on the S8300 module.

The G350 is now prepared for remote configuration using Avaya Installation Wizard (AIW) via the USB modem. See Step 2: Assist the configuration on page 51 for information about how you will need to assist the supporting technician to configure the G350 from a remote location.

Access the Maintenance web pages

Most of the preparations you are making require you to access the Maintenance web pages part of Avaya Integrated Management (AIM) from your laptop. Use this procedure to access the Maintenance web pages and leave the Maintenance web pages open until you have completed all the preparations.

To access the Maintenance web pages:

1. Connect the laptop you prepared to the Services port on the S8300. Use a standard Ethernet crossover cable.
2. Configure the network settings on the laptop, according to the following tables:

Table 2: TCP/IP settings

Setting	Value
IP Address	192.11.13.5
Subnet Mask	255.255.255.252
DNS	disable
WINS Servers	do not use (clear out any values)

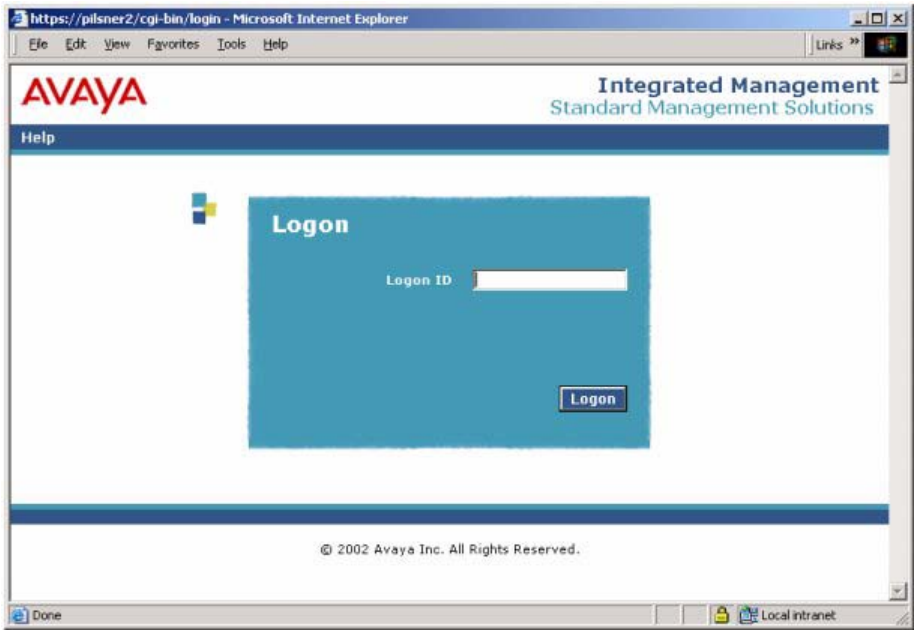
Table 3: Internet Browser Settings

Setting	Value
Proxy Server	disable

3. Open Internet Explorer, and browse to 192.11.13.6. The welcome screen for Avaya Integrated Management appears.

4 Click **Continue**. The Logon screen for Avaya Integrated Management appears.

Figure 17: Integrated Management Logon screen

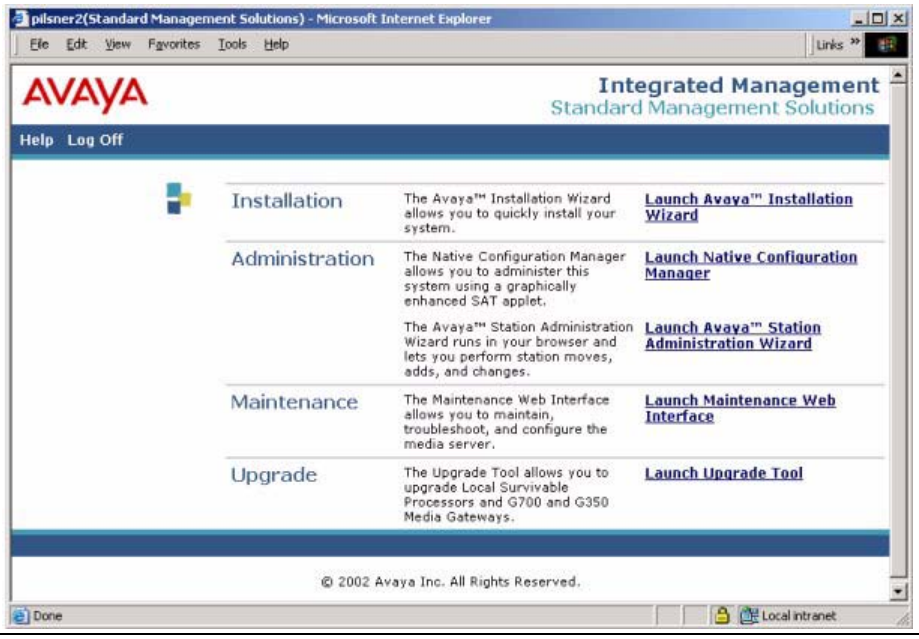


5 Enter your S8300 initial entry username in the Logon ID box.

6 Click **Logon**. The password field appears.

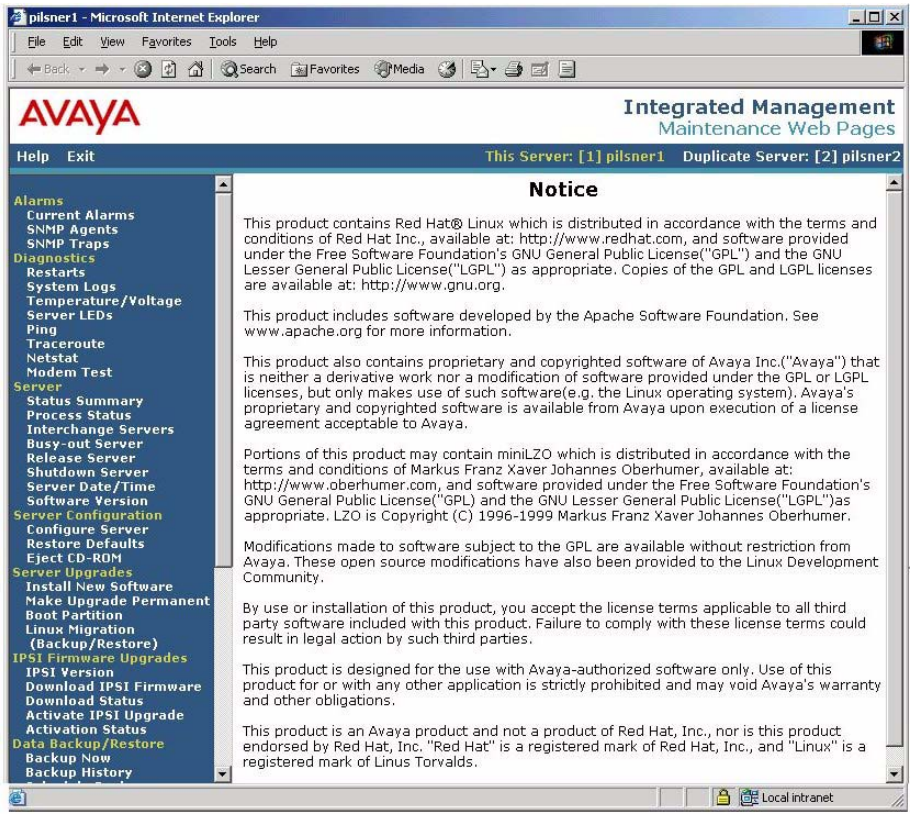
7 Enter your password in the password field, and click **Logon**. The main menu for Avaya Integrated Management appears.

Figure 18: Integrated Management Main Menu



8 From the Integrated Management main menu, select Launch Maintenance Web Interface. The Maintenance Web Pages Notice page appears, with a navigation menu at the left.

Figure 19: Maintenance Web Pages Notice page



9 Leave the Maintenance Web Pages open to perform the tasks described in the coming sections.

Change the modem settings on the Configure Server Maintenance web pages

If you have an Avaya Maintenance contract, change the modem settings on the Configure Server Maintenance Web Pages.

To change the modem settings:

1 Select **Configure Server** from the left-hand menu on the Maintenance web page. The Back Up Data page appears.

2 Follow the on-screen instructions to back up the current data.

3 Click **Continue**.

4 Select **Configure individual services**.

5 Click **Continue**.

6 From the left navigation menu, click **Set Modem Interface**. The Set Modem Interface page appears.

7 Enter the RAS IP address you obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

8 Click **Change modem settings**.

9 Click **Continue**.

10 Click **Close Window**.

Connect and enable the USB modem

If your installation includes an S8300 Media Server module, you need to connect the USB modem to the S8300. After the G350 is configured, you can leave the modem permanently connected to enable the S8300 to report alarms to remote locations.

To connect and enable the modem:

1 Connect the USB modem to a working telephone line.

2 Connect the modem to one of the USB ports on the S8300 module.

3 From the navigation menu of the Maintenance Web Pages, select **Security > Modem**. The Modem screen appears.

Figure 20: Modem web page

4 Select **Enable modem for unlimited incoming calls**.

5 Click **Submit**.

The modem is now connected and enabled.

Test the modem connection

To ensure that the modem is enabled correctly:

1 Setup a dialup connection on a remote PC with the following settings:

   1 Automatically detect settings.

   2 No Username, Password, or Domain.

   3 Security > Show Terminal Window.

2 Dial in to the modem from the remote PC.

3. When prompted, provide the rasaccess login and password in the Terminal Window.
4. Close the Terminal Window to complete the connection.

A technician can now access the S8300 remotely and run Avaya Installation Wizard (AIW) to configure the G350.

Step 2: Assist the configuration

The configuration may be done in any of the following ways:

- Remotely. Both your telephone and data services are configured by a remote technician.
- On-site. A technician comes to your site and configures both your telephone and data services on-site.
- Combined. A technician comes to your site to configure your telephone services. A remote technician configures your data services.
- Off-site. A technician configures the G350 before you bring it to the customer site.

The sections below describe how you will need to assist in each type of configuration.

Assisting a remote configuration

Connect the endpoint devices to the G350 while the supporting technician performs the configurations. Keep in contact with the supporting technician to tell the supporting technician which devices you connect to which ports. The supporting technician will need the devices connected in order to test all the endpoints.

The remote supporting technician will use your modem connection to access the G350 and perform all configuration tasks. Note the number of the telephone line to which you connect the modem, so that you can provide the number to the technician.

Certain software upgrades may need to be done by you on-site using your CD-ROM drive. In the event of a network disconnection, the supporting technician could ask you to use your laptop to restore the connection.

Assisting an on-site configuration

Connect the endpoint devices to the G350 while the supporting technician performs the configuration. As you connect devices to the G350, tell the supporting technician which devices are connected to which ports. The supporting technician will need the devices connected in order to test all the endpoints.

The on-site supporting technician may use your laptop computer to configure your telephone services.

Assisting a combined remote and on-site configuration

Connect the endpoint devices to the G350 while the supporting technicians perform the configurations. As you connect devices to the G350, tell the supporting technicians which devices are connected to which ports. The supporting technicians will need the devices connected in order to test all the endpoints.

The remote supporting technician will use your modem connection to access the G350 and configure your data services. Note the telephone number of the line to which you connect the modem, so that you can provide the number to the technician.

The on-site supporting technician may use your laptop computer to configure your telephone services.

Assisting an off-site configuration (staging)

The supporting technician will need to connect some devices to test endpoints. Do not connect endpoint devices unless the supporting technician requests you to do so.

4 Connecting devices

This chapter describes how to connect all external endpoint devices to the G350. Devices can be connected to the ports on the front panels of the installed media modules and to the fixed front panel ports.

Before you connect endpoint devices, the G350 should be mounted and all media modules should be inserted.

Perform the following steps in order, skipping any devices that you are not installing:

The steps are described in the sections below.

As you connect devices, keep a record of the slots and ports into which specific devices are connected. You will need to provide this information to the technician who configures the G350. If your planning documentation specifies which devices should be connected to which ports, follow those instructions.

WARNING:
To reduce the risk of fire, use only 26 AWG or larger telecommunication line cords when installing telephones or adjuncts.

WARNING:
Attention: Pour réduire les risques d’incendie, utiliser uniquement des conductors de télécommmunications 26 AWG ou de section supérieure.

Step 1: Connect the network

The G350 can provide network switching and also supports the connection of switches. Therefore, depending on the number of devices on your network, you may need to connect any of the following devices:

- One or more LAN switches
- The network data ports in the office

You can connect either a LAN switch or a network data port, via a network cable, to any of the following:

- The ETH LAN port on the G350 front panel
- The Gigabit Ethernet port on an MM314 media module
- One of the 24 10/100 Ethernet ports on an MM314 media module

Therefore, if you do not have an MM314 media module installed:

1. Connect a LAN switch to ETH LAN.
2. Connect all your data devices to the LAN switch.

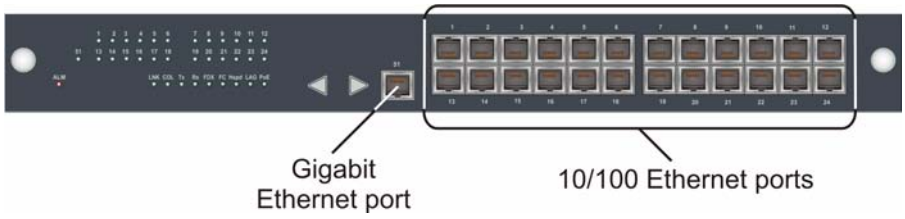
If you have an MM314 media module installed, note that:

- The 10/100 Ethernet ports on the MM314 media module can be configured to provide Power over Ethernet (PoE) to data devices. Any data device that you want to be powered through the G350 must be connected to a network data port that is directly connected to one of the 24 10/100 Ethernet ports on the MM314 media module.

Therefore, when connecting a LAN switch:

- Prefer the ETH LAN port on the chassis front panel and the Gigabit Ethernet port on the MM314 media module over the 10/100 Ethernet ports on the MM314 media module. Reserve 10/100 Ethernet ports to devices, such as IP phones, that need to be powered through the G350.

Figure 21: The MM314 media module



Step 2: Connect IP telephones

This section describes how to connect IP telephones to the G350.

To connect an IP telephone:

1. Wire a telephone port to a LAN port on the G350. If the IP telephone will be powered through the G350, make sure you use a 10/100 Ethernet port on an MM314 Media Module installed in slot V6 of the G350. In this case, you do not need to plug the IP telephone into a power supply.
2. Plug the telephone into the telephone port.
3. If the IP telephone will be powered independently, plug the IP telephone into a power supply.
4. Check that the IP phone is powered up.

Step 3: Connect non-IP telephones and trunks

This section describes how to connect analog and DCP telephones and analog and T1/E1 trunks to the G350.

Connecting an analog telephone

This section explains how to connect an analog telephone.

To connect an analog telephone:

1. Wire a telephone port to one of the following analog ports:
   - An analog telephone port on an MM711 or MM714 media module
   - One of the two fixed LINE ports on the G350 front panel
2. Plug the analog telephone into the telephone port.

NOTE:
The leftmost LINE analog telephone port on the G350 front panel forms a mechanical analog relay with the TRUNK port next to it. This relay can be configured to provide emergency transferred telephone service in the case of a power outage or disconnection from an external media server. Therefore, the analog telephone connected to LINE is usually installed for this emergency purpose. Regular analog telephones on the network are usually connected to other analog ports.

Figure 22: The MM711 media module

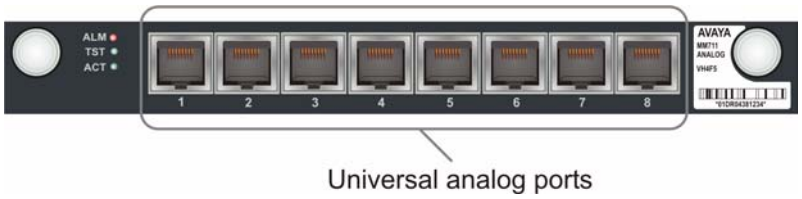
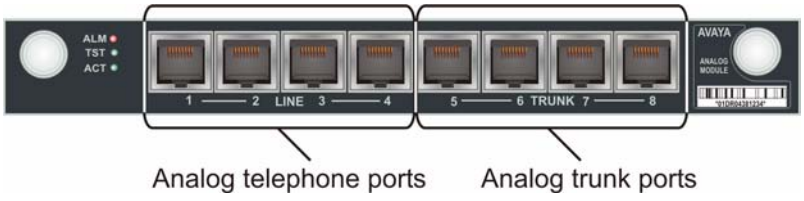


Figure 23: The MM714 media module



Connecting a DCP telephone

This section explains how to connect a DCP telephone. The procedure differs depending on the DCP media modules to which you are connecting DCP telephones.

WARNING:

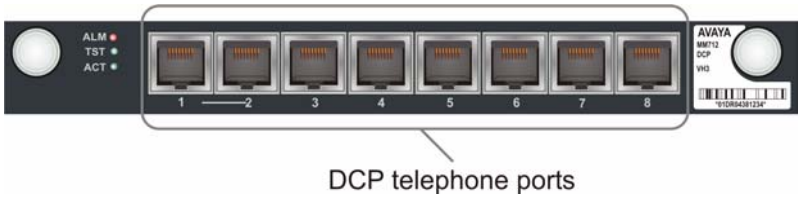
The ports on the DCP media modules are intended for in-building use only. Phone lines connected to these ports are not to be routed out-of-building. Failure to comply with this could cause harm to personnel and equipment.

To connect a DCP telephone to an MM312 or MM712 media module:

1. Wire a telephone port to a DCP port on the G350. The following media modules provide DCP telephone ports:
   - MM312. 24 DCP ports
   - MM712. 8 DCP ports

Figure 24: The MM312 media module

Figure 25: The MM712 media module

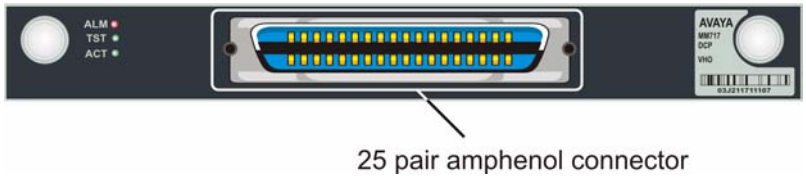


2. Plug the DCP telephone into the telephone port.

To connect a DCP telephone to an MM717 media module:

1. Connect one end of a CAT5 cable with a 25-pin amphenol connector at each end to the 25-pin socket on the MM717 front panel, so that the cable extends to the right of the G350. (The cable you use must be such that the connector you plug into the MM717 media module is 90° to the cable.)

Figure 26: The MM717 media module

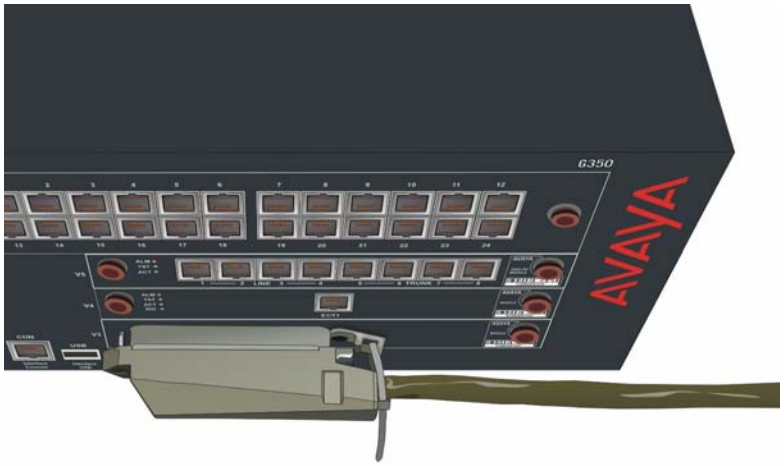


2 Tighten the end screw of the amphenol connector to securely fasten the connector to the left side of the MM717 socket.

3 Thread a tie wrap through the small bracket to the right of the MM717 socket.

4 Fasten the tie wrap around the cable to secure the cable to the right side of the MM717 socket.

Figure 27: Attaching and securing the amphenol cable to the MM717 25-pin socket



5 Connect the other end of the amphenol cable to a punch down block that converts the single amphenol connector to 24 RJ-11 jacks.

6 Plug the DCP telephone into one of the RJ-11 jacks on the punch down block.

Connecting an analog trunk

To connect an analog trunk:

1 Connect the trunk to one of the following ports:

— An analog trunk port on an MM711 or MM714 media module

— The TRUNK port on the G350 front panel

NOTE:
The TRUNK analog telephone port on the G350 front panel forms a mechanical analog relay with the LINE port next to it. This relay can be configured to provide emergency transferred telephone service in the case of a power outage or disconnection from an external media server. The TRUNK port is usually used in this emergency scenario to channel all incoming calls to LINE and to send all outgoing calls from LINE to an outside line.

Connecting an E1/T1 trunk

To connect an E1/T1 trunk:

1 Connect the trunk cable to the E1/T1 port on an MM710 media module. The SIG LED lights.

Figure 28: The MM710 media module

Connecting an ISDN BRI trunk

To connect an ISDN BRI trunk:

1 Connect the trunk to any ISDN port on an MM720 or MM722 media module.

NOTE:
In the US, you need to connect a separately purchased NT1 device to each ISDN port you use to connect an ISDN BRI trunk.

Figure 29: The MM720 media module

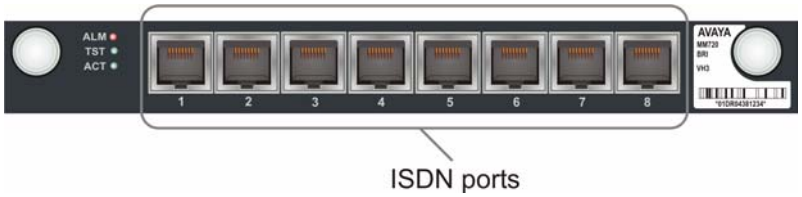
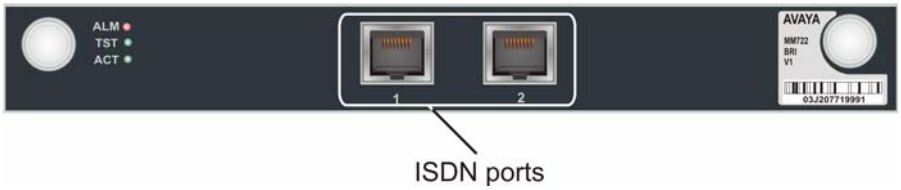


Figure 30: The MM722 media module



Step 4: Install circuit protection

Over-voltage and sneak-current protection measures are necessary for the safe operation of the G350 Media Gateway system.

Over-Voltage and Sneak-Current Protection

Out-of-building installations of telephones or other standard (tip/ring) devices/terminals that connect to the Avaya G350 Media Gateway Media Modules require over-voltage and sneak current protection at both building entry points. Sneak current protectors must have a maximum of 350 mA and a minimum voltage rating of 600V. The following devices have been evaluated or tested and approved to protect the Media Modules from over-voltages and sneak current protection:

- Avaya MM710 or MM340 T1/E1. Over-voltage and sneak protection for the Avaya MM710 T1/E1 Media Module is provided on the Media Module itself.
- Avaya MM711, G350 TRUNK PORT 1 Analog. Analog trunks use the 507B or 110-SCP-9 sneak current protectors. Over-voltage protection is normally provided by the local telephone company. Analog voice terminals use one of the following types of combined over-voltage and sneak current protection:
  - — Gas tube with heat coil. 4B1E-W
  - — Solid state with heat coil. 4C1S
  - — IROB. 146C (4-lines) or 146F (25-lines)

WARNING:

Only service-trained personnel are to install these circuit protection devices.

WARNING:

The ports on the DCP media modules are intended for in-building use only. Phone lines connected to these ports are not to be routed out-of-building. Failure to comply with this could cause harm to personnel and equipment.

Step 5: Connect to the Wide Area Network (WAN)

Since the G350 contains an internal router, you can connect the G350 directly to a WAN endpoint device. You can also connect a WAN endpoint device to the G350 via an external router.

Connecting the G350 to the WAN

To connect the WAN to the G350:

1 Connect the WAN endpoint device to one of the following WAN ports on the G350:

— The ETH WAN port on the G350 front panel. Use a CAT5 Ethernet cable for this connection.

— The USP port on an MM342 media module. Use one of the following cables for this connection, depending on the protocol being used:

- Avaya Serial Cable DTE V.35
- Avaya Serial Cable DTE X.21

— The E1/T1 port on an MM340 media module. Use an unshielded twisted pair cable, straight or crossover, depending on the equipment to which you are connecting.

Check that the green LED lights on the ETH WAN port or that the CON LED lights on the MM342 or MM340 module.

2 If you are using an MM340 or MM342 module, tell the supporting technician that the module is now ready to configure.

NOTE:
To connect a VPN or DSL modem, use the ETH WAN port on the G350 front panel.

Figure 31: The MM340 media module

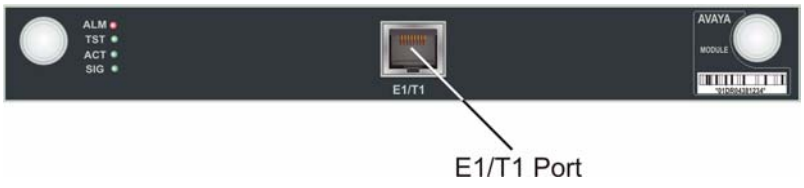
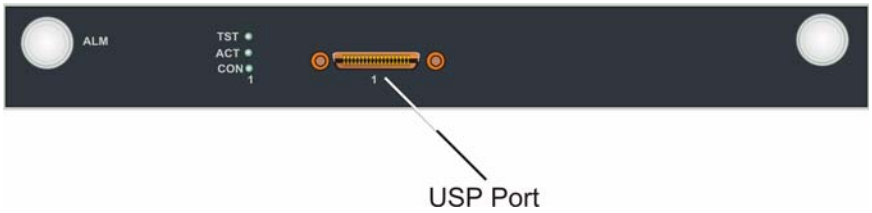


Figure 32: The MM342 media module



Connecting an external router to the G350

You can connect a router to any of the following ports on the G350:

- The ETH WAN port on the G350 front panel
- The ETH LAN port on the G350 front panel
- The Gigabit Ethernet port on an MM314 media module
- One of the 24 10/100 Ethernet ports on an MM314 media module

Step 6: Install the Coupled Bonding Conductor

The Coupled Bonding Conductor (CBC) provides mutual inductance coupling between the CBC and the telephone cables that are exposed to lightning. The conductor can be a 10 AWG (4 mm^2) wire tie wrapped to the exposed cables, a metal cable shield around the exposed cables, or six spare pairs from the exposed cable. In a high-rise building, connect the CBC to an approved building ground on each floor.

Before you begin, be sure the telephone lines are cross-connected to the appropriate media module(s).

To install the CBC:

1. Connect one end of the conductor to a telephone cable building entrance protector ground that is connected to an approved ground.
2. Route the rest of the conductor next to the exposed telephone cables being protected until they reach the cross-connect nearest to the telephone system.
3. Terminate the other end to the single-point ground block provided for the telephone system.

NOTE:
Position the non-exposed telephone cables at least 12 in. (30.5 cm) away from exposed telephone cables whenever possible.

Step 7: Install the Avaya Partner Contact Closure Adjunct

The Contact Closure feature is a controllable relay providing dry contacts for various applications. To implement the contact closure feature, you connect an Avaya Partner Contact Closure Adjunct box to the CC port on the G350 chassis. The adjunct box provides two contact closures that can be operated in either a “normally closed” or “normally open” state. The contact closures can control auxiliary devices such as devices that automatically lock or unlock doors or voice recording units. The CC port can be configured so that the connected devices can be controlled by an end device, such as a telephone. For example, a user can unlock a door by keying a sequence into a telephone keypad.

To install the contact closure:

1. Follow the installation instructions in the *Avaya Partner Contact Closure Adjunct Installation Instructions* leaflet to install the Contact Closure and connect the auxiliary devices that will be activated and deactivated by the Contact Closure relays.
2. Note which device is connected to each relay. You will need to give this information to the supporting technician for the configuration.
3. Connect the Avaya Partner Contact Closure adjunct box to the CC port on the G350 front panel. Use a 24 gauge minimum telephone wire, no longer than 200 ft, with a standard RJ-11 connector.

5 After installation

When the supporting technician has finished the remote configuration, perform the following steps:

- Step 1: Test the installation on page 63
- Step 2: Remove the installation equipment on page 64

These steps are described below.

Step 1: Test the installation

When the installation is complete, simple tests must be performed to test telephone and data connectivity. The supporting technician will test your remote data connectivity for you.

Test local data connectivity on-site by checking that you can send an email between two PCs that are connected to the G350.

You should test telephone connectivity from the site yourself. To test telephone connectivity, perform the following tests:

- Test each telephone.
- Test each trunk.
- Perform a Local Survivable Processor (LSP) failover test if you have an S8300 installed as an LSP.

Testing telephones

To test a telephone:

1. Make outgoing calls from the telephone. Make sure you hear a dial tone when you pick up the receiver. Make sure you can make both an internal (within the local network) and an external (outside the local network) call.
2. Make a call to the telephone from both within the network and outside of the network.

Testing trunks

To test a trunk:

1. Make outgoing calls from the trunk. Ask the service center technician for instructions on how to access the trunk. Make sure you can make both an internal (within the local network) and an external (outside the local network) call.
2. Make a call to the trunk.

LSP failover testing

If you have an S8300 media server module installed in the G350 and configured as an LSP, you need to perform a test to make sure that the LSP takes over control of the G350 if the G350 becomes disconnected from the remote media server. Work with the supporting technician to perform this test. The test involves disconnecting from the remote media server and testing the telephones connected to the G350.

Step 2: Remove the installation equipment

Remove all equipment that you used to assist you in the installation process. This may include:

- The CD-ROM drive
- The software upgrade CDs
- The laptop computer
- The modem (for installations without an S8300 module only)

> **NOTE:**
> If you have an S8300 media server module installed in the G350, leave the modem connected to enable reporting of alarms to remote locations.

The installation is now complete.

A Technical specifications

This appendix provides technical specifications for the G350 and for compatible power cords.

G350 Media Gateway specifications

The table of technical specifications provides detailed information on the physical dimensions and tolerances of the G350 Media Gateway.

Table 4: G350 Media Gateway specifications

Description	Value
Height	5.25 in. (133.3 mm)
Width	19 in. (482.6 mm)
Depth	15.75 in. (400 mm)
Weight of empty chassis	9-10 kg
Ambient working temperature	0-40°C
Operation altitude	up to 2000 m
Front Clearance	12 in. (30 cm)
Rear Clearance	18 in. (45 cm)
Humidity	20-60% relative humidity

Power Cord Specifications

Following are specifications for power cords suitable for use with the G350:

For North America: The cordset must be UL Listed/CSA Certified, 16 AWG, 3-conductor (3rd wire ground), type SJT. One end is to be terminated to an IEC 60320, sheet C13 type connector rated 10A, 250V. The other end is to be terminated to either a NEMA 5-15P attachment plug for nominal 125V applications or a NEMA 6-15P attachment plug for nominal 250V applications.

For Outside North America: The cord must be VDE Certified or Harmonized (HAR), rated 250V, 3-conductor (3rd wire ground), 1.0 mm2 minimum conductor size. The cord is to be terminated at one end to a VDE Certified/CE Marked IEC 60320, sheet C13 type connector rated 10A, 250V and the other end to a 3-conductor grounding type attachment plug rated at a minimum of 10A, 250V and a configuration specific for the region/country in which it will be used. The attachment plug must bear the safety agency certifications mark(s) for the region/country of installation.

B Configuring the G350

Avaya provides configuration wizards that prompt you for all required configurations to complete the installation of the G350. This appendix describes which wizard to use depending on your hardware configuration, and how to use the wizards. See one of the following sections:

- Configuring a G350 with an S8300 on page 67
- Configuring a G350 without an S8300 on page 67

The Avaya G350 Command Line Interface (CLI) also enables you to perform all configuration tasks. For instructions on how to connect to the CLI and use the CLI for configuration tasks, see *Administration of the Avaya G350 Media Gateway, 555-245-501*. For detailed information on CLI commands, refer to the *Avaya G350 Media Gateway CLI Reference Guide, 555-245-201*.

Configuring a G350 with an S8300

If you installed an S8300 in the G350, use the Avaya Installation Wizard (AIW) to configure the G350. AIW takes you through all the configurations required to complete the installation. If you have an EPW (see Obtain the Electronic Preinstallation Worksheet (EPW) on page 18), you will be able to upload configuration parameters from the EPW to AIW as part of your AIW session. For information about using AIW, see Appendix B of *Administration of the Avaya G350 Media Gateway,* 555-245-501—Configuring the G350 using the Avaya IW and the AIW online help at http://support.avaya.com/avayaiw.

Configuring a G350 without an S8300

If you did not install an S8300 in the G350, use the Gateway Installation Wizard (GIW) to configure the G350. GIW takes you through all the configurations required to complete the installation. If you have an EPW (see Obtain the Electronic Preinstallation Worksheet (EPW) on page 18), you will be able to upload configuration parameters from the EPW to GIW as part of your GIW session.

Perform the following steps to run GIW and perform the configuration:

1. Run the Gateway Installation Wizard (GIW) on page 68.
2. Connect a modem, if necessary on page 80.
3. Test the modem connection, if necessary on page 80.

Run the Gateway Installation Wizard (GIW)

Run Gateway Installation Wizard (GIW) to perform a basic configuration of the G350. The configuration can include:

- Configuring the Primary Management Interface (PMI)
- Setting SNMP communities and trap destinations
- Upgrading firmware
- Enabling a modem on the G350

To run GIW:

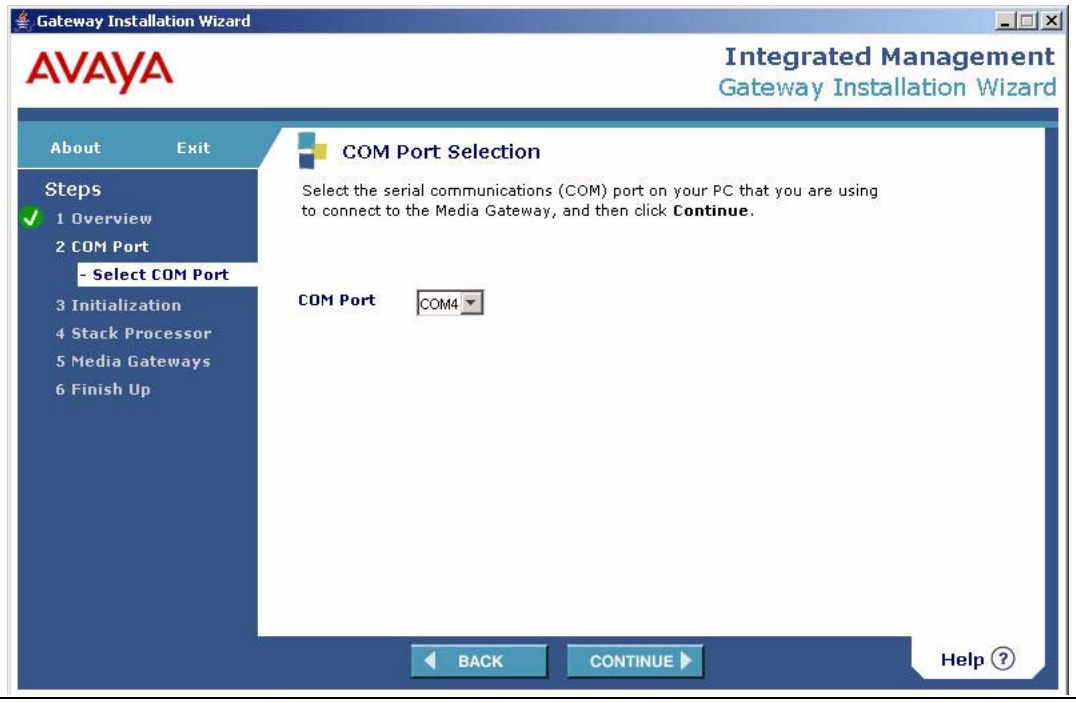
1. Prepare a PC with a CD-ROM drive and a TFTP server on the network. This may be needed for installing software and firmware upgrades.

   NOTE:
   When uploading firmware from the S8300 using TFTP, you may need to enable TFTP service in the Set LAN Security parameters of your web server.

   NOTE:
   Firmware upgrades for the G350 and media modules can either be installed from CD or downloaded from the Web.

2. Download GIW (Gateway Installation Wizard) from the Avaya website (support.avaya.com/avaygiw) to the laptop computer. The laptop should be running Windows 2000 or Windows XP to support GIW.
3. Plug one end of the provided flat RJ-45 to RJ-45 cable into the provided DB-9 adapter.
4. Plug the RJ-45 connector at the other end of the cable into the CON port of the G350.
5. Plug the DB-9 end of the flat cable into the COM port of the laptop computer.
6. From your laptop computer, double-click the GIW icon to run GIW. The Overview screen appears.
7. Click **Continue**. The COM Port Selection screen appears.

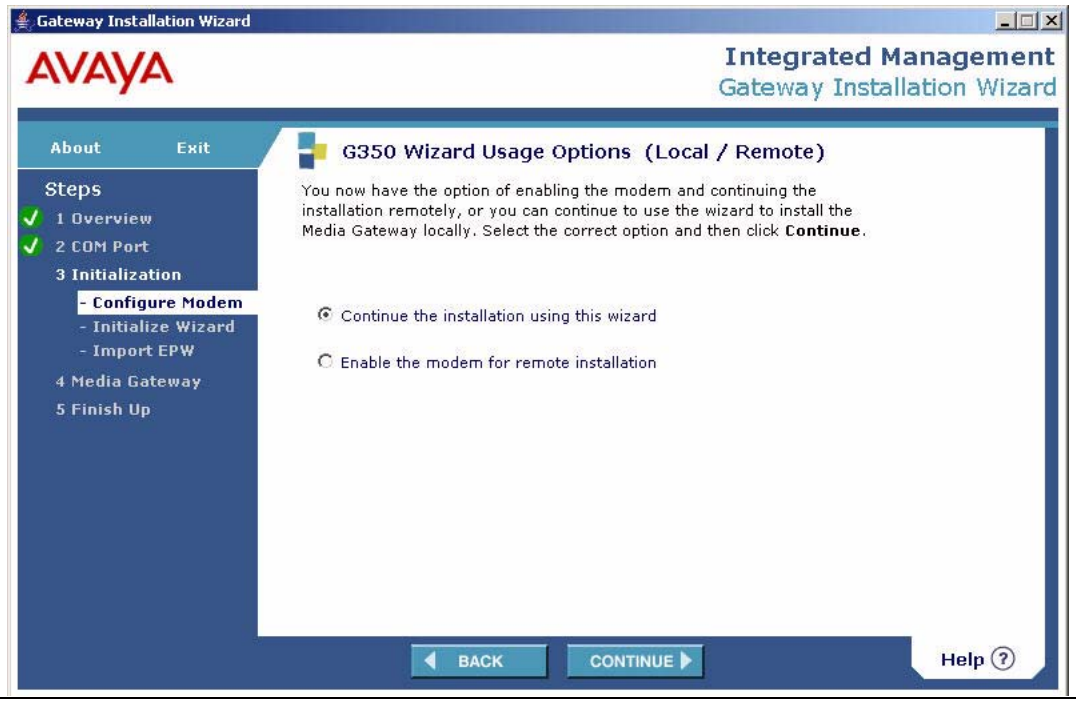
Figure 33: COM Port Selection screen



8 Select the COM port on the laptop that you are using to connect to the G350.

9 Click **Continue**. The G350 Wizard Usage Options screen appears.

Figure 34: G350 Wizard Usage Options (Local/Remote) screen



10 Select **Continue the installation using this wizard**.

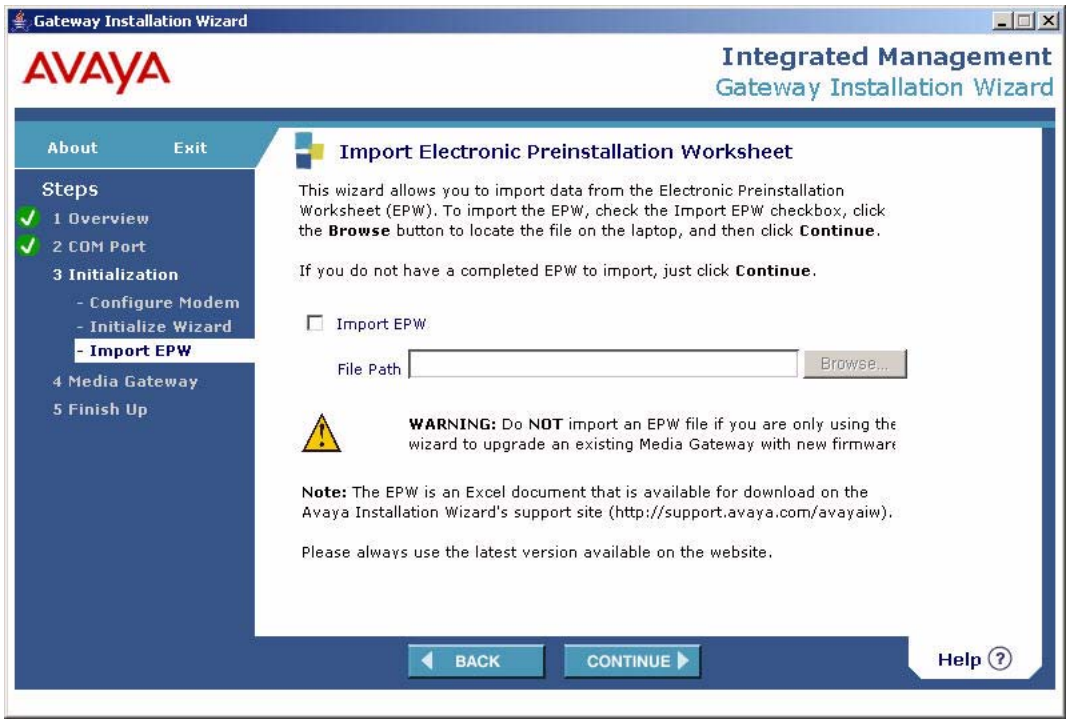
11 Click **Continue**. The Initializing the Components screen appears.

Figure 35: Initializing the Components screen

12 Check **Initialize the Gateway Installation Session**.

13 Click **Continue**. The Import Electronic Preinstallation Worksheet screen appears.

Figure 36: Import Electronic Preinstallation Worksheet screen

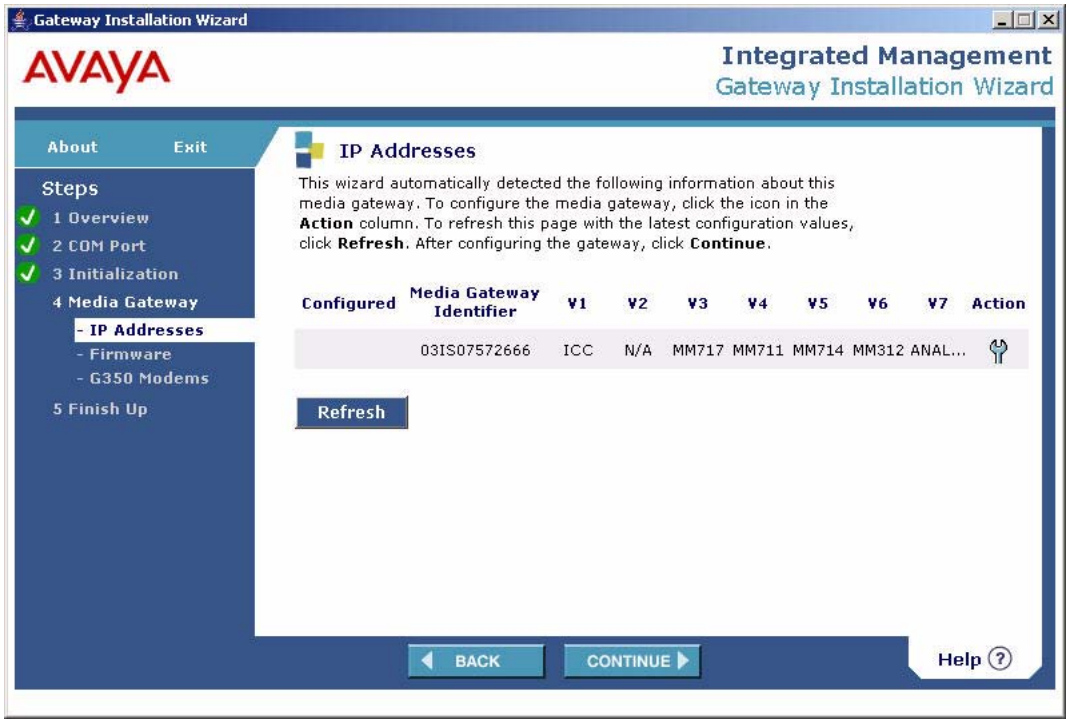


14 If you have an EPW on your laptop (see Obtain the Electronic Preinstallation Worksheet (EPW) on page 18), check **Import EPW**.

15 Browse to the EPW file on your laptop. Any values that are included in the EPW will appear as default values from now on as you move through this wizard.

16 Click **Continue**. The IP Addresses screen appears.

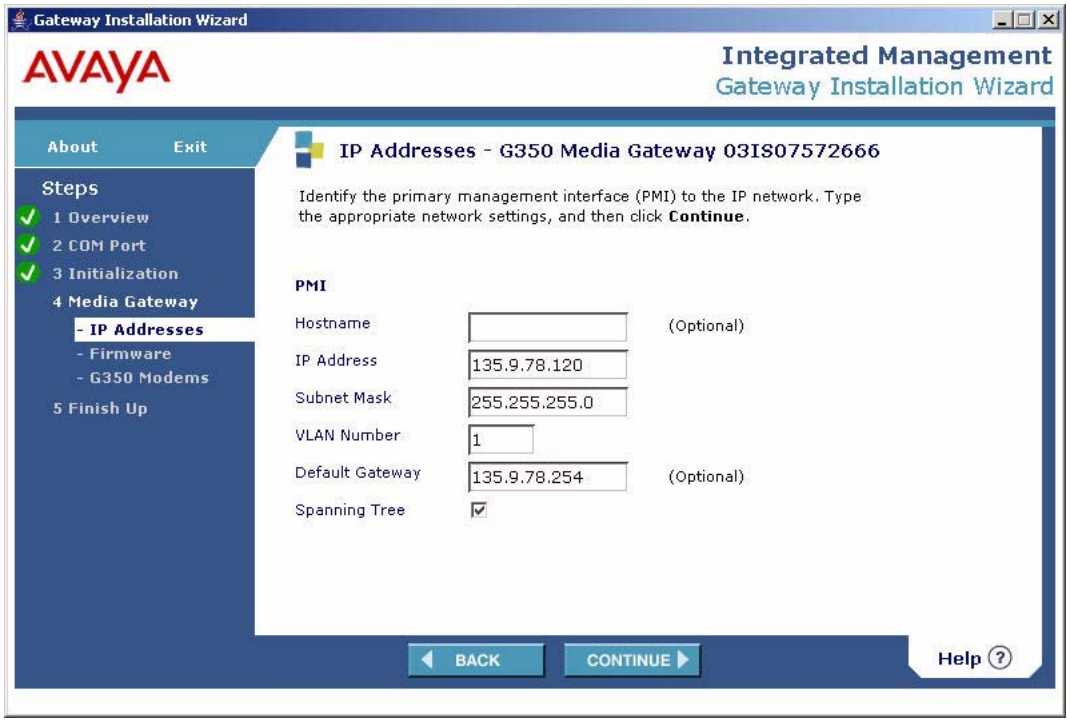
Figure 37: IP Addresses screen



The IP Addresses screen displays information about the G350 automatically detected, such as what media modules are installed in the media modules slots.

17 Click the icon in the Action column. The PMI screen appears.

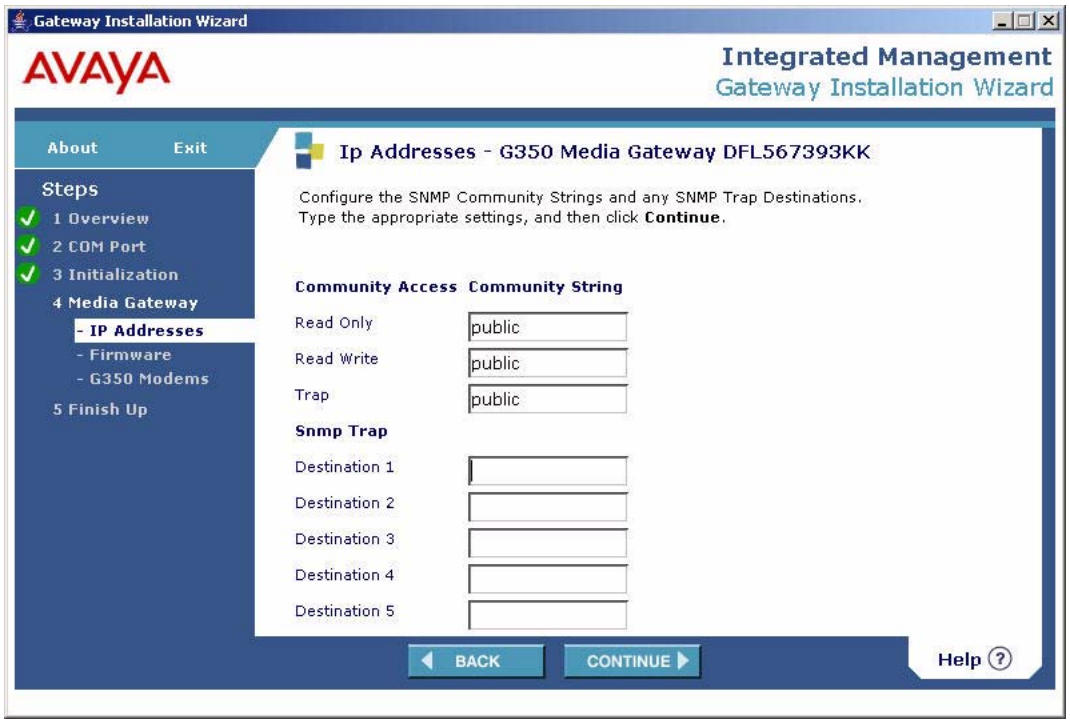
Figure 38: PMI screen



18 In the PMI screen, specify the details of the Primary Management Interface (PMI) for the G350. The PMI is used as the IP address of the G350 for specific management functions. If you do not know which interface to designate as the PMI, check with your project manager.

19 Click **Continue**. The SNMP screen appears.

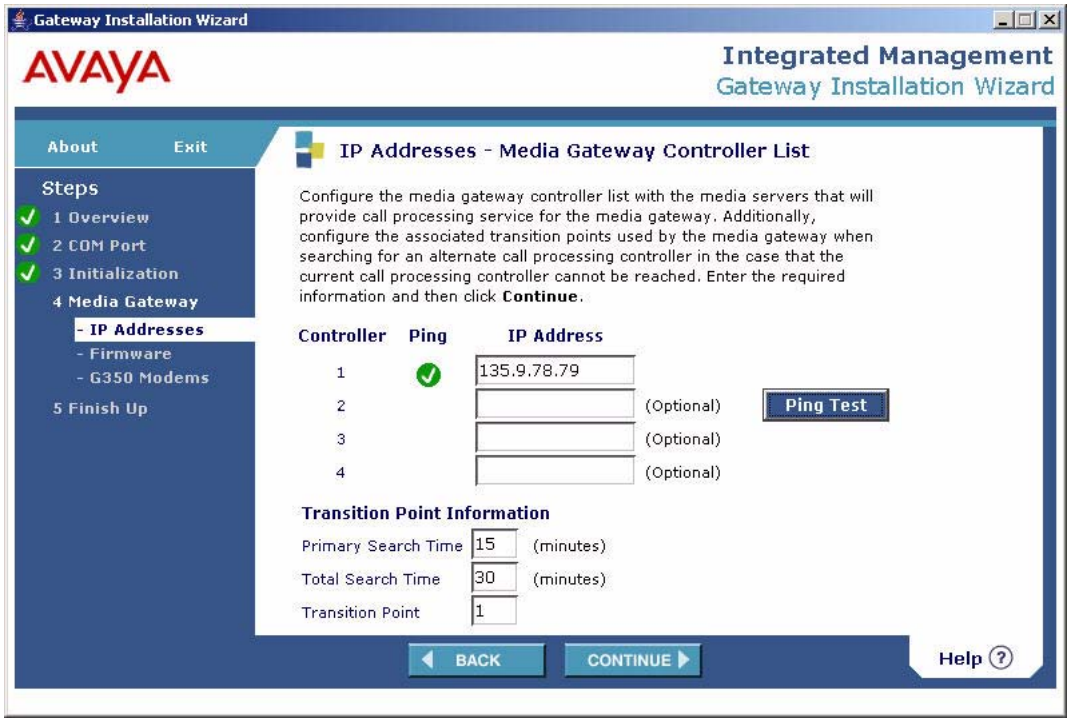
Figure 39: SNMP screen



20 In the SNMP screen, specify SNMP community strings and trap destinations. SNMP traps will be sent to all IP addresses entered in the destination fields.

21 Click **Continue**. The Media Gateway Controller List screen appears.

Figure 40: Media Gateway Controller List screen



22 In the Media Gateway Controller List screen, specify the IP address of the primary MGC (Media Gateway Controller) in the first IP address box.

23 Specify the IP addresses of up to three additional MGCs, optionally, in the subsequent boxes.

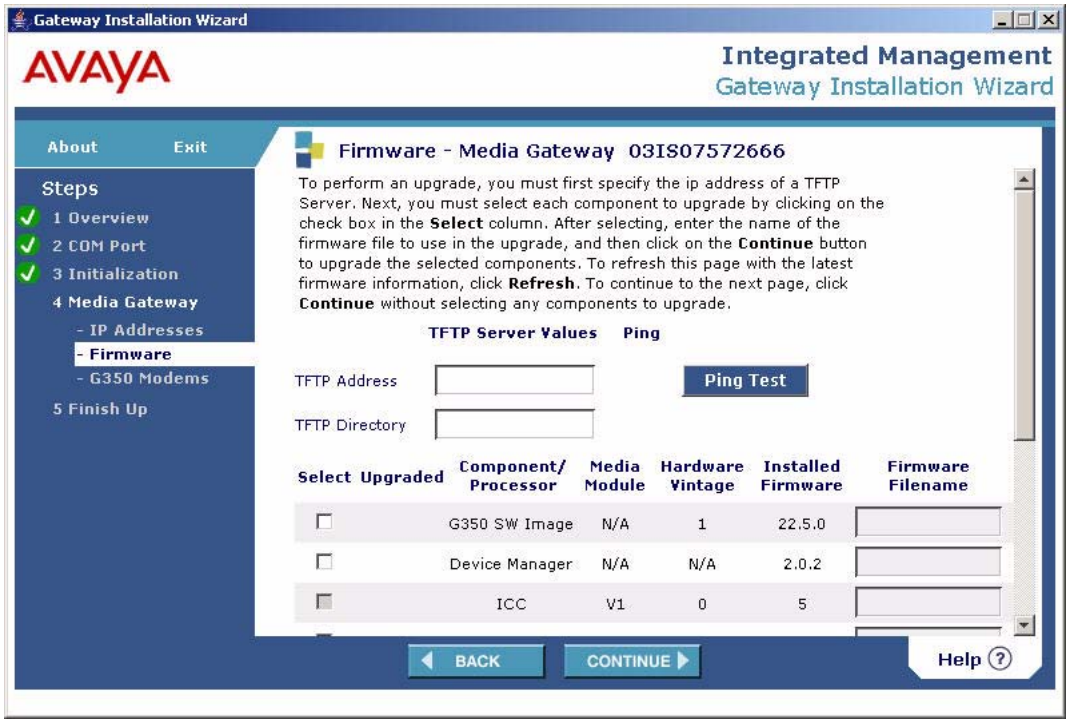
24 Specify Transition Point information.

25 Click **Ping Test** to test the accessibility of each MGC.

26 Click **Continue**. You return to the IP addresses screen.

27 Click **Continue**. The Firmware screen appears.

Figure 41: Firmware screen



28 Upload to your TFTP server any firmware upgrades you need to install.

29 In the TFTP Address field, enter the address of your TFTP server.

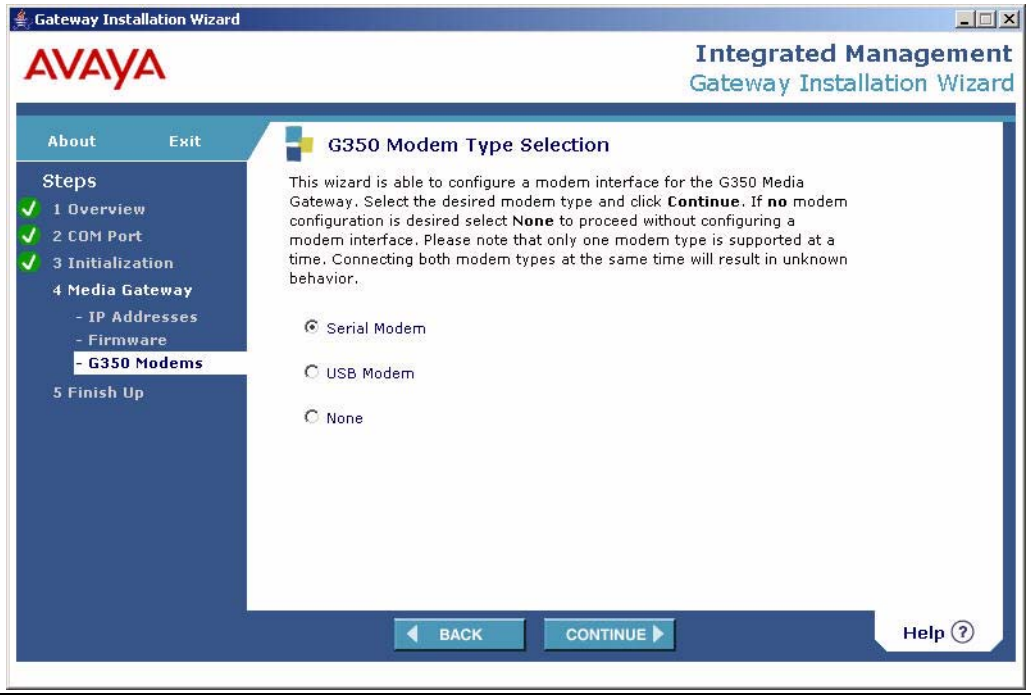
30 In the TFTP Directory field, enter the name of the directory on the TFTP server in which the upgrade files are located.

31 In the table, check the **Select** box for all firmware components you want to upgrade. The current version of each component is listed to help you confirm the need for upgrade.

32 Enter the filename of each firmware upgrade file you want to install in each line of the table where you checked the **Select** box.

33 Click **Continue**. The firmware is upgraded and the G350 Modem Type Selection screen appears.

Figure 42: G350 Modem Type Selection screen



34 If you do not need to connect a modem to the G350, select **None**.

35 If you do need to connect a modem to the G350, select the type of modem you want to connect.

36 Click **Continue**. The appropriate modem configuration screen appears.

Figure 43: G350 Serial Modem Configuration screen

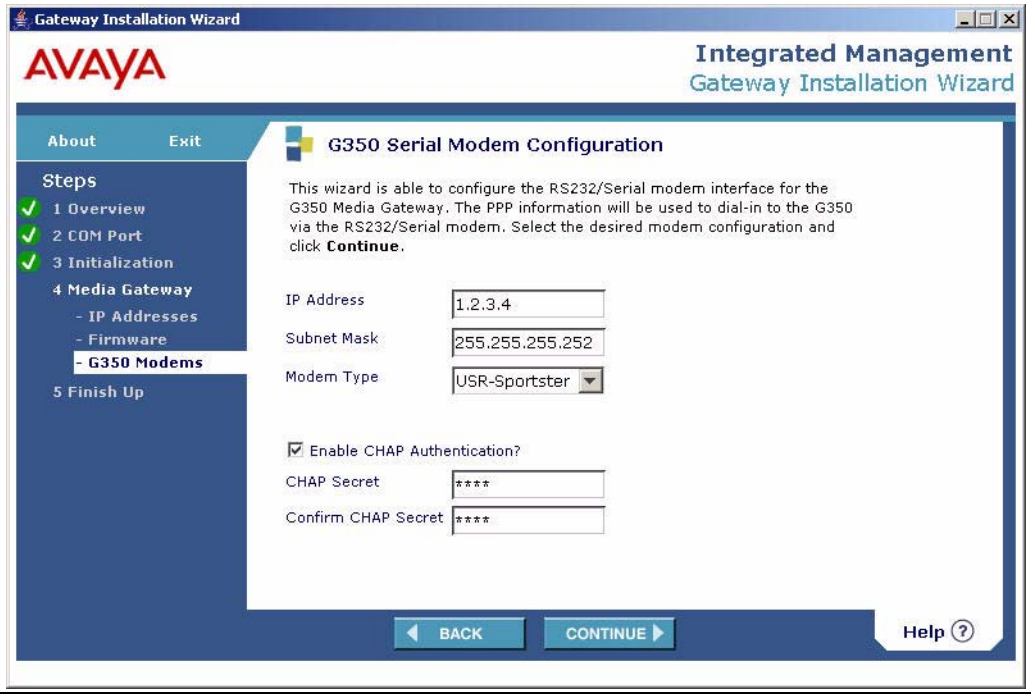
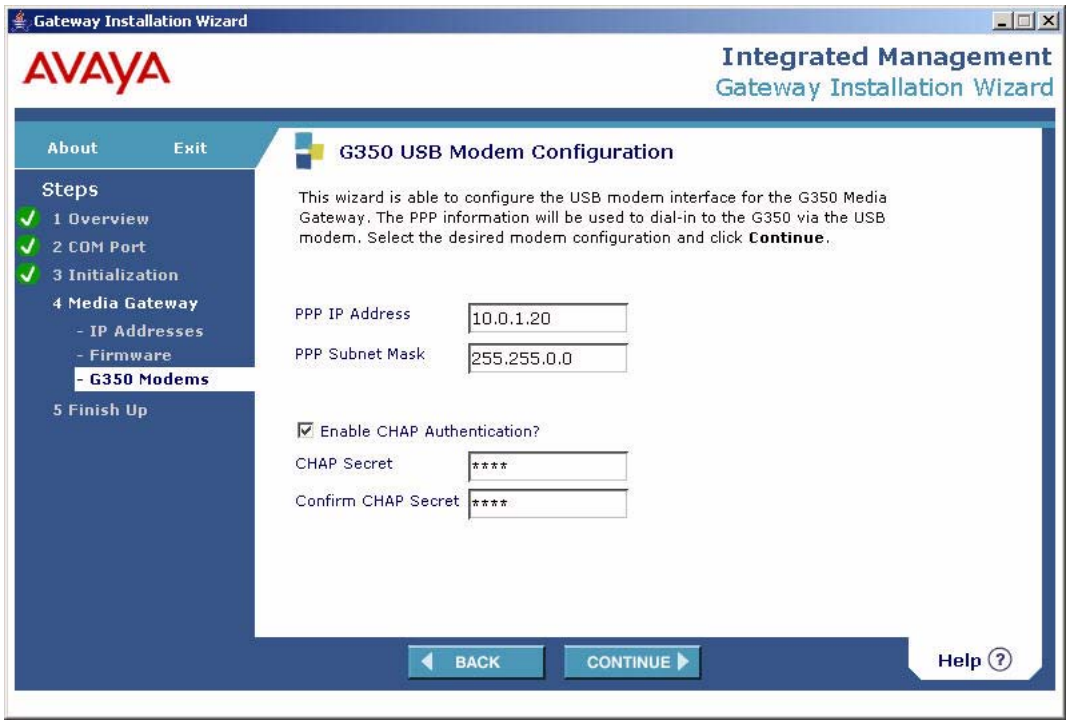


Figure 44: G350 USB Modem Configuration screen



37 In the PPP IP Address field, enter the RAS IP address of the modem obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

38 Enter the PPP Subnet Mask.

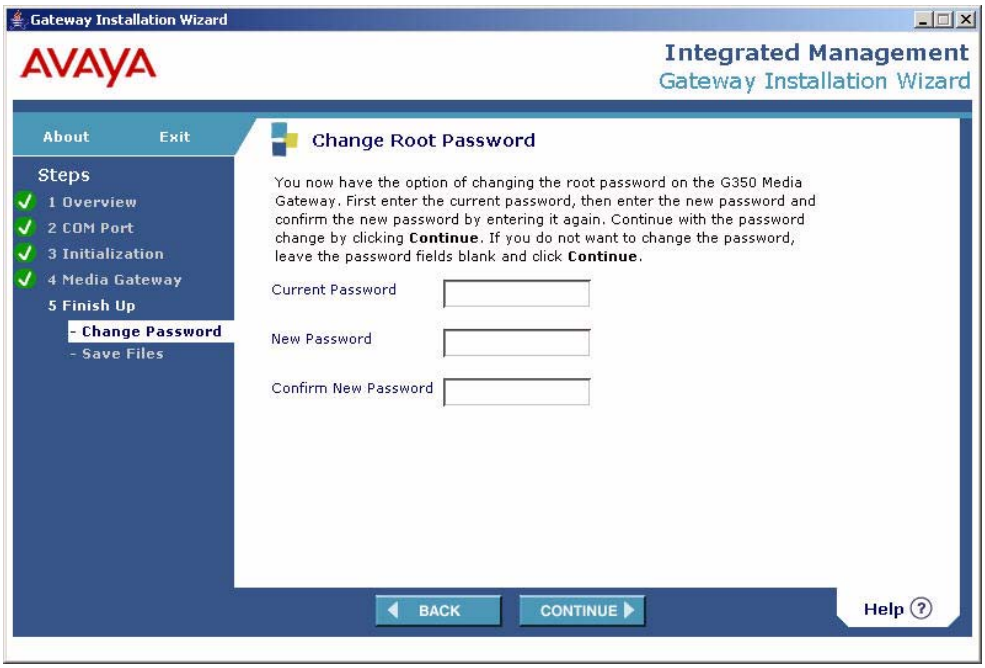
39 Check **Enable CHAP Authentication**.

40 In the CHAP Secret field, enter the CHAP secret key obtained using the ART tool. See Run the Automatic Registration Tool (ART) for the RAS IP address on page 17.

41 In the Confirm CHAP Secret field, reenter the CHAP secret key.

42 Click **Continue**. The Change Root Password screen appears.

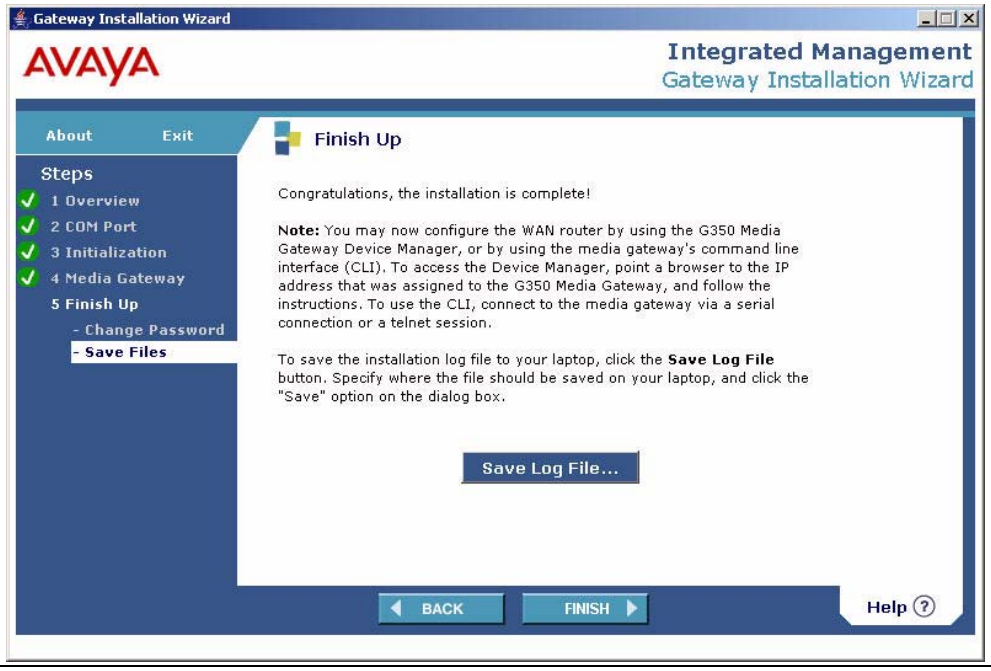
Figure 45: Change Root Password screen



43 If you would like to change the password on the G350 Media Gateway, enter the current password in the Current Password field, enter a new password in the New Password field, and re-enter the new password in the Confirm New Password field.

44 Click **Continue**. The Finish Up screen appears.

Figure 46: Finish Up screen



You have completed GIW. Follow the on-screen instructions if you want to save the installation log file. Further configurations, as described in this screen, can now be performed either remotely, via a modem that you enabled with GIW, or locally.

Connect a modem, if necessary

If you enabled a serial or USB modem on the G350 during your GIW session, you can now connect the modem.

To connect a serial modem:

1. Connect the serial modem to a working telephone line.
2. Connect the provided DB-25 adapter to the modem.
3. Disconnect the flat cable from the COM port of the laptop computer.
4. Connect the flat cable to the DB-25 connector on the modem.

To connect a USB modem:

1. Connect a USB modem to a working telephone line.

   NOTE:
   The MultiTech model MT5634ZBA-USB USB modem is the only USB modem supported by the G350.

2. Connect one end of a USB cable to the modem.
3. Connect the other end of the USB cable to the USB port on the G350 front panel.

Test the modem connection, if necessary

If the modem is successfully initialized, the MDM LED on the G350 front panel lights. If you connected a modem, check that the MDM LED is alight and dial into the modem to verify that you can authenticate to the modem.

Index

H

I

L

M

N

O

P

R

S

T

U

W