



User Guide

Motorola SURFboard[®]

SVG2501 Series Wireless Voice Gateway*

*SVG2501
SVG2501U





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Safety and Regulatory Information

IMPORTANT SAFETY INSTRUCTIONS

Read This Before You Begin

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Read all of the instructions listed here and/or in the user manual before you operate this device. Give particular attention to all safety precautions. Retain the instructions for future reference.
- This device must be installed and used in strict accordance with manufacturer's instructions, as described in the user documentation that is included with the device.
- Comply with all warning and caution statements in the instructions. Observe all warning and caution symbols that are affixed to this device.
- To prevent fire or shock hazard, do not expose this device to rain or moisture. The device must not be exposed to dripping or splashing. Do not place objects filled with liquids, such as vases, on the device.
- This device was qualified under test conditions that included the use of the supplied cables between system components. To ensure regulatory and safety compliance, use only the provided power and interface cables and install them properly.
- Different types of cord sets may be used for connections to the main power supply circuit. Use only a main line cord that complies with all applicable device safety requirements of the country of use.
- Installation of this device must be in accordance with national wiring codes and conform to local regulations.
- Operate this device only from the type of power source indicated on the device's marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- Do not overload outlets or extension cords, as this can result in a risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard.
- Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords where they are attached to plugs and convenience receptacles, and examine the point where they exit from the device.
- Place this device in a location that is close enough to an electrical outlet to accommodate the length of the power cord.
- Place the device to allow for easy access when disconnecting the power cord of the device from the AC wall outlet.
- Do not connect the plug into an extension cord, receptacle, or other outlet unless the plug can be fully inserted with no part of the blades exposed.
- Place this device on a stable surface.
- It is recommended that the customer install an AC surge protector in the AC outlet to which this device is connected. This is to avoid damaging the device by local lightning strikes and other electrical surges.
- Postpone installation until there is no risk of thunderstorm or lightning activity in the area.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning. For added protection, unplug the device from the wall outlet and disconnect the cables to avoid damage to this device due to lightning and power surges.
- Do not use this product near water: for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- Do not use the telephone to report a gas leak in the vicinity of the leak.



- Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
- Disconnect TNV circuit connector(s) before disconnecting power.
- Disconnect TNV circuit connector before removing cover.
- Do not cover the device or block the airflow to the device with any other objects. Keep the device away from excessive heat and humidity and keep the device free from vibration and dust.
- Wipe the device with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the device or use forced air to remove dust.
- **CAUTION:** To reduce the risk of fire, use only No. 26 AWG or larger (e.g., 24 AWG) UL Listed or CSA Certified Telecommunication Line Cord, or national equivalent.
- Upon completion of any service or repairs to this device, ask the service technician to perform safety checks to determine that the device is in safe operating condition.
- Do not open the device. Do not perform any servicing other than that contained in the installation and troubleshooting instructions. Refer all servicing to qualified service personnel.
- This device should not be used in an environment that exceeds 40° C.

SAVE THESE INSTRUCTIONS

Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Section 820.93 of the National Electric Code, which provides guidelines for proper grounding and, in particular, specifies that the coaxial cable shield shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Caring for the Environment by Recycling



When you see this symbol on a Motorola product, do not dispose of the product with residential or commercial waste.

Recycling your Motorola Equipment

Please do not dispose of this product with your residential or commercial waste. Some countries or regions, such as the European Union, have set up systems to collect and recycle electrical and electronic waste items. Contact your local authorities for information about practices established for your region. If collection systems are not available, call Motorola Customer Service for assistance. Please visit www.motorola.com/recycle for instructions on recycling.

Safety Requirements for the SVG2501 Lithium-Ion Battery

You must properly handle the SVG2501 lithium-ion rechargeable battery to ensure your safety. Improper handling can cause leakage, heat, smoke, explosion, or fire resulting in damage to the equipment or the user.

- Use the SVG2501 battery only in the SVG2501 Series Wireless Voice Gateway.
- **CAUTION:** Risk of explosion if battery is replaced by the incorrect type. Use only Motorola approved batteries. Dispose of used batteries according to the instructions.
- Do not use the battery where static electricity is generated.
- Do not heat the battery or discard into a fire. Keep the battery away from high-temperature locations.
- Properly discard the battery if it exhibits an abnormal condition, such as heat, odor, color, or a change in shape. When discarding, place insulated tape over the battery terminals.
- The battery should be stored out of the reach of children.
- Do not store the battery close to metal objects.



- If the battery leaks fluid and you touch it, immediately wash your hands. If the fluid gets into your eye, do not rub the eye. Rinse with water and immediately seek medical care. Left untreated, the battery fluid could cause damage to the eye.
- Ensure that the battery does not receive any strong impacts, such as dropping or striking with a hard object.
- At the end of battery life, the SVG2501 battery must be disposed of properly and may need to be recycled. Contact your local recycling center for proper disposal methods.
- Do not disassemble, modify, or attempt to repair the battery.
- Before installation, the battery should not be subjected to temperatures below -10°C or above $+60^{\circ}\text{C}$ (14°F to 140°F). After initial customer usage (initially charged above shipping charge state), the battery should not be subjected to temperatures outside the operating temperature range:

Battery Pack External Exposure Operating Temperature Range:

- Charging: 0.0°C to $+45.0^{\circ}\text{C}$ (0°F to 113°F)
- Discharging: -10.0°C to $+60.0^{\circ}\text{C}$ (14°F to 140°F)

Important VoIP Service Information



Please contact your Internet Service Provider (ISP) and/or your local municipality for additional information on making emergency calls using VoIP service in your area.

When using this VoIP device, you CANNOT make any calls, including an emergency call, and emergency location services (where supported) WILL NOT be available, under the following circumstances:

- Your broadband ISP connection goes down, is lost, or otherwise fails.
- You lose electrical power.
- You have changed the physical address of your VoIP device, and you did not update or otherwise advise your VoIP service provider of this change.
- There are delays in making your location information available in or through the local automatic location information database.

Note: Your service provider, not Motorola, is responsible for the provision of VoIP telephony services through this equipment. Motorola shall not be liable for, and expressly disclaims, any direct or indirect liabilities, damages, losses, claims, demands, actions, causes of action, risks, or harms arising from or related to the services provided through this equipment.

FCC STATEMENTS

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION: Any changes or modifications not expressly approved by Motorola for compliance could void the user's authority to operate the equipment.

This product complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; Rule Part 47CFR § 2.1093 sub-part J:1999
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-2005 Edition

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with the FCC RF exposure compliance requirements, the separation distance between the antenna and any person's body (including hands, wrists, feet, and ankles) must be at least 20 cm (8 inches).

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destinations. The firmware setting is not accessible by the end user.

INDUSTRY CANADA (IC) STATEMENT

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IC Radiation Exposure Statement

IMPORTANT NOTE: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm (8 inches) between the radiator and your body.

WIRELESS LAN INFORMATION

This device is a wireless network product that uses Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency-Division Multiple Access (OFDMA) radio technologies. The device is designed to be interoperable with any other wireless DSSS and OFDMA products that comply with:

- The IEEE 802.11 Standard on Wireless LANs (Revision B and Revision G), as defined and approved by the Institute of Electrical and Electronics Engineers
- The Wireless Fidelity (Wi-Fi) certification as defined by the Wireless Ethernet Compatibility Alliance (WECA)





Restrictions on the Use of Wireless Devices

In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. For example, using wireless equipment in any environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the applicable policy for the use of wireless equipment in a specific organization or environment, you are encouraged to ask for authorization to use the device prior to turning on the equipment.

The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this product, or the substitution or attachment of connecting cables and equipment other than specified by the manufacturer. Correction of the interference caused by such unauthorized modification, substitution, or attachment is the responsibility of the user.

The manufacturer and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

SECURITY WARNING: This device allows you to create a wireless network. Wireless network connections may be accessible by unauthorized users. For more information on how to protect your network, see the section on setting up your wireless LAN in this guide or visit the Motorola website.



1

Introduction

The Motorola SURFboard® SVG2501 Wireless Voice Gateway is designed for use in households with one or more computers capable of wireless and/or wired connectivity. This guide provides product overview and setup information for the SVG2501. It also provides instructions for installing the gateway and configuring the wireless, Ethernet, router, DHCP, and security settings.

Note: All references to the SVG2501 throughout this guide also apply to the SVG2501U, unless noted otherwise.

Inside the Box

Before installing the SVG2501, verify that the following items are included in the box with the gateway. If you obtained the gateway from your service provider, some of the included items may be different.

Item		Description
Power Supply		Provides power via an AC electrical outlet
10/100Base-T Ethernet Cable		Standard Category 5, or higher, cable for connecting to the network
Battery		Provides backup power for the SVG2501 during a power outage
Software License & Regulatory Card		Contains software license, warranty, and safety information for the SVG2501
SVG2501 Installation CD		Contains the SVG2501 Wi-Fi Installation Wizard, software license agreement, multi-language user guides, and USB drivers (for SVG2501U models only).
SVG2501 Install Sheet		Provides basic information for setting up the SVG2501



Contact Information

For more information on Motorola consumer cable products, education, and support, please visit the Motorola support website at:

<http://broadband.motorola.com/consumers/support>

Minimum System Requirements

The SVG2501 is compatible with the following operating systems:

- Windows XP, Service Pack 2 or later
- Windows Vista, Service Pack 1 or later
- Mac 10.4 (Ethernet connection)
- Linux[®] (Ethernet connection)

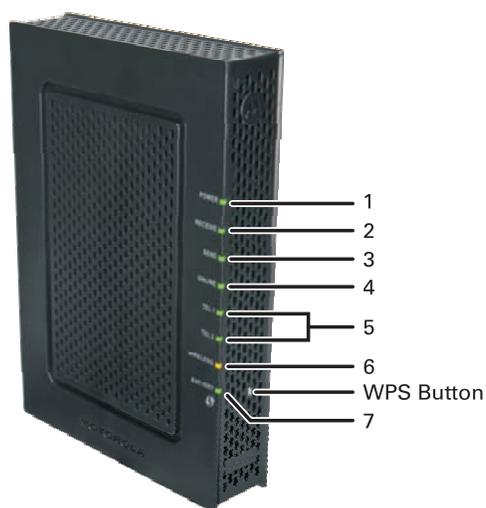


2

Product Overview

Front Panel

The SVG2501 front panel contains indicator lights and the **WPS** button, which is used to configure a Wi-Fi Protected Security (WPS)-enabled device so that it automatically connects to the SVG2501 wireless network.



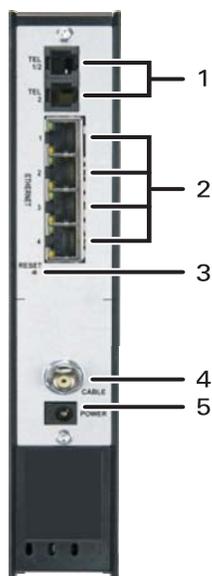
The SVG2501 front panel LED indicators provide the following gateway status information for power, communications, and errors:

LED	Flashing	On
1 POWER	Battery power is connected Note: When running on battery power only, POWER LED will flash and all remaining LEDs will turn OFF to conserve power.	Green: Power is connected
2 RECEIVE	Scanning for a downstream (receive) channel connection	Green: Downstream channel is connected
3 SEND	Scanning for an upstream (send) channel connection	Green: Upstream channel is connected
4 ONLINE	Scanning for Internet connection	Green: Startup process completed



LED	Flashing	On
5 TEL 1 TEL 2	Telephone is off-hook; dialing or call in progress	Green: Telephone is connected and activated; on-hook
6 WIRELESS	Green: Wi-Fi enabled with encrypted wireless data activity. Long/short flash indicates wireless pairing in progress. Amber: Wi-Fi enabled with unencrypted wireless data activity	Green: Wireless pairing successfully established between the SVG2501 and another Wi-Fi enabled device on your network — printer, PDA, laptop, etc. Amber: Wireless pairing was successful. LED turns green after five minutes.
7 BATTERY	Battery is low	Green: Power is connected and battery is fully charged

Rear Panel



Both the SVG2501 (shown above) and SVG2501U rear panels contain the following cabling ports and connectors:

Item	Description
1 TEL 1/2 TEL 2	VoIP connection for a single or two-line telephone VoIP connection for a single-line telephone Note: When running on battery power, only TEL1/2 port is active.

Product Overview • Rear Panel



Item	Description
2 ETHERNET 1 2 3 4	Use any Ethernet port to connect an Ethernet-equipped computer, hub, bridge, or switch using an RJ-45 cable. Green LED — Indicates a 100Base-T data rate connection Amber LED — Indicates a 10Base-T data rate connection <ul style="list-style-type: none">• When LED is ON — Indicates there is no data traffic and a connection is established• When LED is FLASHING — Indicates data activity is detected on the port• When LED is OFF — Indicates the device is not powered ON or there is no Ethernet connection Note: When running on battery power, the Ethernet connection will shut off.
3 RESET	Resets the gateway It may take 5- to 30 minutes to find and lock on the appropriate communications channels. Press and hold the RESET button for five seconds or longer to restore the factory default settings.
4 CABLE	Coaxial cable connection to the cable wall outlet
5 POWER	+14VDC Power connector
* USB	Available on SVG2501U models only For Windows computers only — DO NOT connect a Mac or UNIX® computer to the USB port.

MAC Label

The SVG2501 Media Access Control (MAC) label contains the MAC address which is a unique, 48-bit value that identifies each Ethernet network device.

To receive data service, you must provide the MAC address marked **HFC MAC ID** to your Internet service provider.

To receive VoIP service, you may have to provide the **MTA MAC ID** to your VoIP service provider.



3

Cabling the Gateway



- This product is for indoor use only. Do not route the telephone lines, USB and/or Ethernet cable(s) outside of the building. Exposure of the cables to lightning could create a safety hazard and damage the product.
- Before starting the battery installation, see [Battery Safety Requirements](#) for information.
- The battery is not intended for everyday use, only for power backup during a power outage.
- Install the battery before installing any other gateway components.

Installing the Battery

1. To remove the battery cover located on the bottom of the gateway, place the gateway on its side with the LEDs facing up, press down on the upper two locking tabs and then pull open the cover.
2. Line up the battery terminals and then slide the battery into the compartment until it locks in place.



3. Set the battery cover into the bottom of the gateway and press down on the upper two locking tabs, and then push the cover shut until the tabs snap into place.

Note: The battery may take up to 12 hours to reach a full charge.



Connecting the SVG2501



- To reduce the risk of fire, use only No. 26 or larger UL Listed or CSA Certified Telecommunication Line Cord or national equivalent to connect a telephone line to your SVG2501.
- Contact your cable service provider before connecting your Motorola wireless voice gateway to existing telephone wiring. DO NOT connect the telephone cable from the TEL port to a traditional telephone (PSTN) service; only connect it to a telephone.

Note: Before starting the installation, power on your computer and check that the gateway is unplugged.

1. Connect the coaxial cable to a grounded cable TV outlet or splitter.
2. Connect the other end of the coaxial cable to the Cable connector on the gateway. Hand-tighten the connectors to avoid damaging them.
3. Plug the power cord into the Power port on the gateway.
4. Plug the other end of the power cord into an electrical wall outlet. This powers on the gateway. Allow the gateway 5- to 30 minutes to find and lock on the appropriate communications channels.
5. Connect the Ethernet cable to the Ethernet port on your computer.
6. Connect the other end of the Ethernet cable to an Ethernet port on the gateway. Repeat steps 5 and 6 for each additional computer.
7. Plug the telephone cord of a single- or two-line telephone into the telephone.
8. Plug the other end of the telephone cord into the TEL 1/2 port on the gateway. Use the TEL 1/2 port to connect two-line telephones.
Note: Contact a VoIP service provider to activate this service.
9. For a second telephone, plug the telephone cord of a single-line telephone into the TEL 2 port on the gateway.

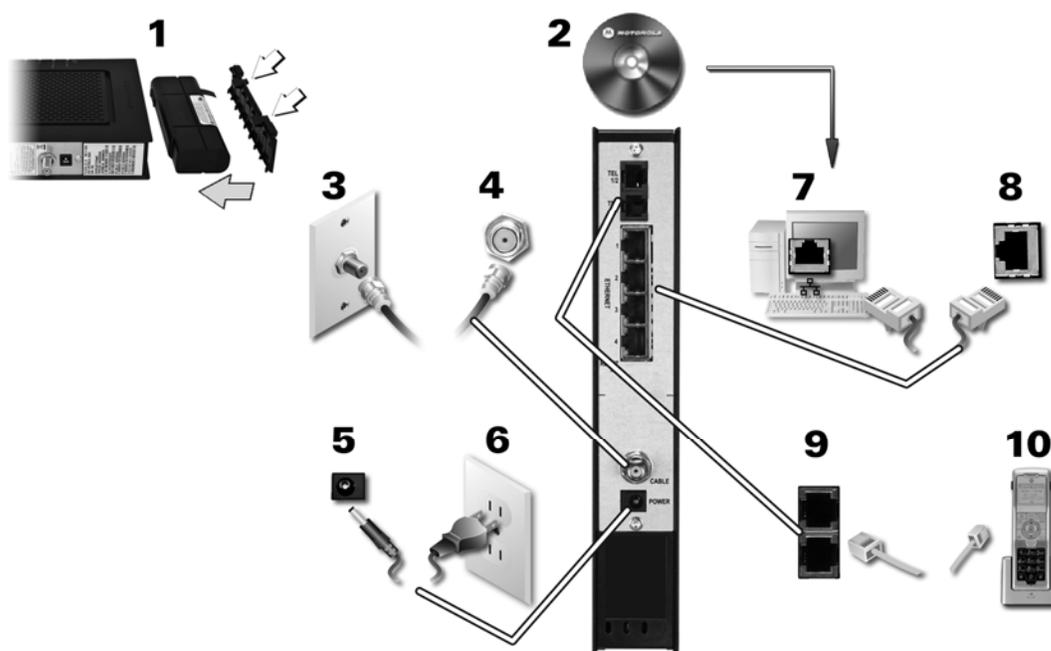


Figure 1 – SVG2501 Installation

10. Check that the LEDs on the front panel cycle through the following sequence:

Table 1 – SVG2501 LED Activity During Startup

LED	Description
POWER	<ul style="list-style-type: none">• Turns on when AC power is connected to the gateway.• Indicates that the power is connected properly.
RECEIVE	<ul style="list-style-type: none">• Flashes while scanning for the downstream receive channel.• Changes to solid green when the receive channel is locked.
SEND	<ul style="list-style-type: none">• Flashes while scanning for the upstream send channel.• Changes to solid green when the send channel is locked.
ONLINE	<ul style="list-style-type: none">• Flashes during the gateway registration and configuration.• Changes to solid green when the gateway is registered.



Connecting the SVG2501U



- Before plugging in the USB cable on the SVG2501U, load the SVG2501 Installation CD in the CD-ROM drive on your computer.
- DO NOT connect the Ethernet and USB cables together on the same computer at any time.
- To reduce the risk of fire, use only No. 26 or larger UL Listed or CSA Certified Telecommunication Line Cord or national equivalent to connect a telephone line to your SVG2501.
- DO NOT connect the telephone cable from the TEL port to a traditional telephone service; only connect it to a telephone. Contact your cable service provider before connecting the Motorola wireless voice gateway to your existing telephone wiring.

Note: Before starting the installation, power on your computer and check that the gateway power cord is unplugged.

1. Insert the SVG2501 Installation CD into the CD-ROM drive and load the applicable USB driver.
2. Connect one end of the coaxial cable to the cable outlet or splitter.
3. Connect the other end of the coaxial cable to the Cable connector on the gateway. Hand-tighten the connectors to avoid damaging them.
4. Plug the power cord into the Power port on the gateway.
5. Plug the other end of the power cord into an electrical wall outlet.
This powers on the gateway. You do not need to unplug the gateway when it is not in use. The first time you plug in the gateway, allow it 5- to 30 minutes to find and lock on the appropriate communications channels.
6. Connect the USB (not supplied) or Ethernet cable to the appropriate port on the computer.
7. Connect the other end of the USB or Ethernet cable to the appropriate port on the gateway.
If applicable, repeat steps 6 and 7 for each additional Ethernet connection.
8. Plug the telephone cord of a single- or two-line telephone into the telephone.
9. Plug the other end of the telephone cord of a single- or two-line telephone into the TEL 1/2 port on the gateway.

Note: Contact a VoIP service provider to activate VoIP service.

10. For a second telephone, plug the telephone cord of a single-line telephone into the TEL 2 port on the gateway.
11. Check that the LEDs on the front panel cycle through the proper sequence, see [SVG2501 LED Activity During Startup](#).



Wall Mounting the Gateway

If you choose to mount the gateway on a wall, do the following before starting:

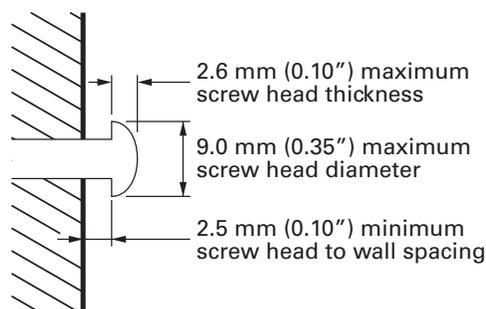
- Locate the unit as specified by the local or national codes governing residential or business cable TV and communications services.
- Follow all local standards for installing a network interface unit/network interface device (NIU/NID).
- Make sure the AC power plug is disconnected from the wall outlet and all cables are removed from the back of the gateway before starting the installation.
- Decide if you are mounting the gateway horizontally or vertically.

Make sure you have the following items:

- [Wall-mounting template](#)
- Applicable screwdriver: Phillips or flathead
- Two M3.5 (#6) screws with a flat underside and maximum screw head diameter of 9.0 mm to mount the gateway.

Note: Contact a qualified installer to determine the appropriate screw length needed for mounting the gateway.

- See the dimensioned view below for the spacing needed between the screw head and wall:



Note: If possible, mount the gateway to concrete, masonry, a wooden stud, or some other solid wall material. Use anchor bolts if necessary (for example, if you mount the unit on drywall).



Before drilling holes in the wall, check the structure for potential damage to water, gas, or electrical lines.

1. Position and secure the wall mounting template on the wall to mark the holes.
2. The hole depth shall be determined by the installer and the type of hardware selected.
3. After mounting the gateway, reconnect the coaxial and Ethernet (or USB) cables.

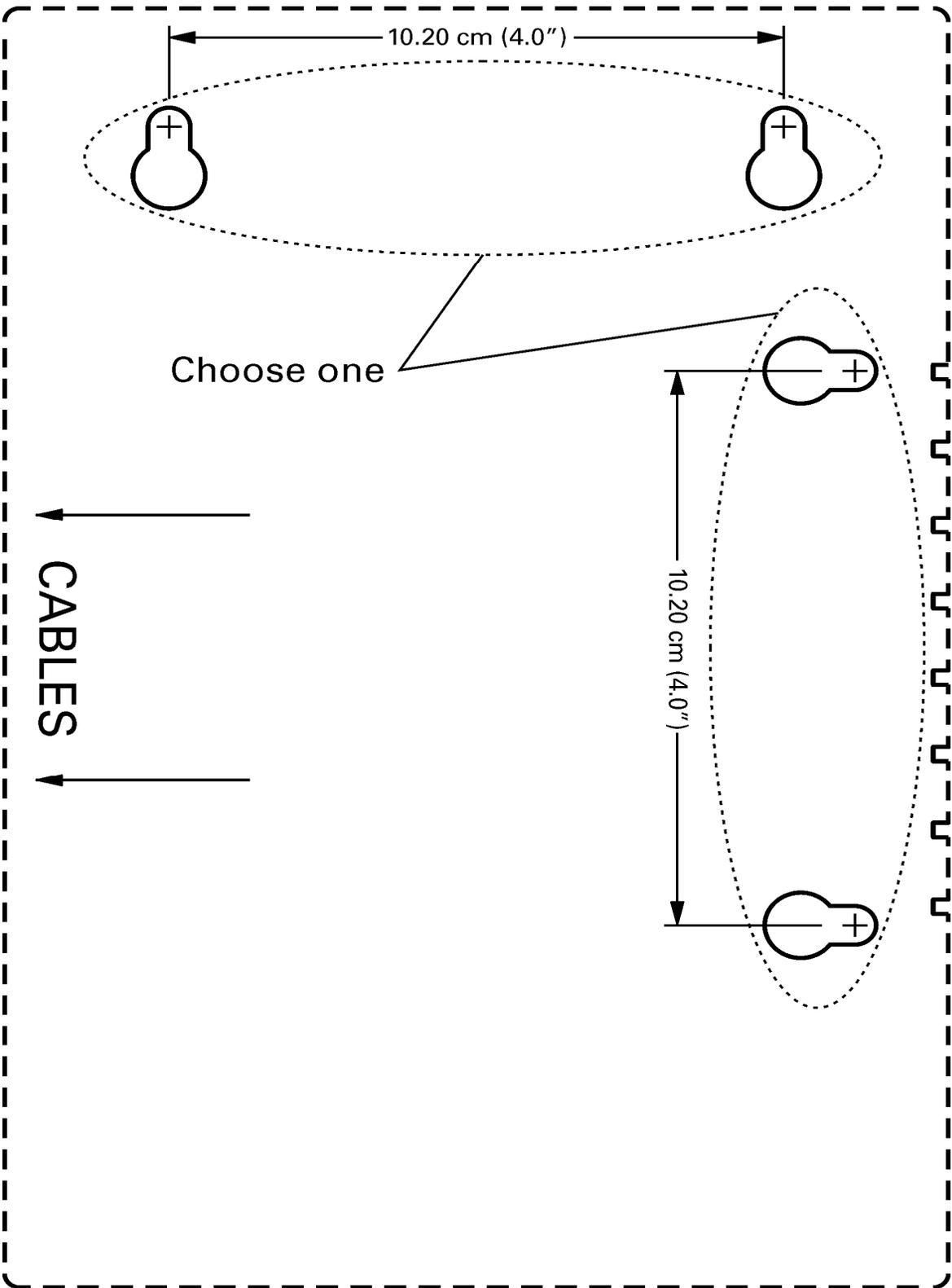


4. Re-plug the power cord into the +14VDC Power connector on the gateway and the electrical outlet.
5. Properly arrange the cables to prevent any safety hazards.
6. Verify the gateway is still securely attached to the wall.

Wall Mounting Template

You can print the following page to use as the wall mounting template.

After printing the template, measure the hole spacing on the printout to make sure the size and scale are accurate



Cabling the Gateway • Wall Mounting the Gateway

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4

Connecting to the Internet

Before You Begin



- To prevent unauthorized user access, change the default username and password before proceeding. See [Changing the Default Username and Password](#) for instructions.
- For security reasons, DO NOT configure your SVG2501 Wireless Voice Gateway over a wireless network connection.

After installing the gateway, check that your computer can connect to the Internet. For any problems connecting to the Internet, check the [Troubleshooting](#) section for a possible solution. If there is still no connection, you may have to configure the TCP/IP settings on the one or more computers connected to the gateway.

Note: For UNIX or Linux systems, follow the instructions in the applicable user documentation.

Configuring TCP/IP for Windows XP

1. Click **Start** and then click **Settings**.
2. Click **Control Panel**.
3. Double-click **Network Connections** to list the Dial-up and LAN or High-Speed Internet connections.
4. Right-click the network connection for your network interface.
5. Select *Properties* from the drop-down menu to display the Local Area Connection Properties window. Be sure Internet Protocol (TCP/IP) is checked.
6. Select *Internet Protocol (TCP/IP)* and click **Properties** to display the Internet Protocol (TCP/IP) Properties window.
7. Select *Obtain an IP address automatically* and *Obtain DNS server address automatically*.
8. Click **OK** to save the TCP/IP settings and exit the TCP/IP Properties window.
9. Close the Local Area Connection Properties window and then exit the Control Panel.
10. When you complete the TCP/IP configuration, go to [Verifying the IP Address in Windows XP](#).



Configuring TCP/IP for Windows Vista

1. Click **Start** and then click **Settings**.
2. Click **Control Panel**.
3. Double-click **Network and Internet** to display the Network and Internet window.
4. Double-click **Network and Sharing Center** to display the Network and Sharing Center window.
5. Click **Manage network connections** to display the LAN or High-Speed Internet connections window.
6. Right-click the network connection for your network interface.
7. Select *Properties* to display the Local Area Connection Properties window.
8. Vista may prompt you to allow access to the Network Properties Options. If you see the prompt, *User Account Control -- Windows needs your permission to continue*, click **Continue**.
9. Select *Internet Protocol Version 4 or 6 (TCP/IPv4 or v6)* and click **Properties** to display the Internet Protocol Properties window.
10. Select Obtain an IP address automatically and Obtain DNS server address automatically.
11. Click **OK** to save the TCP/IP settings and close the Internet Protocol Version 4 (TCP/IPv4) Properties window.
12. Click **OK** to close the Local Area Connection Properties window.
13. Close the remaining windows and exit the Control Panel.
14. When you complete the TCP/IP configuration, go to [Verifying the IP Address in Windows Vista](#).

Verifying the IP Address

Windows XP

1. On the Windows taskbar, click **Start**.
2. Select *Run* to open the Run window.
3. Type **cmd** and click **OK**.
4. Type **ipconfig** and press **Enter** to display your IP configuration.

If an Auto-configuration IP address is displayed, that indicates possible broadband network problems or an improper connection between your computer and the SVG2501. The Auto-configuration IP address, ranging from **169.254.0.0** to **169.254.255.255**, is reserved for Automatic Private IP Addressing (APIPA).

This can occur if the gateway is configured to automatically obtain an IP address from a Dynamic Host Configuration Protocol (DHCP) server. When Auto-configuration is enabled, Windows will automatically assign an IP address if the gateway is unable to obtain one. Because this automatically assigned IP address is not valid, you will not be able to access the Internet using the gateway.



Check the following:

- Your cable connections
- Whether you can see cable-TV channels on your television

After successfully verifying your cable connections and proper cable-TV operation, you can renew your IP address, see [Renewing the IP Address in Windows XP or Vista](#).

Windows Vista

1. On the Windows taskbar, click **Start**.
2. Click **All Programs**.
3. Click **Accessories**.
4. Click **Run** to open the Run window.
5. Type **cmd** and click **OK** to open a command prompt window.
6. Type **ipconfig** and press **Enter** to display the IP Configuration.

If an Auto-configuration IP address is displayed, that indicates possible broadband network problems or an improper connection between your computer and the SVG2501. The Auto-configuration IP address, ranging from **169.254.0.0** to **169.254.255.255**, is reserved for Automatic Private IP Addressing (APIPA).

Renewing the IP Address in Windows XP or Vista

1. Click **Start** on the Windows taskbar.
2. Select *Run* to open the Run window.
3. Type **cmd** and click **OK** to open a command prompt window.
4. Type **ipconfig /renew** and press **Enter**. A valid IP address should appear indicating that Internet access is available.
5. Type **exit** and press **Enter** to close the command prompt window.

If, after performing this procedure, your computer still cannot access the Internet, call your cable provider.

Setting Up a Wi-Fi Network

Do the following to set up a Wi-Fi network using the **WPS** button on the SVG2501 front panel:

1. Power on the SVG2501 Wireless Voice Gateway.
2. Power on all the WPS-enabled devices you want to have access to the network, such as a PC, router, printer, or telephone.
The Wi-Fi network will automatically detect the WPS devices.
3. Press and hold the **WPS** button on the SVG2501 for five seconds.
4. If applicable, press the **WPS** button on each additional WPS-enabled device.



5

Configuring the Gateway

Use the SVG2501 Configuration Manager to change various default configuration settings on your gateway.

Note: *If your gateway was obtained as part of a service package, your service provider may require alternative configuration methods. If you cannot access any of the HTML pages in the Configuration Manager, please contact your service provider for more information.*

Read the following very important issues before proceeding:



- To prevent unauthorized access, change the default username and password immediately after logging onto the SVG2501 Configuration Manager for the first time. See [Changing the Default Username and Password](#) for more information.
- For security purposes, do not configure your SVG2501 Wireless Voice Gateway over a wireless network connection.

Starting the Gateway Configuration Manager

1. Open any web browser on a computer connected to the gateway.
2. In the Address bar, type **http://192.168.0.1** for the Configuration Manager's IP address, and then press **Enter**. The gateway login screen appears.
3. Type the default username and password. Both entries are case-sensitive.

Username: **admin**

Password: **motorola**

Login

Login
Please enter username and password to login.

Username

Password

4. Click **Login** to open the SVG2501 Configuration Manager (CMGR).



Status: Basic Advanced Firewall Parental Control Wireless VPN MTA Battery Logout

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Status

Connection [help](#)

This page displays information on the status of the cable modem's HFC and IP network connectivity.

Startup Procedure		
Procedure	Status	Comment
Acquire Downstream Channel	In Progress	In Progress
Connectivity State	In Progress	Not Synchronized
Boot State	In Progress	Unknown
Security	Disabled	Disabled

Downstream Channel			
Lock Status	In Progress	Modulation	unknown
Channel ID	0	Symbol rate	Unknown
Downstream Frequency	541777000 Hz	Downstream Power	-59.2 dBmV
SNR	20.7 dB		

Upstream Channel			
Lock Status	Not Locked	Modulation	QPSK
Channel ID	0	Symbol rate	0 ksym/sec
Upstream Frequency	0 Hz	Upstream Power	8.3 dBmV

CM IP Address	Duration	Expires
---	D -- H -- M -- S --	---

Current System Time: --- -- --:--:--

Menu Options

The SVG2501 Configuration Manager Menu Options are displayed along the top of the SVG2501 Configuration Manager screen. When a menu option is selected, a top-level page for that option is displayed.

SVG2501 Configuration Manager Menu

Menu Options	Function
Status	Provides information about the SVG2501 hardware and software, MAC address, gateway IP address, serial number, and related information. You can also monitor your cable system connection. Additional pages provide diagnostic tools and allow you to change your SVG2501 user name and password.
Basic	Views and configures SVG2501 IP-related configuration data, including Network Configuration, WAN Connection Type, DHCP, and DDNS. The Backup option allows you to save your SVG2501 configuration on your computer.
Advanced	Configures and monitors how the SVG2501 routes IP traffic.
Firewall	Configures and monitors the SVG2501 firewall.
Parental Control	Configures and monitors the SVG2501 parental control feature.
Wireless	Configures and monitors SVG2501 wireless networking features.
VPN	Configures and monitors SVG2501 operation with a VPN.
MTA	Monitors the telephone features of the SVG2501.

Configuring the Gateway • Starting the Gateway Configuration Manager



Menu Options	Function
Battery	Provides the current status information about the backup battery, if installed.
Logout	Closes the SVG2501 Configuration Manager.

Changing the Default Username and Password

From the **Status** menu, select **Security**. Complete each field and then click **Apply** to save your changes.

The screenshot shows a dialog box titled "Change User Information". It has four text input fields: "Password Change Username", "New Password", "Re-Enter New Password", and "Current Username Password". Below these fields is a section titled "Restore Factory Defaults" with two radio buttons: "Yes" and "No". The "No" radio button is selected. At the bottom of the dialog is an "Apply" button.

- All entries are case-sensitive.
- For Password Change Username, type a new username.
- For Current Username Password, type the old password.
- Make sure *No* is selected for Restore Factory Defaults.

Note: Do not run **Restore Factory Defaults** to change the Username Password.

Restoring the Default Username and Password

1. From the Status menu, select *Security*.
2. Select *Yes* under Restore Factory Defaults.
3. Click **Apply** to reset the default username and password.
4. Log in again using the defaults.

WARNING: If you run **Restore Factory Defaults**, you will lose additional custom configuration settings including your Parental Controls, Firewall, and Advanced settings.



Saving Your Gateway Configuration

You can save the current gateway settings on your computer.

1. From the Basic menu, select *Backup*.



2. Click **Backup** and then click **OK**.
3. Click **Save**.
4. Select the gateway configuration file — use the default, *GatewaySettings.bin*, or select another file name.
5. Click **Save**.

Restoring Your Gateway Configuration

You can restore previously saved gateway settings on your computer.

1. From the Basic menu, select *Backup*.
2. To restore your previously saved gateway configuration, click **Restore** and then click **OK** to reboot the gateway.

– or –

To select a different gateway configuration, click **Browse** to locate the file and then click **Open**.

Click **Restore** and then click **OK** to reboot the gateway.

Retrieving Help

Help information is available for any menu option. It provides brief field descriptions for each menu option page. To retrieve help, click **help** on that page.

Exiting the Gateway Configuration Manager

- Click **Logout** on the SVG2501 Menu bar.



A

Troubleshooting

If the solutions listed here do not solve your problem, contact your service provider.

Before calling your service provider, try pressing the Reset button on the rear panel of the SVG2501.

Note: Press **RESET** on the rear panel to restore the default settings. You will lose your custom configuration settings, including Parental Control, Firewall, and Advanced settings.

Resetting the SVG2501 may take 5- to 30 minutes. Your service provider may ask for the status of the lights as described in [Front Panel LEDs and Error Conditions](#).

Solutions

Table 2 – Troubleshooting Solutions

Gateway Problem	Possible Solution
Power LED is off	<ul style="list-style-type: none">• Check that the SVG2501 is properly plugged into the electrical outlet.• Check that the electrical outlet is working.• Press the RESET button on the rear panel.
Cannot send or receive data	<ul style="list-style-type: none">• On the front panel, note the status of the LEDs and refer to Front Panel LEDs and Error Conditions to identify the error. If you have cable TV, check that the TV is working and the picture is clear. If you cannot receive regular TV channels, the data service will not function.• Check the coaxial cable at the SVG2501 and wall outlet. Hand-tighten if necessary.• Check the IP address. Follow the steps for verifying the IP address for your system. Call your service provider if you need an IP address.• Check that the Ethernet (or USB) cable is properly connected to the SVG2501 and the computer.• If a device is connected via the Ethernet port, check the ONLINE LED to verify connectivity.



Gateway Problem	Possible Solution
Wireless client(s) cannot send or receive data	<ul style="list-style-type: none"> • Perform the first four checks in “Cannot send or receive data.” • Check the Security Mode setting on the Wireless Primary Network Page: <ul style="list-style-type: none"> – If you enabled WPA and configured a passphrase on the SVG2501, be sure each affected wireless client has the identical passphrase. If this does not solve the problem, check whether the wireless client supports WPA. – If you enabled WEP and configured a key on the SVG2501, be sure each affected wireless client has the identical WEP key. If this does not solve the problem, check whether the client’s wireless adapter supports the type of WEP key configured on the SVG2501. – To temporarily eliminate the Security Mode as a potential issue, disable security. • After resolving your problem, be sure to re-enable wireless security. • On the Wireless Access Control Page, be sure the MAC address for each affected wireless client is correctly listed.
Slow wireless transmission speed with WPA enabled	<ul style="list-style-type: none"> • On the Wireless Primary Network Page, check whether the WPA Encryption type is TKIP. • If all of your wireless clients support AES, change the WPA Encryption to AES.

Front Panel LEDs and Error Conditions

The SVG2501 front panel LEDs provide status information for the following error conditions:

Table 3 – Front Panel LEDs and Error Conditions

LED	Status	If, During Startup:	If, During Normal Operation:
POWER	OFF	SVG2501 is not properly plugged into the power outlet	The SVG2501 is unplugged
RECEIVE	FLASHING	Downstream receive channel cannot be acquired	The downstream channel is lost
SEND	FLASHING	Upstream send channel cannot be acquired	The upstream channel is lost
ONLINE	FLASHING	IP registration is unsuccessful	The IP registration is lost



B

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SURFboard SVG2501 Series Wireless Voice Gateway

Motorola, Inc.

Home & Networks Mobility Solutions Business ("Motorola")

101 Tournament Drive

Horsham, PA 19044

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SURFboard SVG2501 Wireless Voice Gateway

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