

Powerful Features in a Single Unit

An SVG2500 combines high-speed Internet access, networking, and computer security for a home or small-office LAN. An SVG2500 provides:

- An integrated high-speed cable modem for continuous broadband access to the Internet and other online services with much faster data transfer than traditional dial-up or ISDN modems
- A single broadband connection for up to 245 computers to surf the web; all computers on the LAN communicate as if they were connected to the same physical network
- An [IEEE 802.11g](#) wireless access point to enable laptop users to remain connected while moving around the home or small office or to connect desktop computers without installing network wiring. Depending on distance, wireless connection speeds can match that of Ethernet.
- Voice-Over-Internet-Protocol (VoIP) telephone service with two telephone lines available for reliable voice service with your broadband Internet connection.
- A secure Wi-Fi broadband connection for Wi-Fi enabled devices on your network, such as your cellular telephone, laptops, printers, PDAs, and desktops.
- A USB connection for a single PC
- Four 10/100Base-T Ethernet uplink ports supporting half- or [full-duplex](#) connections and [Auto-MDIX](#)
- [Routing](#) for a wireless LAN (WLAN) or a wired Ethernet LAN; you can connect more than four computers using hubs and/or switches
- A built-in DHCP server to easily configure a combined wired and/or wireless Class C private LAN
- An advanced [firewall](#) supporting [stateful-inspection](#), intrusion detection, [DMZ](#), denial-of-service attack prevention, and Network Address Translation (NAT)
- Virtual private network (VPN) [pass-through](#) operation supporting IPSec, PPTP, or L2TP to securely connect remote computers over the Internet
- [Port Forwarding](#) to configure ports to run applications having special network requirements

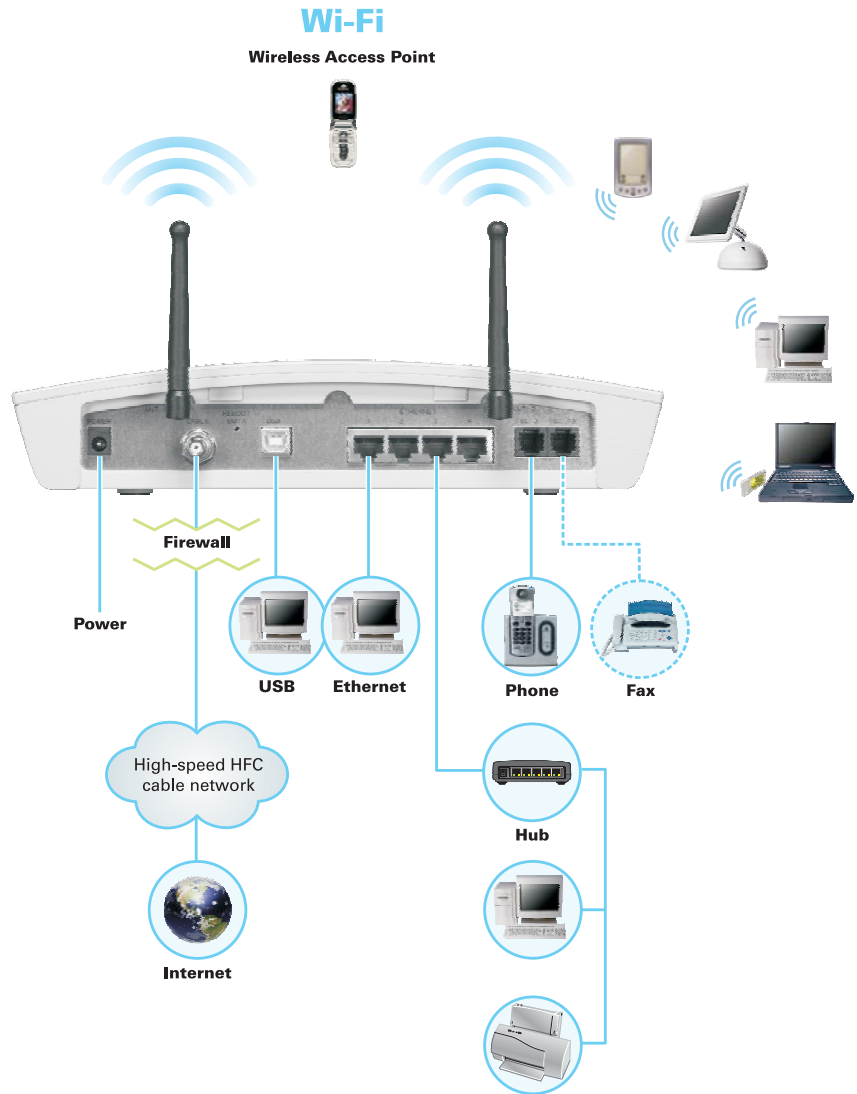
Sample Hybrid LAN

The sample LAN illustrated on the next page contains the devices listed below, all protected by the SVG2500 firewall. Clockwise from top-right, the devices are:

- Cellular telephone with a wireless Wi-Fi connection
- PDA, an Apple Macintosh® computer, a desktop PC, and a laptop PC with a 802.11g wireless LAN connection
- PC connection to the USB port

- Computer and printer on the Ethernet port through a network hub connection, and a computer connected directly to an Ethernet port
- Two wired telephone connections with SVG2500 VoIP Internet telephone access

Figure 1-1 — Sample Hybrid LAN



Optional Accessories

All networks are composed of multiple devices. The SVG2500 works with any IEEE 802.11g, IEEE 802.11b compliant, or Wi-Fi certified client product.


VoIP Telephone Service with Your SVG2500

Your SVG2500 allows you to use the cable Internet connection for VoIP telephone service with the same features as your traditional telephone service. You must contact a VoIP service provider for this feature to work with the SVG2500.

You can connect up to two standard telephone lines using your SVG2500, supporting:

- Local and long-distance calling
- Standard telephone features like call hold and mute, caller ID, speed dial, call forwarding, call waiting, call return, three-way calling, and voice mail
- Telephone modem and fax support

Caution!

	Use only a standard telephone. Digital phones used in many businesses that connect to a PBX (private branch exchange) do not operate with the SVG2500.
---	--

Telephone Features Supported by the SVG2500

The SVG2500 VoIP function supports the telephone features listed below. Some features listed may not be available on your telephone or supported by your Voice Service Provider.

- Standard two-wire telephone connection for voice, fax, and telephone modem operation. The connection to the telephone equipment is made with a standard RJ-11 jack and plug.
- Re-dial number
- Speed dial
- Call forwarding
- Call hold and mute
- Call return
- Call waiting
- Caller ID
- Caller ID block
- Three-way calling
- Voice mail
- Telephony Devices for the Disabled (TDD)
- On hook, off hook detection
- Operator barge-in

1 OVERVIEW

- Standard call progress signals
- Dial-tone stutter
- Dial-tone busy

The SVG2500 does not provide support for pulse-dial equipment.

Cell Phone Pairing and the SVG2500 Wi-Fi Feature

This feature operates separately from the SVG2500 VoIP feature.

The Wi-Fi capability of your SVG2500 allows you to make Internet telephone calls through the Internet with any Wi-Fi enabled cellular telephone. By pushing the pairing button of the SVG2500 and enabling the pairing feature on your Wi-Fi enabled cellular phone, the phone auto-connects to the Wi-Fi wireless network with WPA security. This allows you to make telephone calls through your SVG2500 Internet connection with your cellular telephone.

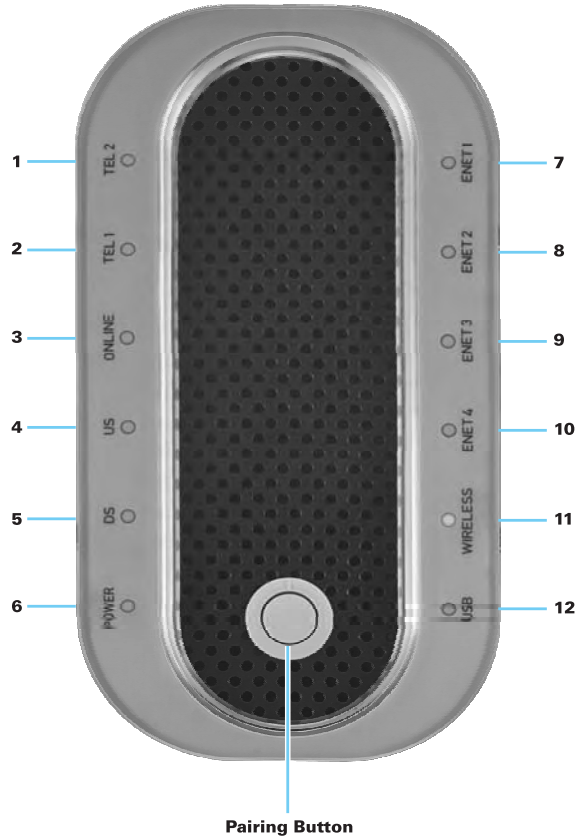
The Wi-Fi capability of the SVG2500 can also be used to allow other Wi-Fi enabled devices to connect to the Internet.

The maximum range of Wi-Fi devices is 300 feet and the maximum transfer speed is 11 Mbps.

Note: Wi-Fi (Wireless Fidelity) is used to identify wireless products that have been certified to conform to the IEEE 802.11b wireless networking specification.

Top Panel


The top panel contains indicator lights and a button for cell phone pairing. The display remains dark until there is a connection or activity on an interface.



Key	Light	Flashing	On
1	TEL2	Telephone is off hook; dialing or conversation in progress	Telephone is connected and on hook
2	TEL1	Telephone is off hook; dialing or conversation in progress	Telephone is connected and on hook
3	ONLINE	Scanning for a network connection.	Startup process is complete and the SVG2500 is online
4	US	Scanning for a send (upstream) channel connection	Upstream channel is connected
5	DS	Scanning for a receive (downstream) channel connection	Downstream channel is connected
6	Power Battery	Never flashes	AC power is properly connected

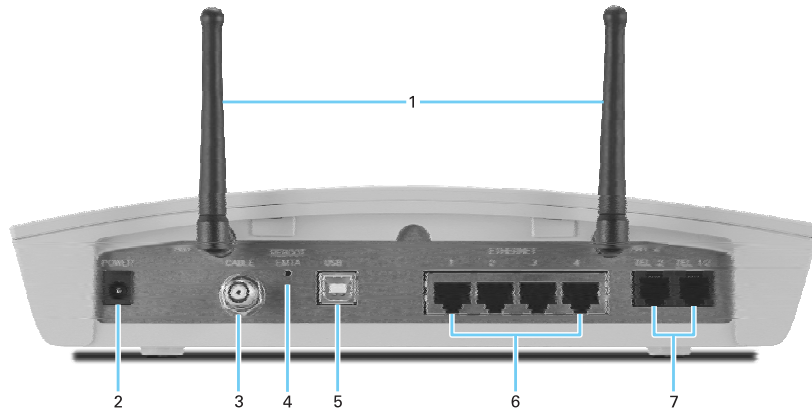
1 OVERVIEW

Key	Light	Flashing	On
7	ENET1	Ethernet activity	Ethernet activity on port 1: Green for 100Base-T; Yellow for 10Base-T
8	ENET2	Ethernet activity	Ethernet activity on the port 2: Green for 100Base-T; Yellow for 10Base-T
9	ENET3	Ethernet activity	Ethernet activity on the port 3: Green for 100Base-T; Yellow for 10Base-T
10	ENET4	Ethernet activity	Ethernet activity on the port 4: Green for 100Base-T; Yellow for 10Base-T
11	Wireless Paring	Never flashes. Lights amber when SVG2500 is not paired with another Wi-Fi device, such as cellular telephone.	Wireless pairing established between the SVG2500 and another Wi-Fi enabled device on your network – cellular telephone, PDA, laptop, etc.
12	USB	USB activity	Lights green if there is a proper USB connection

Item	Name	Description
	SVG2500 Pairing Button	Allows you to configure a Wi-Fi phone to make calls through the SVG2500 and the Internet with your cellular phone. Press the pairing button on the SVG2500 and your cellular phone to automatically connect your cellular phone to the SVG2500 wireless network with WPA security. Also, allows easy, secure mobile communication between the SVG2500 and a myriad of mobile devices, such as laptops, desktops with wireless ability, printers, etc.

Rear Panel

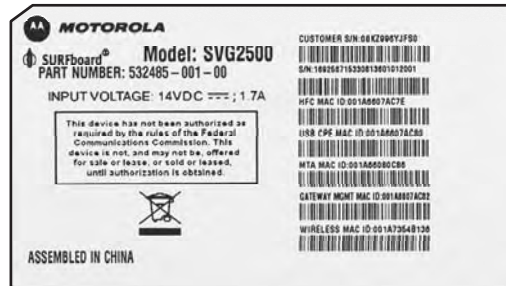
The rear panel contains cabling connectors and the power receptacle.



Key	Item	Description
1	ANT 1 ANT 2	Removable, adjustable antenna. If necessary, contact your Internet Service provider about obtaining an optional Motorola wireless high gain antenna to increase your wireless LAN performance and coverage.
2	POWER	Use the DC power plug from the SVG2500 DC power supply to connect to the AC power outlet.
3	CABLE	Use the cable connector to connect to the coaxial cable outlet.
4	REBOOT EMTA	If you experience a problem, you can push this recessed button to restart the SVG2500 (for additional information, see Troubleshooting). To reset all values to their defaults, hold down the button for more than five seconds. Resetting may take 5 to 30 minutes because the SVG2500 must find and lock on the appropriate communications channels.
5	USB	For Windows only, use the USB port for Connecting a PC to the USB Port. You cannot connect the SVG2500 USB port to a Macintosh or UNIX® computer.
6	ETHERNET 1 2 3 4	Use any Ethernet port to connect an Ethernet LAN cable with RJ-45 connectors to an Ethernet-equipped computer, hub, bridge, switch or Xbox or PlayStation® 2 gaming console.
7	TEL 2 TEL1/2	Use to connect a single telephone. Use to connect a single or two-line telephone.

Bottom Label on the SVG2500

The label on the bottom of the SVG2500 contains the Media Access Control (MAC) address which is a unique, 48-bit value permanently saved in ROM at the factory to identify each Ethernet network device. To receive data service, you will need to provide the [MAC address](#) marked **HFC MAC ID** to your Internet Service provider.



SVG2500 LAN Choices

The SVG2500 enables you to connect up to 245 [client](#) computers on a combination of:

- Wireless LAN
- Wired Ethernet LAN
- USB Connection

Each computer needs appropriate network [adapter](#) hardware and [driver](#) software. The clients on the Ethernet, wireless, or USB interfaces can share:

- Internet access with a single Internet Service provider account, subject to Internet Service provider terms and conditions
- Files, printers, storage devices, multi-user software applications, games, and video conferencing

Wireless and wired network connections use Windows networking to share files and peripheral devices such as printers, CD-ROM drives, floppy disk drives, and Iomega® Zip Drives.

Wireless LAN

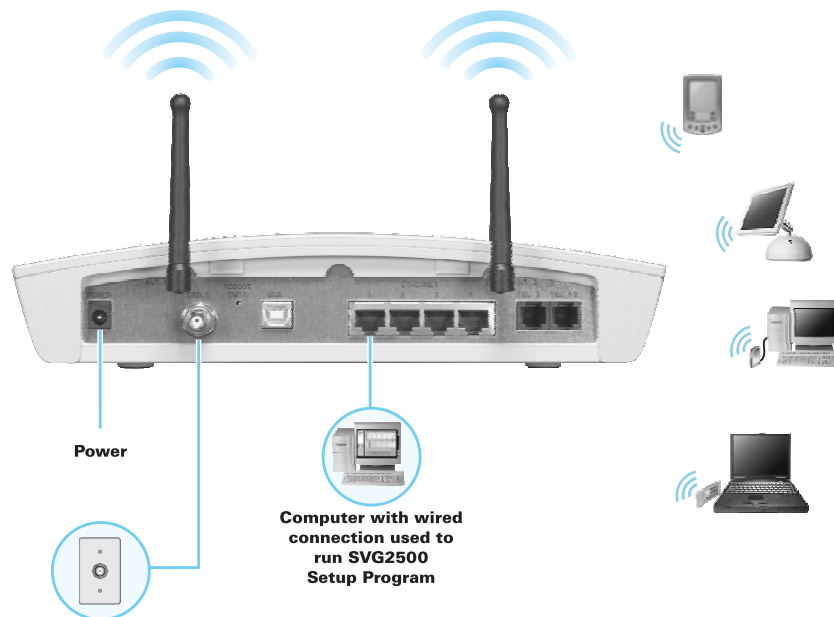
Wireless communication occurs over radio waves rather than a wire. Like a cordless telephone, a WLAN uses radio signals instead of wires to exchange data. A wireless network eliminates the need for expensive and intrusive wiring to connect computers throughout the home or office. Mobile users can remain connected to the network even when carrying their laptop to different locations in the home or office.

Each computer on a WLAN requires a wireless adapter.

Laptop PCs — Use a wireless notebook adapter in the PCMCIA slot or a wireless USB adapter.

Desktop PCs — Use a wireless PCI adapter, wireless USB adapter, or compatible product in the PCI slot or USB port, respectively.

Figure 1-2 — Sample Wireless Network Connections



To set up the SVG2500 on a computer wired to the SVG2500 over Ethernet or USB, perform the procedures in [Section 9, SVG2500 Wireless Pages](#). *Do not attempt to configure the SVG2500 over a wireless connection.*

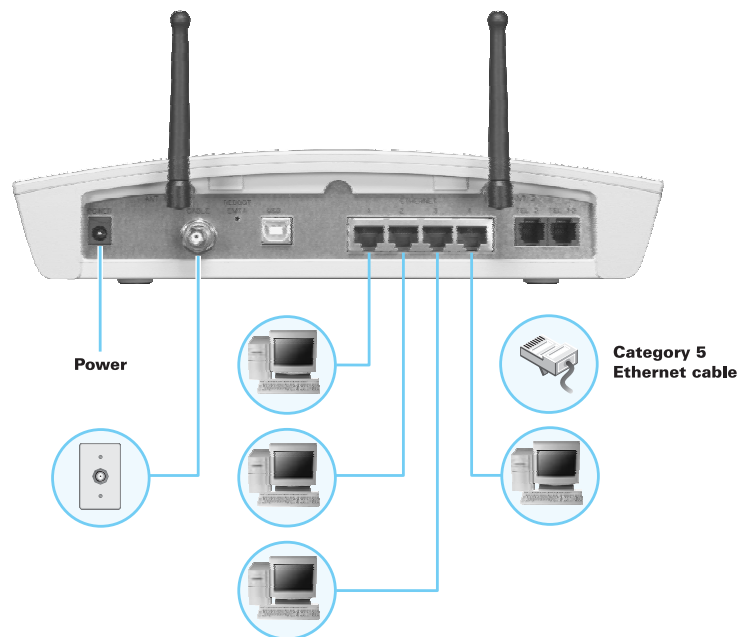
Your maximum wireless operation distance depends on the type of materials through which the signal must pass and the location of your antennas and [clients](#) (stations). *Motorola cannot guarantee wireless operation for all supported distances in all environments.*

An optional high-gain antenna can improve wireless performance. For information about available optional antennas for your SVG2500, visit an electronics retail store.

Wired Ethernet LAN

You will need to install the Ethernet network interface card (NIC) and driver software for each computer on the 10/100Base-T Ethernet LAN. Because the SVG2500 Ethernet port supports auto-MDIX, you can use straight-through or cross-over cable to connect a hub, switch, or computer. Use category 5 cabling for all Ethernet connections.

Figure 1-3 — Sample Ethernet to Computer Connection



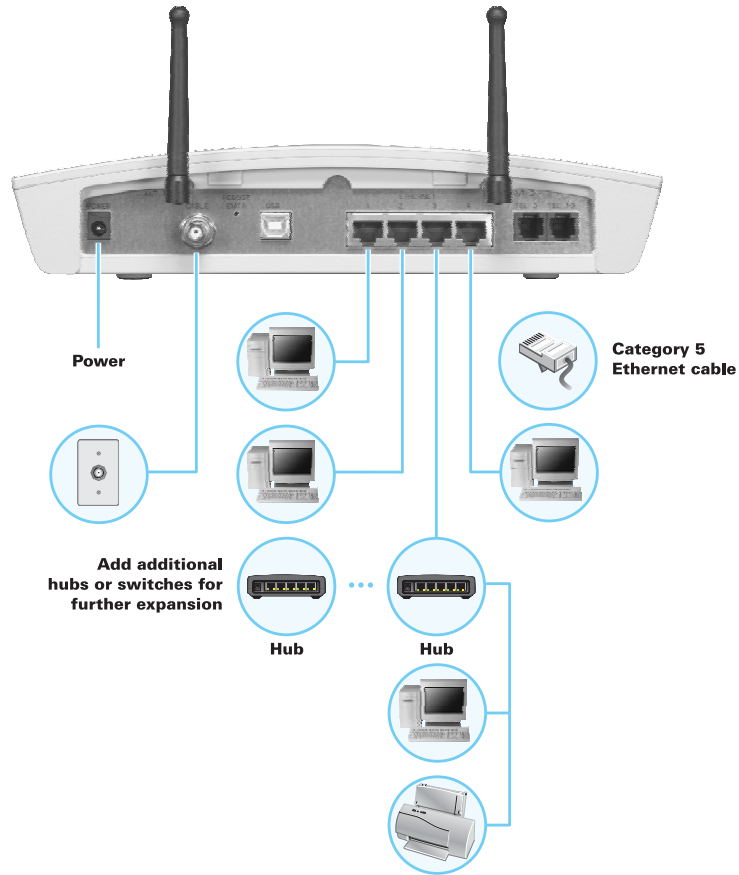
The physical wiring arrangement has no connection to the logical network allocation of IP addresses.

A wired Ethernet LAN with more than four computers requires one or more hubs, switches, or routers. You can do the following:

- Connect a hub or switch to any Ethernet port on the SVG2500
- Use Ethernet hubs, switches, or routers to connect up to 245 computers to the SVG2500

The following illustration is an example of an Ethernet LAN you can set up using the SVG2500. Cable the LAN in an appropriate manner for the site. A complete discussion of Ethernet cabling is beyond the scope of this document.

Figure 1-4 – Sample Ethernet Connection to Hubs or Switches



1 OVERVIEW

USB Connection

You can connect a single PC running Windows Vista™, Windows XP®, or Windows® 2000 to the SVG2500 USB V2.0 port. For cabling instructions, see [Connecting a PC to the SVG2500 USB Port](#).

Caution!


	Before plugging in the USB cable, be sure the SVG2500 Installation CD-ROM is inserted in the PC CD-ROM drive.
---	---

Figure 1-5 – Sample USB Connection

