Quick Installation Guide

SURFboard® Wireless Cable Modem Gateway SBG900

A home network enables you to access and move information between two or more computers in your home or business. You can connect your home network to your cable TV system to connect to the Internet.

Your SBG900 is the central **connection point** between your **computers** and the **Internet**. It directs (routes) information between the computers connected to your home network. A built-in **cable modem** transmits information between your home network and the Internet.

The SBG900 provides different **network connection types**. You can use a wireless or a wired connection (or a combination of the two) to connect your computers to the SBG900. Your network can use one or any combination of:

- **Ethernet local are**a **network** (LAN)
- **Wireless LAN** (WLAN)
- **Universal Serial Bus** (USB)

This guide provides information about:

- Optional accessories and network requirements
- Cable, Ethernet, USB, and wireless connections
- Starting the Setup Program
- Introduction to network security and gaming configuration
- Troubleshooting and contact information

For in-depth information, refer to the interactive *SBG900 User Guide* on the *SBG900 Installation* CD-ROM. If desired, you can print the user guide.

Optional Accessories

All networks are composed of multiple devices. The SBG900 works with any IEEE 802.11g or IEEE 802.11b compliant client product. Motorola supplies a range of accessories for use with the SBG900. Some examples are:

Motorola Wireless
Ethernet Bridge
WE800G

Motorola Ethernet
Broadband Router
BR700

Motorola Wireless
Notebook Adapter
WN825G

Motorola Wireless
PCI Adapter
WPCI810G

For more information about Motorola cable modems, gateways, and related consumer broadband products, visit http://broadband.motorola.com/.

Basic SBG900 Network Requirements

- An **SBG900**
- A **connection** to your cable TV system
- A **subscription** to cable modem service from your cable TV provider
- One or more **computers** with minimum:
  - Pentium-class processor or faster
  - 16 Mb of memory
  - 10 Mb of hard disk space available
  - Windows® 98, Windows® 98 SE, Windows Me®, Windows® 2000, Windows XP™, Macintosh®, or Linux® with operating system CD-ROM available
- A wired or wireless **network adapter** for each computer on the network
- For wired connections, **Ethernet cables** (one is provided with the SBG900)

We recommend plugging the SBG900 AC power adapter into a surge protector.

Connecting the SBG900

To connect to **Ethernet** or **USB** on a PC running a supported Windows version, we recommend using the Installation Assistant on the *SBG900 Installation* CD-ROM. Insert the SBG900 CD-ROM in the CD-ROM drive, agree to the License Agreement, and the following window is displayed:
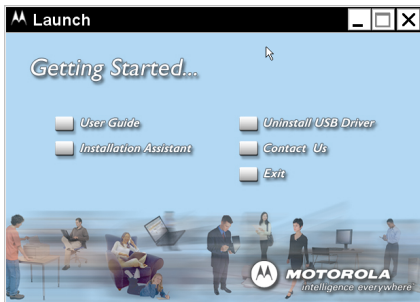
To start the Installation Assistant, click **Installation Assistant**. The procedures it guides you through are described in the following sections in this guide:

Ethernet A, B, and E

USB A, C, and E

The Installation Assistant does not apply to the following:

- For wireless connections, follow the steps under **A**, **D**, and **E**.
- For Macintosh or Linux computers, follow the instructions in the *SBG900 User Guide* and the operating system documentation.

A. Connect the SBG900 to Your Cable TV System

You may need to call your cable provider to activate your high-speed Internet service. Your cable provider may require the MAC address labeled **CM HFC MAC ID** on the bottom of the SBG900. Please write your CM HFC MAC ID here:

00 : _____ : _____ : _____ : _____ : _____

Connecting Directly to the Cable Outlet

1   Connect one end of the coaxial cable to the cable TV wall outlet and its other end to the **CABLE** port on the SBG900.

2   Plug the power cord into the **+12VDC** port on the SBG900.

3   Connect the AC power adapter to the SBG900.

**4**   Plug the AC adapter into an AC wall outlet or surge protector.
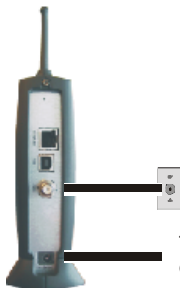
To AC power adapter in wall outlet or surge protector

Connecting to the Cable Outlet Using a Splitter

Connecting an SBG900 to the same cable outlet as a TV requires a
5 to 900 MHz splitter and two additional coaxial cables.

1   Check that one end of the coaxial cable is connected to the cable TV outlet.

2   Disconnect that cable from the back of your TV and connect it to the
splitter input.

3   Use one coaxial cable to connect the splitter output to your TV.

4   Use the other coaxial cable to connect the splitter output to the **CABLE** port
on your SBG900.
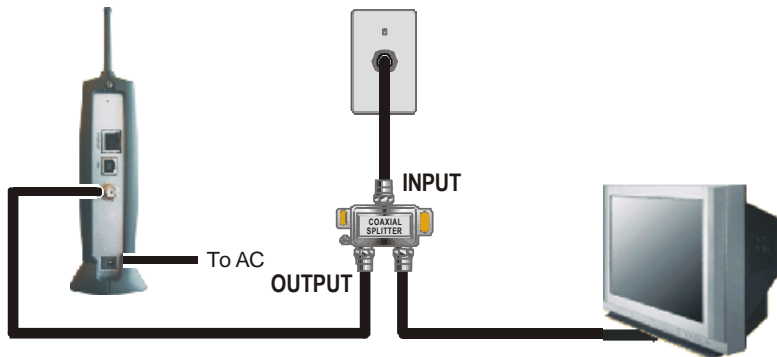
B. Ethernet Connections

Computers using the Ethernet connection require an Ethernet adapter installed and a wired connection to the SBG900.

1 If you purchased your Ethernet adapter separately, install the Ethernet hardware and driver software according to the manufacturer's instructions. If your computer already has an Ethernet adapter installed, skip to step 2.

2 Insert the *SBG900 Installation* CD-ROM into the CD-ROM drive.

3 Run the **Installation Assistant**. Choose **Ethernet** as your connection.

4 Connect the SBG900 to the cable TV system as described in Section A.

5 Plug one end of the Ethernet cable into the Ethernet port on the computer.

6 Plug the other end into the **ETHERNET** port on the SBG900 or an Ethernet hub or switch connected to the SBG900, as shown in the illustrated sample Ethernet LAN.

  The Installation Assistant tests the connection between the computer and the SBG900. This may take up to three minutes.

7 Restart your computer to obtain an IP address. Follow the instructions in the *SBG900 User Guide.*

Sample Ethernet LAN
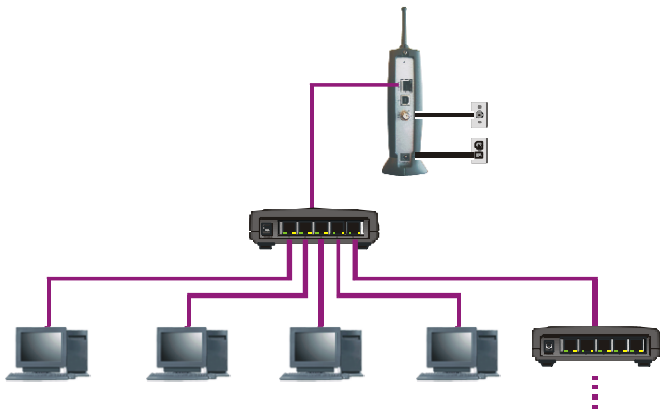
You can connect up to 255 computers to Ethernet hubs or switches connected to the SBG900. Detailed information about network cabling is beyond the scope of this document or the *SBG900 User Guide.*

C. USB Connection

You can connect a single PC running Windows 98, Windows Me, Windows 2000, or Windows XP to the SBG900 USB port. The USB connection requires special driver software supplied on the *SBG900 Installation* CD-ROM.

1   Insert the *SBG900 Installation* CD-ROM into the CD-ROM drive.

2   Run the **Installation Assistant**. Choose **USB** as your connection.
       Be sure the SBG900 is not connected to your PC.

3   Connect the SBG900 to the cable TV system as described in Section A.

4   Install the USB driver software.

5   Restart your PC.

6   Connect the USB cable to the **USB** port on the SBG900.

7   Connect its other end to the USB port on the PC.
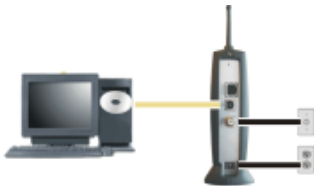
If you experience problems with the USB connection, click **Uninstall USB Driver** on the Installation Assistant Getting Started page to uninstall the USB driver. If necessary, you can install the USB driver following the instructions in the *SBG900 User Guide.*

D. Wireless Network Setup

Computers using the wireless connection require a compatible wireless adapter installed. The adapter type depends on whether the computer has a USB port, PCI slot, or credit-card-sized PCMCIA slot.

To provide an initial wireless connection to your network and the Internet:

1   Connect the SBG900 to the cable TV system as described in Section A.

2   On each wireless client computer, install the wireless adapter hardware and driver software according to the manufacturer's instructions.

3   On each wireless client computer, set up a wireless adapter profile to "connect" the client to the SBG900. The procedure depends on your wireless adapter and computer operating system.

In your initial profile, use the SBG900 default wireless Network Name (ESSID) **motorola** (case-sensitive).

Your computers are connected but not secure.

> *The default SBG900 settings provide no wireless security.* After your wireless LAN is operational, be sure to enable security as described in "Setting Up the Wireless LAN" in the *SBG900 User Guide.*

E. Start the SBG900 Setup Program

1 On a computer wired to the SBG900 USB or Ethernet port, open your web browser (for example, Microsoft Internet Explorer or Netscape Navigator®).

2 Type http**//:192.168.100.1** and press **ENTER** to display the login window:
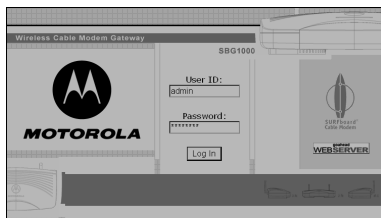
3 In the **User ID** field, type **admin** (case sensitive) and press **TAB**.

4 In the **Password** field, type **motorola** (case sensitive) and click **Log In** to display the SBG900 Setup Program main window:

Network Security

The SBG900 firewall and wireless security measures are disabled by default. For normal operation, you do not need to change most default settings, except for the password, firewall, and wireless security.

> ⚠ *The default SBG900 settings provide no security for data or protection from Internet attacks. We recommend protecting your network as described on this page.*

As soon as your network is operational, run the SBG900 Setup Program to:

Task	In User Guide, see
Change the default password to prevent unauthorized configuration.	"Changing the Default Password"
Enable the firewall to protect your LAN from Internet attacks. Choose the most secure policy possible for your applications.	"Setting the Firewall Policy"
If you are only using wired Ethernet or USB connections (there are no wireless clients), **disable the wireless interface** to prevent unauthorized use.	"Wireless Network Setup"
For a LAN with one or more wireless clients, **enable wireless security** on the SBG900.	"Wireless Network Setup"

After enabling wireless security on the SBG900, as required on each wireless client:

- If you disabled ESSID broadcasting on the SBG900, set the client Network Name (ESSID) identical to the ESSID on the SBG900.
- If you enabled WEP on the SBG900, set the client WEP key identical to the WEP key on the SBG900.
- If you enabled Allow Only Listed Stations Access, be sure the MAC address for each client is correctly listed on the SBG900.

Configuration for Gaming

Firewall: By default, the SBG900 **Firewall** is disabled. If you enable the SBG900 firewall, see the game manufacturer's documentation to ensure the necessary ports are open for use by that game. If *low* security policy is enabled, the SBG900 can pass **Xbox Live™** by default and no user action is required. If *medium* or *high* security policies are enabled, the firewall must be configured for **X-Box Live** traffic. **XBox Live** requires **UDP 88:88** and **UDP/TCP 3074:3074**.

Port Triggering: The SBG900 has pre-defined port triggers supporting:

DirectX® 7 and DirectX® 8   MSN Games by Zone.com   Battle.net®

If your game uses one of these applications, no user action is required. For a list of games supported by Battle Net, visit http://www.battle.net. You can also configure custom port triggers that other games may require to operate properly. If you set custom port triggers and enable the firewall, you must configure the firewall to allow traffic through those ports.

Gaming DMZ: Some games and game devices require the use of random ports or the forwarding of unsolicited traffic. We recommend configuring such a device as a **Gaming DMZ** device. First reserve a private IP address for that device's network interface MAC address and then designate it as a DMZ device. You can reserve IP addresses for multiple devices, but only one device at a time can be the **Gaming DMZ**. To connect a **PlayStation® 2** for **PS®2** on-line gaming, assign it as the **Gaming DMZ** because the ports required vary from game to game.

Troubleshooting

If you experience a problem with the SBG900, try the following:

1   Press the reset button on the rear panel. Resetting may take 5 to 30 minutes.

2   Refer to "Troubleshooting" in the *SBG900 User Guide.*

3   If you still cannot resolve the issue, contact your cable provider or Motorola as described in "Contact Us."

Contact Us

In the United States and Canada, if you need assistance while working with the SBG900 and related equipment supplied by Motorola:

If you rent or lease your SBG900   Contact your cable provider.

If you own your SBG900   Call **1-877-466-8646** for technical and warranty support available 24 hours a day, 7 days a week.

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