

# SURFboard™



## SURFboard SBG6700-AC Wireless Gateway

### User Guide

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# Table of Contents

<b>1. Safety and Regulatory Information</b> .....	<b>5</b>
Important Safety Instructions.....	5
FCC Statements.....	7
Wireless LAN Information.....	9
Caring for the Environment by Recycling .....	10
<b>2. Getting Started</b> .....	<b>11</b>
Introduction .....	11
In The Box .....	11
System Requirements.....	12
Contact Information .....	13
<b>3. Product Overview</b> .....	<b>14</b>
Front Panel .....	14
Wi-Fi Protected Setup™ (WPS) .....	15
Rear Panel.....	16
Gateway Label .....	17
<b>4. Installing the Gateway</b> .....	<b>18</b>
Connect the SBG6700-AC to Your Computer .....	18
Establish an Internet Connection .....	19
<b>5. Setting Up a Wireless Network Connection</b> .....	<b>20</b>
Launch the SBG6700-AC Quick Start Wizard.....	20
Set Up a Wireless Network Using Your Computer .....	27
Quick Connect Using the Windows Taskbar .....	27
Connect Using the Windows Control Panel.....	30
Test Your Wireless Network Connection.....	32
Connect Your WPS-Enabled Wireless Device .....	32
<b>6. Using the Gateway Web Manager</b> .....	<b>34</b>
Start the SBG6700-AC Web Manager .....	34
Gateway Web Manager Menu Options.....	36
Get Help.....	37
Help Overview.....	37
Help Links.....	38
Field Level Help.....	39
Exit the SBG6700-AC Web Manager.....	40

<b>7. Configuring Your Wireless Network .....</b>	<b>41</b>
Set Up Your Wireless Primary Network.....	41
Set Up WPS on Your Wireless Network .....	43
Set Up a Wireless Guest Network .....	44
Change Your Wireless Network Name (SSID).....	47
Change the Wireless Channel.....	49
<b>8. Protecting &amp; Monitoring Your Wireless Network .....</b>	<b>51</b>
Prevent Unauthorized Access.....	51
Change the Default User Name and Password .....	51
Set Up Firewall Protection.....	54
Set Up Parental Controls .....	56
Set Up IP Filtering .....	59
Set Up MAC Filtering .....	60
Set Up Port Filtering .....	60
Set Up Port Triggers.....	62
Set Up Port Forwarding .....	63
Set Up the DMZ Host .....	65
Set Up Firewall Event Log Notifications.....	66
Store Remote Firewall Logs .....	67
<b>9. Managing Your Gateway and Connected Networks .....</b>	<b>68</b>
View the Gateway Product Information.....	68
View the Gateway Network Connection Status .....	68
Back Up Your Gateway Configuration .....	69
Restore Your Configuration Settings .....	70
Reset Your Configuration Settings.....	71
Exit the SBG6700-AC Web Manager.....	72
<b>10. Troubleshooting Tips.....</b>	<b>73</b>
Solutions .....	73
Front Panel LED Icons and Error Conditions.....	74
<b>11. Warranty Information .....</b>	<b>76</b>

# Safety and Regulatory Information

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## Important Safety Instructions

**Read This Before You Begin** — When using your 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 electrical 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 electrical 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.
- Avoid damaging the device with static by touching the coaxial cable when it is attached to the earth-grounded coaxial cable-TV wall outlet.
- Always first touch the coaxial cable connector on the device when disconnecting or reconnecting the Ethernet cable from the device or user's PC.
- It is recommended that the customer install an electrical surge protector in the electrical 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.
- 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 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.
- For added protection, unplug the device from the wall outlet and disconnect the cables to avoid damage to this device during lightning activity or power surges.
- 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 104° F (40° C).

SAVE THE ABOVE INSTRUCTIONS

**Note to CATV System Installer** — This reminder is provided to call the CATV system installer's attention to Article 820.93 and 820.100 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.

# 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 ARRIS for compliance could void the user's authority to operate the equipment.

## FCC Declaration of Conformity

ARRIS Enterprises, LLC, 3871 Lakefield Drive, Suwanee, GA 30024, declares that the SURFboard DOCSIS 3.0 Wireless Gateway-SBG6700-AC complies with 47 CFR Parts 2 and 15 of the FCC rules as a Class B digital device.

## 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 8 inches (20.3 centimeters).

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except those already approved in this filing.

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.

CAN ICES-3 (B)/NMB-3 (B)

In Canada, RLAN devices are restricted from using the 5600-5650 MHz frequency band.

**Caution:** To reduce the potential for harmful interference to co-channel mobile satellite systems, use of the 5150-5250 MHz frequency band is restricted to indoor use only.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz frequency bands. These radars could cause interference and/or damage to License Exempt–Local Area Network (LE-LAN) devices.

## 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 centimeters between the radiator and your body.*

## Avis D'Industrie Canada (IC)

Cet appareil est conforme à la réglementation RSS-210 d'Industrie Canada. Son utilisation est assujettie aux deux conditions suivantes:

- Cet appareil ne doit pas causer d'interférences et
- Cet appareil doit accepter toute interférence reçue, y compris les interférences causant un fonctionnement non désiré.

CAN ICES-3 (B)/NMB-3 (B)

Au Canada, les appareils de réseau local sans fil ne sont pas autorisés à utiliser les bandes de fréquence 5600-5650 MHz.

**Avertissement:** afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux, les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur

Les radars à haute puissance sont définis en tant qu'utilisateurs principaux (c.-à-d. prioritaires) des bandes de fréquences 5250-5350 MHz et 5650-5850 MHz. Ces radars peuvent causer de l'interférence ou des dommages susceptibles de nuire aux appareils exempts de licence–réseau local (LAN-EL).



## Déclaration de IC sur L'Exposition aux Rayonnements

**Note Importante:** cet équipement est conforme aux limites d'exposition aux rayonnements établies par IC pour un environnement non contrôlé. Cet équipement doit être installé et utilisé de manière à maintenir une distance d'au moins 20 cm entre la source de rayonnement et votre corps.

## 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 AC, Revision B, Revision G, and Revision N), as defined and approved by the Institute of Electrical 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.

**Note:** The use of the 5150-5250 MHz frequency band is restricted to Indoor Use Only.

**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 *Protecting & Monitoring Your Wireless Network* (page 50) in this guide for more information or visit the ARRIS Support website at [www.arris.com/consumer](http://www.arris.com/consumer) (<http://www.arris.com/consumer>).

## Caring for the Environment by Recycling



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

### **Recycling your ARRIS 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 ARRIS Technical Support at **1-877-466-8646** for assistance.

# Getting Started

## Introduction




Welcome to the next generation of ultra high-speed wireless gateways. The ARRIS SURFboard® SBG6700-AC Wireless Gateway is an all in one wireless DOCSIS 3.0® cable modem and two-port Ethernet router device. It provides secure ultra high-speed wired and wireless broadband access to the Internet for your computer and other wireless network devices on your home or small business network. The SBG6700-AC also includes a Wi-Fi® Pairing button option for quick and easy connections for your WPS-enabled wireless devices.




This guide provides instructions for installing and configuring your SBG6700-AC, setting up secure wireless network connections, and managing your gateway and network configurations.

## In The Box

Before installing the SBG6700-AC, check that the following items are also included in the box. If any items are missing, please call ARRIS Technical Support at **1-877-466-8646** for assistance.

**Table 1. SBG6700-AC Package Contents**

Item		Description
<b>SBG6700-AC Wireless Gateway</b>		High-speed cable modem, wireless access point, and two-port Ethernet router
<b>Power Supply</b>		Power adapter and cord for an electrical wall outlet connection
<b>Ethernet Cable</b>		Standard Category 5 (CAT5) or higher network cable

Item		Description
<b>Software License &amp; Regulatory Card</b>		Safety and regulatory information, software license, and warranty for the gateway
<b>Support Information Card</b>		Safety and regulatory information, software license, and warranty for the gateway
<b>SBG6700-AC Quick Start Guide</b>		Provides basic information for installing the gateway and setting up a secure wireless connection on your home network.

## Additional Items Needed (Not Included)

The following items are not included in the box and must be purchased separately, if required:

- Coaxial (coax) cable, if one is not already connected to a cable wall outlet
- RF splitter (for additional coaxial cable connections, such as a set-top box or Smart TV)
- Ethernet cable for each additional Ethernet-enabled device

## System Requirements

- High-speed Internet access account
- Web browser access – Internet Explorer, Google Chrome, Firefox, or Safari
- Compatible operating systems:
  - Windows®10
  - Windows 8
  - Windows 7 Service Pack 1 (SP1)



**Note:** Although older versions of Microsoft Windows operating systems are no longer specifically supported, they should still function with this model.

- Mac® 10.4 or higher
- UNIX®
- Linux®

## Contact Information

For technical support and additional ARRIS product information:

- Visit the ARRIS Support website: [www.arris.com/consumer](http://www.arris.com/consumer)  
(<http://www.arris.com/consumers>)
- Call ARRIS Technical Support: **1-877-466-8646**




## Product Overview





### Front Panel



Figure 1: SBG6700-AC Front View

Table 2. SBG6700-AC Front Panel LED Icons

LED Icon	Blinking	On (Solid)
 WPS Button	Not applicable – no LED on button. <b>Note:</b> The <b>Wireless</b> LEDs will blink <b>Amber</b> to indicate the WPS Pairing process is in progress.	Not applicable – no LED on button.
 POWER	Not applicable – icon does not blink.	<b>Green:</b> Power is properly connected.
 RECEIVE	Scanning for a downstream (receive) channel connection.	<b>Green:</b> Non-bonded downstream channel is connected. <b>Blue*:</b> High-speed Internet connection with bonded downstream channels.

LED Icon	Blinking	On (Solid)
 SEND	Scanning for an upstream (send) channel connection.	<b>Green:</b> Non-bonded upstream channel is connected. <b>Blue*:</b> High-speed Internet connection with bonded upstream channels.
 ONLINE	Scanning for an Internet connection.	<b>Green:</b> Startup process completed.
 WIRELESS	<b>Green:</b> Wi-Fi enabled with encrypted/unencrypted wireless data activity. <b>Amber:</b> WPS Pairing process is underway between the SBG6700-AC and a WPS-enabled device.	<b>Green:</b> Any of the following applies: 2.4 GHz wireless connection is made between the SBG6700-AC and another Wi-Fi enabled device on your home network; for example, Wi-Fi telephone, tablet, or laptop. The WPS Pairing process between the SBG6700-AC and WPS-enabled device was successful. The WPS Pairing process either failed or did not complete after two minutes.
 WIRELESS	<b>Green:</b> Wi-Fi enabled with encrypted/unencrypted wireless data activity. <b>Amber:</b> WPS Pairing process is underway between the SBG6700-AC and a WPS-enabled device.	<b>Green:</b> Any of the following applies: 5 GHz wireless connection is made between the SBG6700-AC and another Wi-Fi enabled device on your home network; for example, Wi-Fi telephone, tablet, or laptop. The WPS Pairing process between the SBG6700-AC and WPS-enabled device was successful. The WPS Pairing process either failed or did not complete after two minutes.

**Blue\*:** Indicates DOCSIS 3.0 operation (high-speed Internet access) which may not be available in all locations. Check with your service provider for availability in your area.

## Wi-Fi Protected Setup™ (WPS)

Wi-Fi Protected Setup (WPS) is a wireless network setup option that provides a quick and easy solution for setting up a secure wireless network connection for any WPS-enabled wireless device; such as a computer, tablet, gaming device, or printer. WPS automatically configures your wireless network connections and sets up wireless security. See [Connect Your WPS-Enabled Wireless Device](#) (page 32) for more information.

## Rear Panel

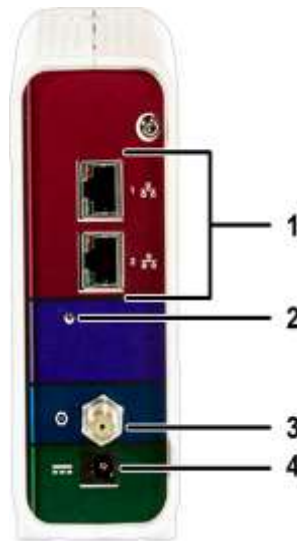
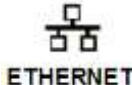






Figure 2: SBG6700-AC Rear View

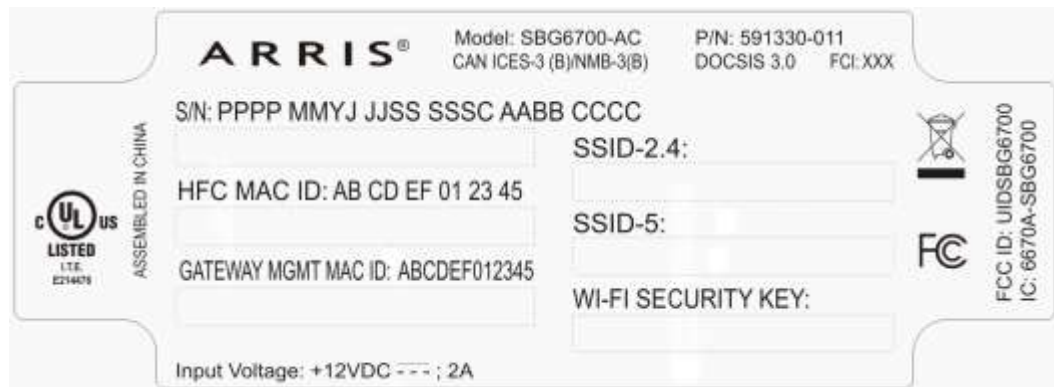
Table 3. SBG6700-AC Rear Panel Ports & Connectors

Port Name	Description
 ETHERNET	<p>Two one-gigabit Ethernet ports for RJ-45 cable connections:</p> <ul style="list-style-type: none"> <li>■ <b>Green:</b> LED is ON - Indicates a data transfer rate of one gigabit per second</li> <li>■ <b>Green:</b> LED is Blinking - Indicates data traffic is in progress</li> <li>■ <b>Amber:</b> LED is ON - Indicates a data transfer rate of less than one gigabit per second</li> <li>■ <b>Amber:</b> LED is Blinking - Indicates data traffic is in progress</li> </ul>
<b>Reset Button</b>	<p>Recessed button used to either reboot the wireless gateway or reset the gateway configuration settings.</p> <p>To reboot (or restart) the gateway, use the end of a paper clip or other small object with a narrow tip to press and hold the indented <b>Reset</b> button for three to four seconds only, and then release. Do not press the <b>Reset</b> button for more than seven seconds. If you do, the gateway configuration settings will automatically reset to the factory default settings and your custom gateway settings will be deleted (see warning below).</p> <p>To reset your gateway configuration back to the factory default settings, use the end of a paper clip or other small object with a narrow tip to press and hold the indented <b>Reset</b> button for 10 seconds or until the front panel LEDs flash, and then release. See <a href="#">Reset Your Configuration Settings</a> (page 64) for more information on an alternative method to reset the gateway settings using the SBG6700-AC Web Manager.</p>



Port Name	Description
Reset Button (Continued)	 <b>WARNING!</b> Resetting the gateway configuration settings to the factory defaults will also delete your custom gateway configuration, including your user password, wireless network name (SSID), and other configuration settings. You should first back up your gateway configuration files before resetting your gateway. See <a href="#">Back Up Your Gateway Configuration</a> (page 69) for more information.
 CABLE	Coaxial cable connector
 POWER	100 - 240 VAC Power connector
	 <b>WARNING!</b> To avoid any damage to your SBG6700-AC, only use the power adapter and cord provided in the box.

## Gateway Label



**Figure 3: Sample SBG6700-AC Gateway Label**

The gateway label is located on the bottom of the SBG6700-AC. It contains the gateway information that you may need when contacting your service provider or [ARRIS Technical Support](#) (page 13).

To receive Internet service, contact your service provider for assistance. You may need to provide the following information listed on the gateway label:

- Gateway Model name (**SBG6700-AC**)
- Gateway MAC address (**HFC MAC ID**)
- Gateway Serial number (**S/N**)

## Installing the Gateway



**Caution:** This product is for indoor use only. Do not route the Ethernet cable(s) outside of the building. Exposure of the cables to lightning could create a safety hazard and damage the product.

### Connect the SBG6700-AC to Your Computer

Before installing the SBG6700-AC:

- Check with your service provider to ensure broadband cable service is available in your area.

To set up a wireless network, you will need a high-speed Internet connection provided by an Internet service provider.



**Note:** When contacting your service provider, you may need your gateway information listed on the gateway label located on the bottom of your SBG6700-AC (see [Gateway Label](#) page 17).

- Choose a location in your home where your computer and gateway are preferably near existing cable and electrical wall outlets.

For the best Wi-Fi coverage, a central location in your home or building is recommended.



**Note:** The following installation procedure covers the wired Ethernet connection process so that you can confirm that the SBG6700-AC was properly installed and can connect to the Internet.



**Figure 4: SBG6700-AC Connection Diagram**

1. Check that a coaxial cable is already connected to a cable wall outlet or RF splitter (optional).
2. Connect the other end of the coaxial cable to the **Cable** connector on the rear of the SBG6700-AC.  
Use your hand to tighten the connectors to avoid damaging them.
3. Connect the Ethernet cable to an available **Ethernet** port on the rear of the SBG6700-AC.
4. Connect the other end of the Ethernet cable to the **Ethernet** port on your computer.  
**Optional:** Repeat steps 3 and 4 for an additional computer or other network device that you want to install as a wired connection on your home network.
5. Connect the power cord to the **Power** port on the rear of the SBG6700-AC.
6. Plug the other end of the power cord into an electrical wall outlet that is not controlled by a wall switch.



**Note:** This automatically powers ON the SBG6700-AC.

## Establish an Internet Connection

Although your computer may already be configured to automatically access the Internet, you should still perform the following gateway connectivity test to verify that the devices were connected properly.

1. Power ON the computer connected to the SBG6700-AC if it is turned off, and then log in.
2. Contact your service provider to activate (provision) the SBG6700-AC. You may have to provide the **HFC MAC ID** listed on the gateway label.



**Note:** Your service provider may allow for automatic activation, which will automatically launch their own special website on your computer when you open a web browser.

3. After the SBG6700-AC is activated, open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on your computer.
4. Type a valid URL (such as [www.surfboard.com](http://www.surfboard.com)) in the address bar and then press **Enter**.  
The ARRIS website should open. If the website fails to open, please contact your service provider for assistance.
5. Check that the **Power**, **Receive**, **Send**, and **Online** front panel LEDs on the SBG6700-AC light up in sequential order. See [Product Overview](#) for additional LED status information.
  - If all four LEDs did not light up solid and you also do not have an Internet connection, you may have to contact your service provider to reactivate the SBG6700-AC or check for signal issues.
  - If you still cannot connect to the Internet, the SBG6700-AC may be defective. Please call ARRIS Technical Support at **1-877-466-8646** for assistance.

## Setting Up a Wireless Network Connection

ARRIS recommends that you first verify that your computer can connect to the Internet using an Ethernet connection before configuring your wireless network.

You must currently have access to an Internet service in your home before you can set up a wireless network connection. Also, make sure your computer and the SBG6700-AC are connected through an Ethernet connection.

Choose **one** of the following options to set up your wireless network connection:

- [Launch the SBG6700-AC Quick Start Wizard](#) (page 20)
- [Set Up a Wireless Network Using Your Computer](#) (page 26)

After setting up your wireless connection on your home network, you should check that your wireless network connection was set up properly. See [Test Your Wireless Network Connection](#) (page 32) for more information.

## Launch the SBG6700-AC Quick Start Wizard

The SBG6700-AC Quick Start Wizard is a seven-step application to help you quickly configure the default wireless network settings on your SBG6700-AC. It configures your SBG6700-AC wireless network name (SSID), Wi-Fi Security key (network password), and Wi-Fi Security code.



**IMPORTANT NOTE:** *The quick start wizard uses the default settings already configured for your SBG6700-AC to help you quickly set up your wireless home network. However, the wizard will only let you change the wireless network name (SSID) and Wi-Fi Security key (network password). After completing the wizard and getting your SBG6700-AC connected to the Internet, you will be able to make additional network configuration changes to further customize your wireless home network and connect your wireless devices. See [Configuring Your Wireless Network](#) (page 41) for more information.*

1. Open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on the computer connected to the SBG6700-AC.
2. Type the default LAN IP address, **192.168.0.1**, in the Address bar and then press **Enter** to log onto the SBG6700-AC.

The Gateway Login screen displays (see Figure 5).

3. Type the following default username and password. Both entries are case-sensitive.
  - Username: **admin**
  - Password: **password**

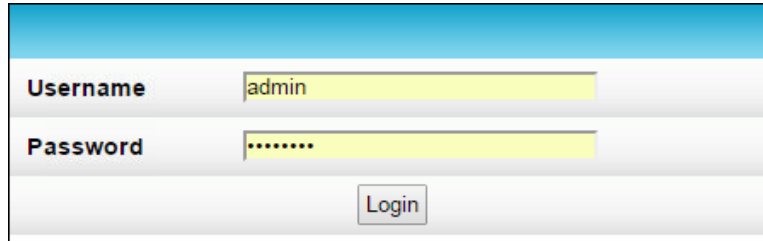


Figure 5: Gateway Login Screen

4. Click **Login** to open the SBG6700-AC Web Manager.



**Note:** If the default username and password are not working, your service provider may have to set up alternate login credentials. Please contact your service provider or ARRIS Technical Support for assistance.

- The Login Alerts screen displays when you log in using the default username and password.

ARRIS recommends that you change the username and password for network security reasons. You can change them after completing the Quick Start Wizard to set up your wireless network connection. See [Change the Default Username and Password](#) for more information.



Figure 6: SBG6700-AC Login Alerts Screen

- The Launch Quick Start Wizard screen displays after you close the Login Alerts screen or if you logged in to the SBG6700-AC Web Manager using a new username and password.
5. Click **Close** to close the Login Alerts screen. The Launch Quick Start Wizard screen displays.

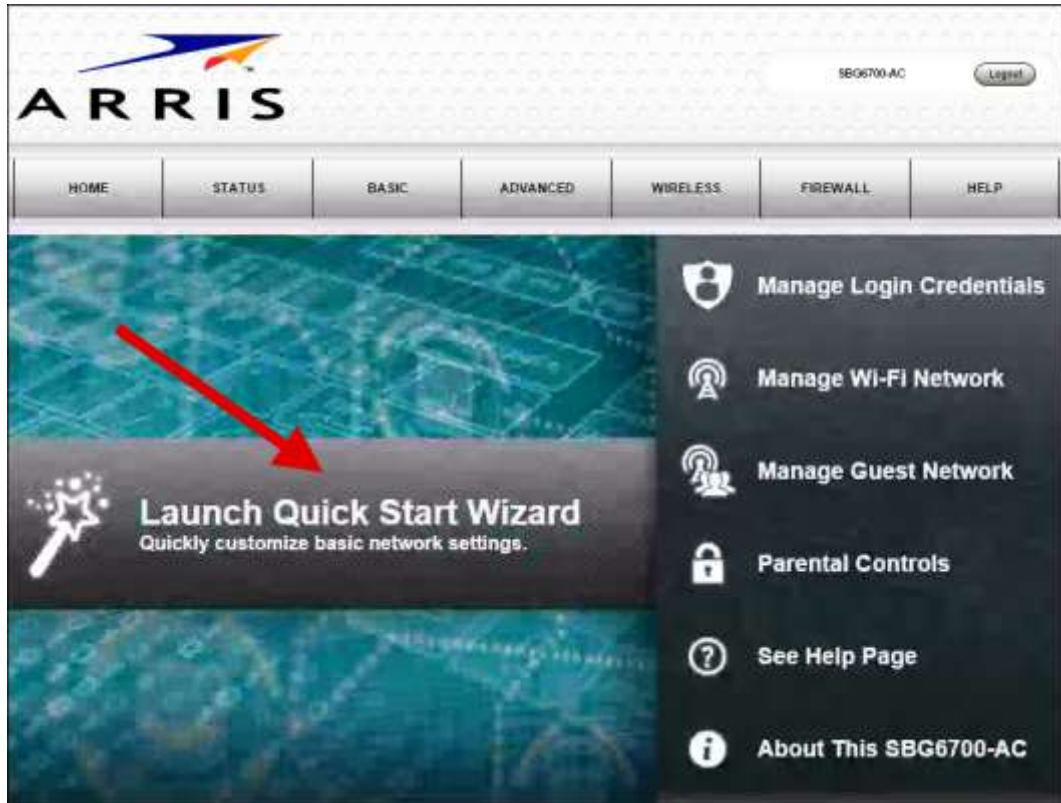


Figure 7: SBG6700-AC Quick Start Wizard Opening Screen

6. Click **Launch Quick Start Wizard** to start the wizard. The Welcome screen displays.

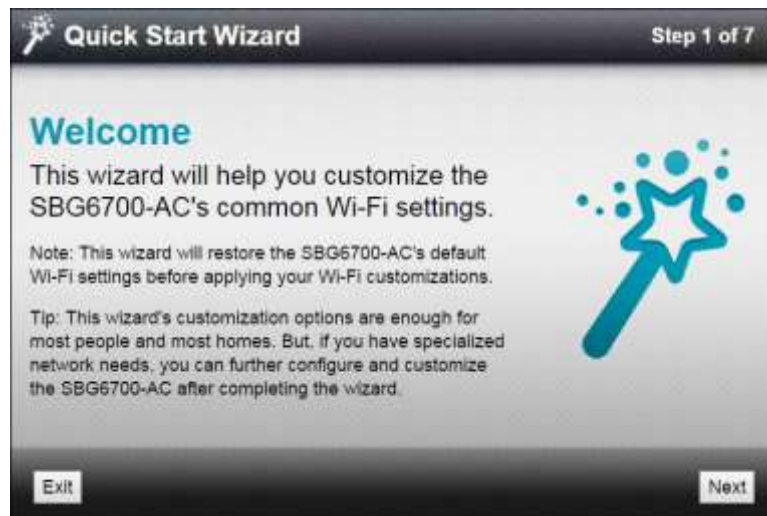


Figure 8: SBG6700-AC Quick Start Wizard Welcome Screen

7. Click **Next** to open the Wi-Fi Network Name & Passphrase screen.



Figure 9: SBG6700-AC Quick Start Wizard-Step 2 of 7 Screen

8. Choose one of the following to set up your wireless network name in the Network Name (SSID) field for logging on to your wireless home network:

- Keep the default wireless network name or SSID (listed in the Network Name (SSID) field and also on the SBG6700-AC Gateway label).



**Note:** You must keep the listed default wireless network name if this is your first time setting up your wireless network. You cannot change the network name until after you have completed the Quick Start Wizard. See [Change Your Wireless Network Name \(SSID\)](#) (page 47) for more information.

- Enter a new wireless network name for your wireless network. Your new network name must contain up to a maximum of 32 alphanumeric characters.



**Note:** You can change the wireless network name (SSID) after you have installed the SBG6700-AC and completed the Quick Start Wizard to set up your wireless network connection. The SBG6700-AC Web Manager is also available to change your SSID any time you want to change it (see [Change Your Wireless Network Name \(SSID\)](#) (page 47) for more information.

9. Choose one of the following to set up your wireless network password in the Passphrase / Wi-Fi Security Key field:

- Keep the default passphrase or Wi-Fi Security key (listed in the Passphrase / Wi-Fi Security Key field and also on the SBG6700-AC Gateway label).

You have the option to change your network password at a later time. See [Change Your Wireless Network Name \(SSID\)](#) (page 47) for more information.

- Enter a new password for your wireless network.

The passphrase or Wi-Fi Security key is the sign-on access code for logging on to your wireless network. The access code must contain from eight to 64 characters consisting of any combination of letters, numbers, and symbols. Your network password should be as unique as possible to protect your wireless network and also deter hackers or unauthorized access to your wireless network.



**Note:** ARRIS recommends that you change the default Wi-Fi Security Key to a more secure wireless password to protect your wireless home network from unauthorized access. See [Prevent Unauthorized Access](#) (page 51) for more information.

10. Click **Next** to open the 2.4GHz & 5GHz Networks screen.



Figure 10: SBG6700-AC Quick Start Wizard-Step 3 of 7 Screen

This screen shows the two available wireless network frequency bands (**2.4 GHz** and **5 GHz**) for the SBG6700-AC. The wizard configures **2.4 GHz** as the default Wi-Fi frequency band. See [Set Up Your Wireless Primary Network](#) (page 39) to change the Wi-Fi frequency band after completing the Quick Start Wizard.



**Note:** The 2.4 GHz frequency range is recommended for backward compatibility purposes because older wireless devices cannot connect to 5 GHz frequencies.

11. Click **Next** to open the Wi-Fi Security Configuration screen.



Figure 11: SBG6700-AC Quick Start Wizard-Step 4 of 7 Screen



The wizard configures **WPA2-PSK** as the default wireless network security code. It is the highest wireless network security level. See [Set Up Your Wireless Primary Network](#) (page 41) to change the wireless security code for your wireless home network after completing the Quick Start Wizard.

12. Click **Next** to open the User Security Configuration screen.

The screenshot shows the 'Quick Start Wizard' interface at 'Step 5 of 7'. The title is 'User Security Configuration'. Below the title, it says 'Change the login credentials of your SBG6700-AC's Web Manager.' There are two main sections: 'Change Username' and 'Change Password'. Each section has a checkbox and two text input fields labeled 'Enter New' and 'Re-Enter New'. To the right of the input fields is a blue icon of a hand holding a key. At the bottom, there are three buttons: 'Exit', 'Previous', and 'Next'.

Figure 12: SBG6700-AC Quick Start Wizard-Step 5 of 7 Screen

This step allows you to change the current (or default) user name and password to logon to the SBG6700-AC Web Manager.



**Note:** To change your username and password, you must first select the **Change Username** and **Change Password** checkboxes to activate the fields. If a checkbox is not selected, the field is disabled. The **Next** button is also disabled, if the username or password was not entered correctly. Make sure to repeat the same username and password in the respective fields.

Do the following to change the username and password:

- a. Select the **Change Username** checkbox and then enter the same new username in both Username fields.
  - b. Select the **Change Password** checkbox and then enter the same new user password in both Password fields.
13. Click **Next** to open the Review Settings screen and confirm your wireless network settings.

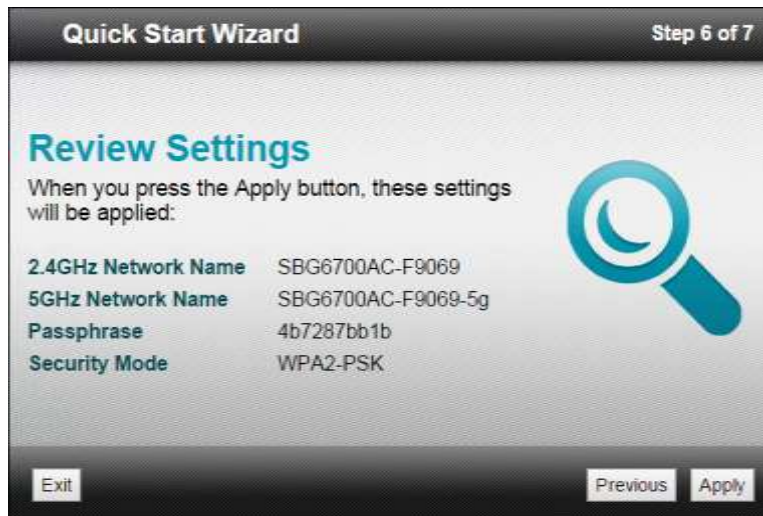


Figure 13: SBG6700-AC Quick Start Wizard-Step 6 of 7 Screen

14. Click **Apply** to accept your wireless network settings and open the Settings Applied screen.

-or-

Click **Previous** to go back to the previous screen and change your wireless network name and/or user password.

If you clicked **Apply**, wait for your wireless network settings to be saved. When the process is finished, the Settings Applied screen will open.



Figure 14: SBG6700-AC Quick Start Wizard-Step 7 of 7 Screen

15. Click **Exit** on the Settings Applied screen to close the Quick Start Wizard.

-or-

Click **Print** to print a copy of your wireless network connection settings from a connected (wired or wireless) network printer. This can be helpful to keep a copy of your new wireless network settings for logging on to your wireless network.

## Set Up a Wireless Network Using Your Computer

Use one of the following options to set up a wireless connection on your home network:

- Quick Connect Using the Windows Taskbar
- Connect Using the Windows Control Panel



**Note:** The steps for setting up a wireless network may differ slightly depending on the version of the Microsoft Windows operating system running on your computer. The steps used in this section apply to Windows 7 systems.

### Quick Connect Using the Windows Taskbar

1. From the Windows taskbar on your computer, click the **Wireless Link** icon (see Figure 15) to open the list of available wireless networks (see Figure 16).



Figure 15: Windows Taskbar Icons



**Note:** If the **Wireless Link** icon is not visible, left-click on the **Show hidden icons** button on the Windows taskbar (see Figure 15) to open the list of additional icons.



Figure 16: Sample Available Wireless Networks Window

2. Locate and left-click on the SBG6700-AC wireless network name or SSID (for example, **SBG6700AC-#####**) for your SBG6700-AC from the list of available wireless networks. The default SSID is located on the gateway label on the bottom of your SBG6700-AC.



**Note:** You must use the default SSID listed on the gateway label when installing the gateway and setting up your first wireless network connection. You can change the SSID after your network connections are up and running. See [Change Your Wireless Network Name \(SSID\)](#) (page 46) for more information.



Figure 17: Sample Available Wireless Networks Screen

3. Select **Connect automatically** to set up your wireless devices to automatically connect to your wireless network without having to log on using a user password.
4. Click **Connect** to open the Connect to a Network window and set up your new network password.



Figure 18: Network Connection Window

5. Enter the **Wi-Fi Security Key** (your wireless network password) in the Security key field.



**Note:** You can use the default **Wi-Fi Security Key** code listed on the SBG6700-AC Gateway label or enter your own personal wireless network password. See [Prevent Unauthorized Access](#) for more information on creating user passwords.

If you have already changed your wireless network password using the SBG6700-AC Web Manager, enter that password in the **Security key** field.

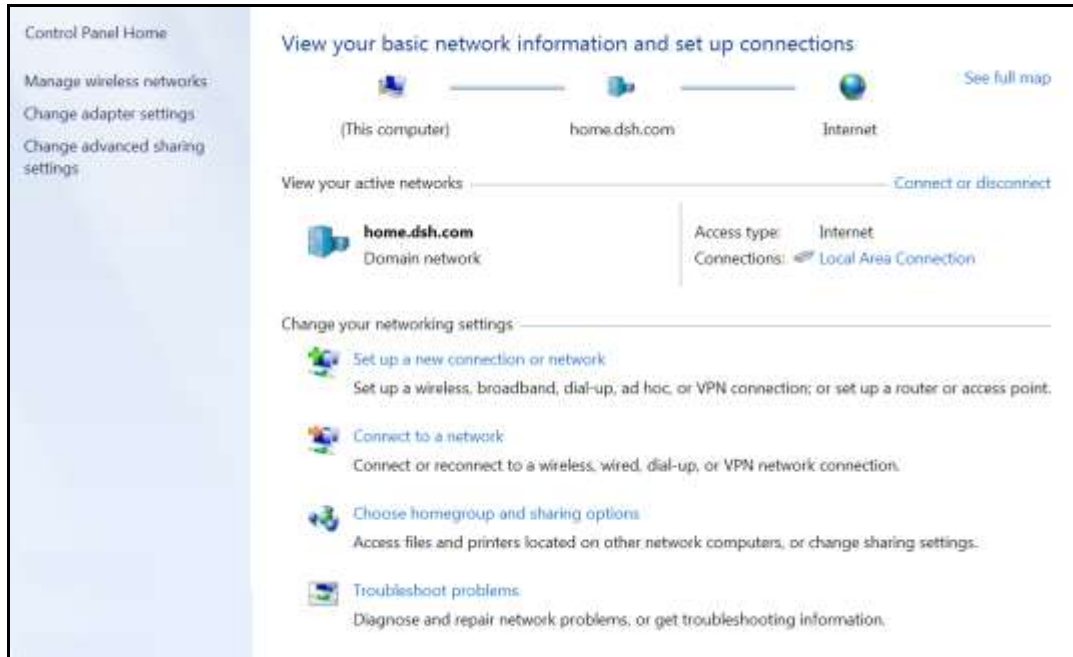


Figure 19: Network Connection-Create Network Password Window

6. Select **Hide characters** and then click **OK** to encrypt (or hide) your network password.

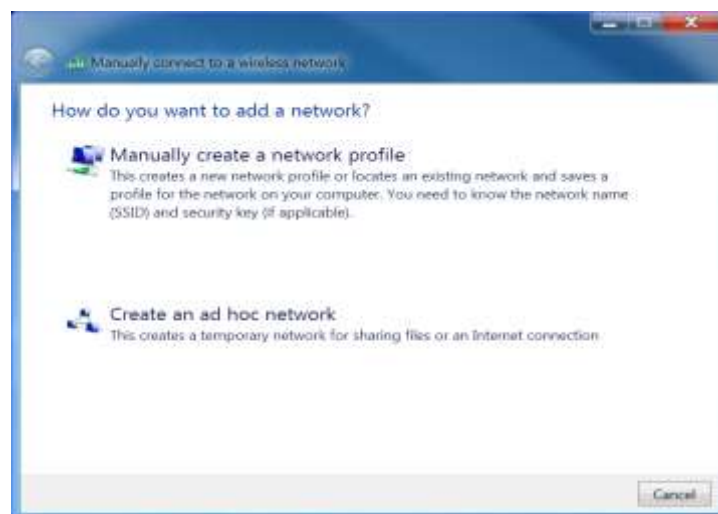
## Connect Using the Windows Control Panel

1. From the Windows taskbar on your computer, click **Start** button and then click **Control Panel**.
2. Click **Network and Sharing Center** to open the Network and Sharing Center window.



**Figure 20: Control Panel-Network and Sharing Center Window**

3. Click **Manage wireless networks** under Control Panel Home side panel to open the **Manage Wireless Networks** window.
4. Click **Add** to open the **Manually Connect to a Wireless Network** window.



**Figure 21: Manually Connect to a Wireless Network Window**

- Click **Manually create a network profile** to open another **Manually Connect to a Wireless Network** window.



**Figure 22: Manually Connect to a Wireless Network Window**

- Enter the SBG6700-AC wireless network name or SSID (**SBG6700AC-#####**) for your SBG6700-AC in the **Network name** field.

The default SSID is listed on the gateway label on the bottom of your SBG6700-AC.



**Note:** You have the option to change your wireless network name or SSID after setting up your wireless network connection. However, you must use the default SSID listed on the gateway label after installing your gateway. See [Change Your Wireless Network Name \(SSID\)](#) (page 47) for more information.

- Select the wireless Security level for your wireless network from the **Security type** drop-down list.



**Note:** **WPA2-Personal** is the recommended wireless security level for your wireless home network. It is the default security level for the SBG6700-AC and is also the highest security level available.

- Select the password encryption type from the **Encryption type** drop-down list.

This is used for securing your wireless network.

- **TKIP** – Temporal Key Integrity Protocol
- **AES** – Advanced Encryption Standard (recommended). AES is the default encryption type for the SBG6700-AC.

- Enter a security code (passphrase) for your wireless network password in the **Security Key** field.

You can use the default **WI-FI SECURITY KEY** listed on the SBG6700-AC gateway label or create your own personal network password.



**Note:** Remember to use a unique combination of letters, numbers, and special characters to create a more secure password. See [Prevent Unauthorized Access](#) (page 50) for more information.

10. Select **Hide characters** checkbox to prevent your Security Key (network password) from displaying in the field.
11. Select **Start this connection automatically** so that your wireless devices will automatically connect to your wireless network when they are powered on.
12. Click **Next** to complete the wireless network setup.  
The **Successfully added <Network name>** message for your new wireless network should appear.
13. Click **Close** to exit.

## Test Your Wireless Network Connection

Perform the following connectivity test to check that wireless connections were established for the SBG6700-AC and the other wireless devices on your home network:

1. Check if your wireless devices successfully connected to your wireless network, then disconnect the Ethernet cable, if connected, from your computer and the SBG6700-AC.
2. Check that the **Wireless** LED on the SBG6700-AC front panel is lit SOLID green.
3. Open a web browser on your computer, such as Internet Explorer, Google Chrome, Firefox, or Safari.
4. Type a valid URL (such as [www.surfboard.com](http://www.surfboard.com)) in the address bar and then press **Enter**.  
If the website failed to open, please contact your service provider or call ARRIS Technical Support at **1-877-466-8646** for assistance.

## Connect Your WPS-Enabled Wireless Device

You can use the Wi-Fi Protected Setup (WPS) Pairing button on the SBG6700-AC to connect your WPS-enabled wireless devices. WPS automatically assigns a random wireless network name (SSID) and Wi-Fi Security Key (network password) to the SBG6700-AC and your other WPS-enabled wireless devices to connect them to your wireless network. See [Set Up WPS on Your Wireless Network](#) (page 40) for more information on setting up WPS on your wireless network.



**Note:** To use the WPS Pairing button option, your computer hardware must support WPS and also have WPA security compatibility.

1. Power ON the SBG6700-AC and your other WPS-enabled wireless devices that you want to connect to your wireless network.
2. Press and hold the **WPS** button located on the top of the SBG6700-AC for five to 10 seconds and then release (see [Front Panel](#) (page 14) for the SBG6700-AC front view).



3. If applicable, press the **WPS** button on your WPS-enabled computer or other WPS-enabled wireless device.
4. Repeat step 3 for each additional WPS-enabled wireless device that you want to connect to your wireless network.

## Using the Gateway Web Manager

Use the SBG6700-AC Web Manager to view and monitor the network configuration settings and operational status of your SBG6700-AC. You can also configure your network connections and wireless security settings. See [Protecting & Monitoring Your Wireless Network](#) (page 51) or more information.



**Note:** If you did not purchase your wireless gateway from a retail store, you may notice a few blocked configuration settings in the SBG6700-AC Web Manager that cannot be modified. This may be due to some restrictions set up by your service provider to prevent unauthorized changes to certain configuration parameters.

## Start the SBG6700-AC Web Manager



**Note:** You must use the default user name and password (listed below) if you are logging on to the SBG6700-AC Web Manager for the first time. For network security purposes, ARRIS recommends that you change the default user name and password after setting up your wireless network. See [Change the Default User Name and Password](#) (page 51) for more information.

1. Open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on the computer connected to the SBG6700-AC.
2. Type the default LAN IP address, **192.168.0.1**, in the Address bar and then press **Enter** to log onto the SBG6700-AC. The Gateway Login screen displays (see figure below).



**Note:** You must enter the default username and password if you are logging in to the SBG6700-AC Web Manager for the first time.

3. Type the default username and password. Both entries are case-sensitive.

Username: **admin**

Password: **password**

Username	admin
Password	.....
<input type="button" value="Login"/>	

Figure 23: Gateway Login Screen

- Click **Login** to open the SBG6700-AC Web Manager.

The Launch Quick Start Wizard screen displays.



**Note:** If the default user name and password are not working, your service provider may have to set up alternate login credentials. Please contact your service provider or ARRIS Technical Support for assistance.



**Note:** ARRIS recommends that you change the default username and password for network security purposes. You can use either the Quick Start Wizard (see [Launch the SBG6700-AC Quick Start Wizard](#)) or the SBG6700-AC Web Manager (see [Change the Default User Name and Password](#) for more information).

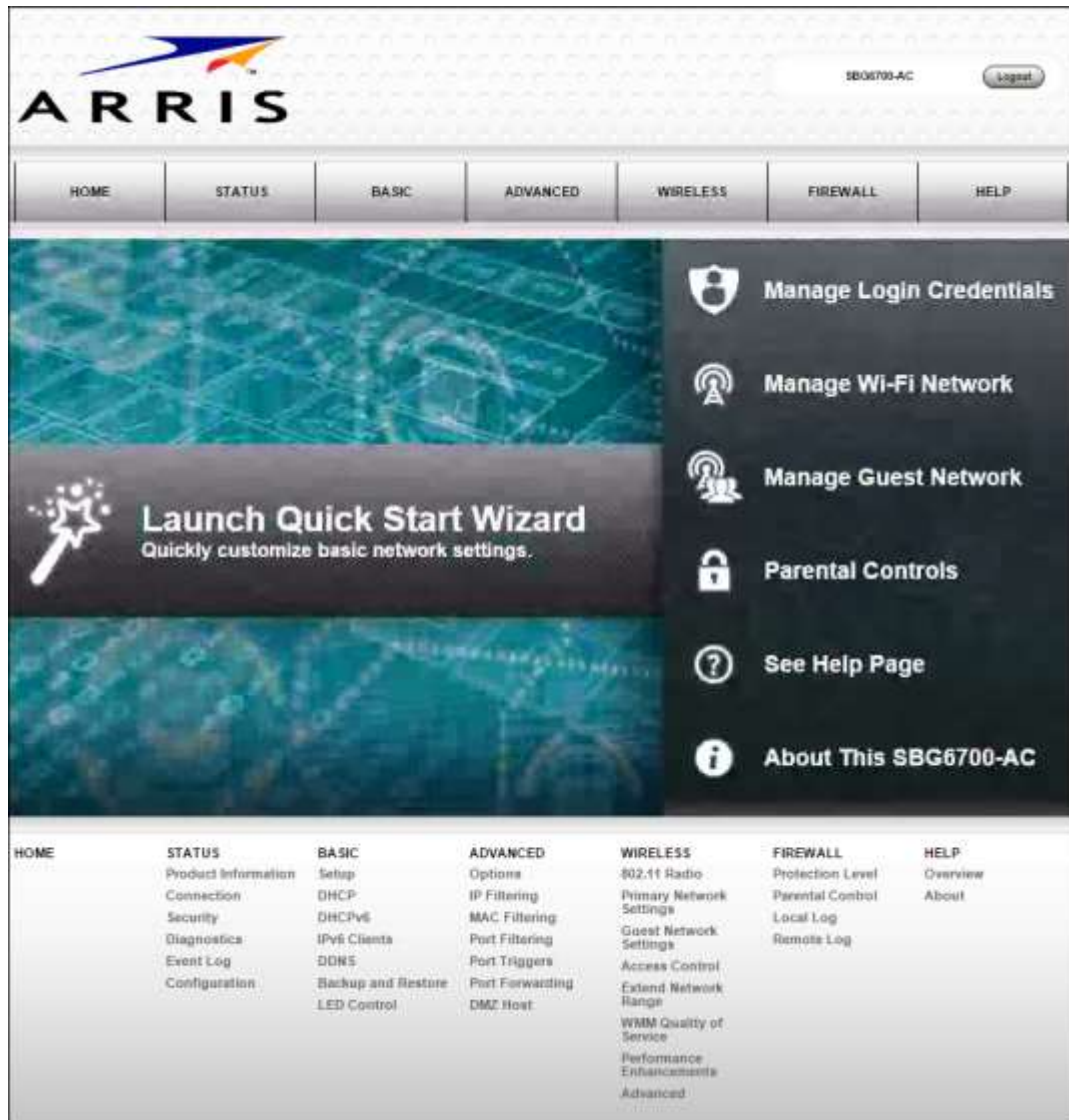


Figure 24: SBG6700-AC Web Manager Main Screen

# Gateway Web Manager Menu Options

## Main Menu Buttons

The SBG6700-AC main menu buttons are displayed along the top of the SBG6700-AC Web Manager screen. To display the drop-down submenu options, click the related menu button.



Figure 25: SBG6700-AC Web Manager Menu Buttons

## Main Menu Links

The SBG6700-AC main menu and related submenu option links are displayed along the bottom of the SBG6700-AC Web Manager screen. To open a submenu option, click the link.



Figure 26: SBG6700-AC Web Manager Menu Links

Table 4. SBG6700-AC Web Manager Main Menu Options

Menu Option	Function
Home	Displays the Quick Start Wizard main screen
Status	Provides information about the gateway hardware and software, MAC address, gateway IP address, serial number, and related information.  Additional screens provide diagnostic tools and also allow you to change your gateway user name and password.
Basic	Configures the gateway IP-related configuration data, including Network Configuration, WAN Connection Type, DHCP, and DDNS

Menu Option	Function
<b>Advanced</b>	Controls Internet protocols which configure and monitor how the gateway routes IP traffic on the SBG6700-AC
<b>Wireless</b>	Configures and monitors the gateway wireless networking features
<b>Firewall</b>	Configures and monitors the gateway firewall
<b>Help</b>	Provides general information to help you set up your home network
<b>Logout</b>	Closes the SBG6700-AC Web Manager

## Get Help

You can choose any of the following three options to obtain help information for any SBG6700-AC Web Manager function. General help information is available for any SBG6700-AC menu option when you click the **Help** button on that page.

- [Help Overview](#) (page 37)
- [Help Links](#) (page 38)
- [Field Level Help](#) (page 39)

## Help Overview

General help information is available when you click **Help, Overview** on the SBG6700-AC Main Menu.

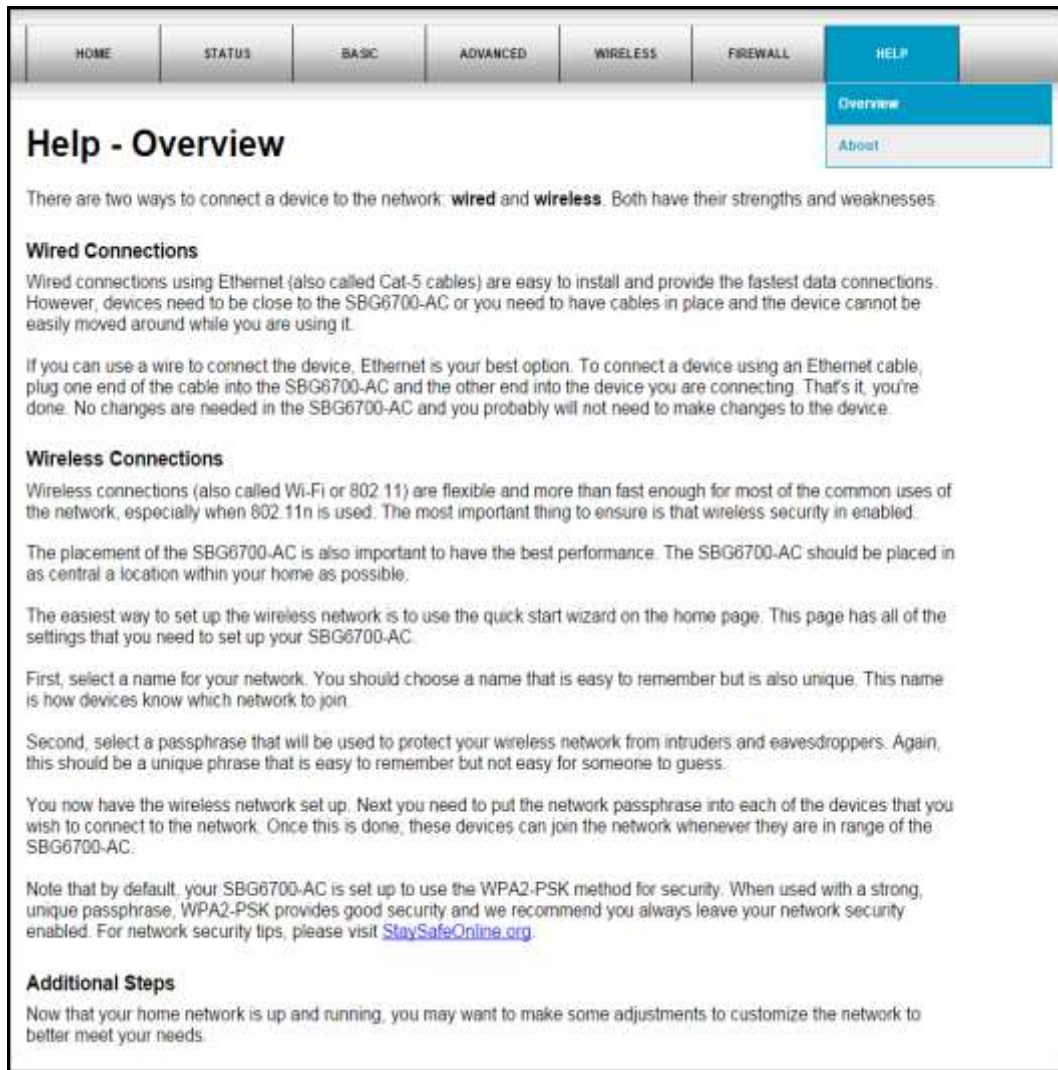


Figure 27: SBG6700-AC Help Overview Screen

## Help Links

Provides a concise list of your gateway configuration settings with applicable links for easy access when you click **Help, About** on the SBG6700-AC Main Menu. The link opens the related configuration screen.

**Help - About This SBG6700-AC**

Your Arris SBG6700-AC is one of the most advanced Cable Gateway products available. Most common problems are easily solved by using the setup wizard and following the instructions provided on the setup pages. Occasionally you may need to call your service provider for assistance. When you do, the information displayed below will help provide a speedy resolution to your problem.

My SBG6700-AC's serial number is **391383410600126702040002**.

The HFC MAC Address is **3c:36:e4:ff:90:69**.

The [firmware Version](#) is **D30GW-EAGLE-1.5.0.1-GA-03-NOSH**.

The SBG6700-AC has been running for **3 days 07h:59m:23s**.

The [cable modem](#) is **Operational**.

The [cable modem](#) receive signal is **711.0 MHz, -5.3 dBmV & 45.2 dB CNR (primary)**.

The [primary network](#) has **1** clients.

The [DDNS service](#) is **disabled**.

[IP Filtering](#) is configured for **0** IP addresses.

[MAC Filtering](#) is **disabled**.

[Port Filtering](#) is **disabled**.

[Port Forwarding](#) is **enabled**.

The [DMZ Host](#) is **192.168.0.0**.

The [wireless radio](#) is **enabled** and set to **2.4Ghz**.

The [wireless radio](#) is **enabled** and set to **5Ghz**.

The [Wireless - Primary Network](#) 2.4Ghz SSID is **SBG6700AC-F9069** and encryption type is **WPA2-PSK**.

The [Wireless - Primary Network](#) 5Ghz SSID is **SBG6700AC-F9069-5G** and encryption type is **WPA2-PSK**.

The [guest network](#) is **disabled**.

Figure 28: SBG6700-AC Help About Screen

## Field Level Help

More specific help information is available throughout the web manager for field level help when you click **Help** located to the right of the applicable field (see sample screenshot below).

**Backup/Restore**

Choose File No file chosen Restore Help

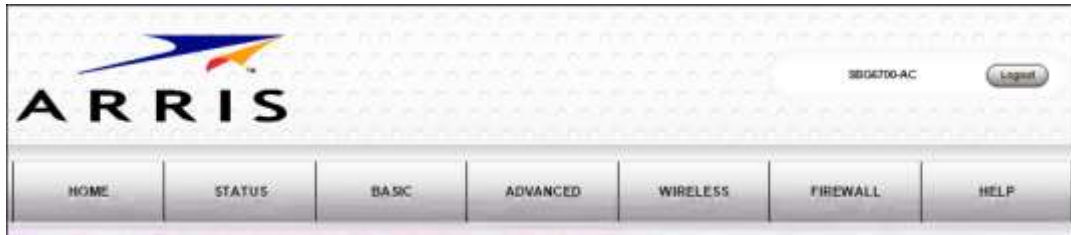
Backup

Figure 29: SBG6700-AC Field Level Help

## Exit the SBG6700-AC Web Manager

To log out and close the SBG6700-AC Web Manager:

- Click **Logout** button located in the upper right corner of the SBG6700-AC Web Manager screen.



**Figure 30: SBG6700-AC Web Manager Logout Button**



## Configuring Your Wireless Network

The SBG6700-AC supports a secure method for setting up multiple wireless access points on your home network. This enables you to designate a separate guest access point on your wireless network to allow family members, friends, or other visitors to access the Internet without giving them access to your web content and network devices such as your personal computers or network printer on your primary network.

### Set Up Your Wireless Primary Network

1. Open a web browser and log onto the SBG6700-AC to open the SBG6700-AC Web Manager.  
See [Start the SBG6700-AC Web Manager](#) (page 34) for more information, if needed.
2. Click the **Wireless** menu button on the SBG6700-AC Web Manager main screen.
3. Click **Primary Network Settings** from the Wireless submenu options.

2.4 GHz		5 GHz
<b>2.4 GHz Wi-Fi Network</b> FB:35-DD:94:F4:13		
Wireless Network	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	▶ Help
Network Name (SSID)	<input type="text" value="SBG6700AC-F9069"/>	▶ Help
Network Name (SSID) Broadcast	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	▶ Help
Wireless Security	<input type="text" value="WPA2-PSK"/>	▶ Help
<b>WPA2-PSK Security Settings</b>		
Encryption	<input checked="" type="radio"/> AES <input type="radio"/> AES+TKIP	▶ Help
Passphrase	<input type="text" value="4b7297bb1b"/>	▶ Help
<b>Wi-Fi Protected Setup (WPS) Automatic Security Configuration</b>		
WPS	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	▶ Help
WPS Add Client (Push Button Method)	Press the button on the SBG6700-AC to start WPS pairing	▶ Help
WPS Add Client (Gateway PIN Method)	<input type="text" value="40769090"/> <input type="button" value="Generate PIN"/>	▶ Help
Configure by External Registrar	<input type="text" value="Allow"/>	▶ Help
WPS Add Client (Client PIN Method)	<input type="text"/> <input type="button" value="Add"/>	▶ Help
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>		

Figure 31: SBG6700-AC 2.4 GHz Wireless Primary Network Screen

The screenshot displays the configuration interface for a 5 GHz Wi-Fi network. At the top, there are tabs for '2.4 GHz' and '5 GHz', with '5 GHz' selected. Below the tabs, the title is '5 GHz Wi-Fi Network' with the MAC address 'FB:35:0D:3E:4F:85' underneath. The main configuration area includes several sections:

- Wireless Network:** A toggle switch set to 'Enabled'.
- Network Name (SSID):** A text field containing 'SBG6700AC-F9069-5G'.
- Network Name (SSID) Broadcast:** A toggle switch set to 'Enabled'.
- Wireless Security:** A dropdown menu set to 'WPA2-PSK'.
- WPA2-PSK Security Settings:**
  - Encryption:** A toggle switch set to 'AES'.
  - Passphrase:** A text field containing '4b7287bb1b'.
- Wi-Fi Protected Setup (WPS) Automatic Security Configuration:**
  - WPS:** A toggle switch set to 'Enabled'.
  - WPS Add Client (Push Button Method):** A text field with the instruction 'Press the button on the SBG6700-AC to start WPS pairing'.
  - WPS Add Client (Gateway PIN Method):** A text field containing '40769080' and a 'Generate PIN' button.
  - Configure by External Registrar:** A dropdown menu set to 'Allow'.
  - WPS Add Client (Client PIN Method):** A text field and an 'Add' button.

At the bottom of the screen, there are 'Apply' and 'Cancel' buttons.

Figure 32: SBG6700-AC 5 GHz Wireless Primary Network Screen

4. Click the **2.4 GHz** or **5 GHz** tab for the Wi-Fi frequency range for your wireless network.
5. Select **Enabled** or **Disabled** in the Wireless Network field to turn ON or OFF wireless networking on your home network.
6. Do one of the following to set the network name for your wireless network in the Network Name (SSID) field:
  - Keep the default network name listed in the field (also listed on the gateway label).
  - Enter a new network name for your wireless primary network.
 

The wireless network name cannot be the same name as any other SSID on your home network. You can use any combination of letters (lowercase and uppercase), numbers, and/or special characters (symbols) up to a maximum of 32 characters.
7. Select **Enabled** or **Disabled** in the Network Name (SSID) Broadcast field to turn ON or OFF displaying your SSID as an available wireless network to outside users.
 

When **SSID Broadcast** is enabled, your SSID is visible and also available to unauthorized wireless clients that are within range to connect to your home network.
8. Select one of the following wireless network security options for your wireless gateway from the Wireless Security drop-down list:
  - **WPA2-PSK:** Wi-Fi Protected Access version 2 with Pre-Shared Key (recommended)
  - **WPA2-PSK + WPA-PSK:** combination Wi-Fi Protected Access version 2 with Pre-Shared Key and Wi-Fi Protected Access with Pre-Shared Key
  - **Unencrypted:** Network security is not set for your wireless network. This network security option allows access to your wireless network without a Wi-Fi Security Key (network password)
  - **WPA-PSK:** Wi-Fi Protected Access with Pre-Shared Key; standard encryption

- **WPA2 (Enterprise):** Wi-Fi Protected Access version 2 provides additional network security and requires a user name and password for logging onto your wireless network
  - **WPA2 + WPA (Enterprise):** Combination Wi-Fi Protected Access version 2 and Wi-Fi Protected Access provides additional network security and requires a user name and password for logging onto your wireless network
  - **WPA (Enterprise):** Wi-Fi Protected Access provides additional network security and requires a user name and password for logging onto your wireless network
9. Choose the wireless network encryption type for your wireless network in the Encryption field:
- **AES–** Advanced Encryption Standard: Provides the strongest encryption (recommended)
  - **AES+TKIP–** Advanced Encryption Standard and Temporal Key Integrity Protocol  
Allows both AES and TKIP-capable clients to connect to your wireless network
10. Enter your wireless network password in the Passphrase field.  
You can use any combination of letters, numbers, and/or special characters for your network password.
11. Click **Apply**, when you are finished.  
To set up WPS on your home network for connecting your WPS-enabled wireless devices, continue with **Set Up WPS on Your Wireless Network** below.

## Set Up WPS on Your Wireless Network

1. From the Wireless Primary Network Settings screen, click either the **2.4 GHz** or **5 GHz** tab at the top of the screen to select the Wi-Fi frequency range for your wireless network.
2. Scroll down to the **Wi-Fi Protected Setup (WPS) Automatic Security Configuration** section.



**Figure 33: SBG6700-AC WPS Setup Screen**

3. Select **Enabled** in the WPS field to turn ON the Wi-Fi Protected Setup (WPS) network security on your home network. Continue with step 4.
- or -
- Select **Disabled** in the WPS field to turn OFF the Wi-Fi Protected Setup (WPS) network security on your home network. Proceed to step 5 to finish.

4. Select one of the following WPS Pairing methods to add or pair your WPS-enabled wireless devices:
  - **Push Button** – Press and hold the WPS button on the SBG6700-AC to start the WPS pairing process with the WPS-enabled wireless device you want to connect to your wireless network.  
Repeat for each additional WPS-enabled wireless device.
  - **Gateway PIN**  
Either enter the PIN number listed in the WPS ADD Client field or click **Generate PIN** to create a new numeric password to log on to your wireless network using your WPS-enabled wireless device.  
Select **Allow** or **Deny** (recommended) from the Configure by External Registrar drop-down list to set the Gateway PIN method for pairing your WPS-enabled wireless devices.  
*Note: The Gateway PIN method is not recommended. ARRIS recommends that you disable it to protect your wireless network from possible outside attacks, such as viruses and hackers.*
  - **Client PIN** – Enter the PIN number (numeric password) assigned to your WPS-enabled wireless device in the WPS Add Client field and then click **Add**.
5. Click **Apply**, when you are finished.

## Set Up a Wireless Guest Network

You can set up a wireless guest network on your home network to allow Internet access to certain family members, friends, or visitors. A guest network provides protection for your wireless primary network and personal information. It also helps you to avoid having to share your wireless network access codes and other private information with other users.



**Note:** Guest networks may be disabled on your SBG6700-AC. Some service providers or cable operators do not allow for secondary (or guest) wireless networks on their gateway devices.

1. Open a web browser and log onto the SBG6700-AC to open the SBG6700-AC Web Manager.  
See [Start the Wireless Gateway Web Manager](#) (page 34) for more information, if needed.
2. Click the **Wireless** menu button on the SBG6700-AC Web Manager main screen.
3. Click **Guest Network Settings** from the Wireless submenu options.

**2.4 GHz** | 5 GHz

### 2.4 GHz Wi-Fi Network Settings & Security

Selected Guest Network	SBG6700AC_GUEST (FA:35:DD:81:F4:3C)	Help
Guest Network	Enabled	Help
Guest Network Name (SSID)	SBG6700AC_GUEST	Help
IP Network	Guest	Help
IP Address	192.168.1.1	Help
Lease Pool Starting IP Address	192.168.1.10	Help
Lease Pool Ending IP Address	192.168.1.99	Help
Lease Time	86400	Help
UPnP Enable	Enabled	
Firewall Enable	Enabled	
DHCPv6 Server	Enabled	
Wireless Security	WPA2-PSK	Help
<b>WPA2-PSK Security Settings</b>		
Encryption	AES	Help
Passphrase	***** Show Passphrase	Help
<input type="button" value="Apply"/> <input type="button" value="Restore Guest Network Defaults"/>		

Figure 34: SBG6700-AC 2.4 GHz Wireless Guest Network Screen

2.4 GHz | **5 GHz**

### 5 GHz Wi-Fi Network Settings & Security

Selected Guest Network	SBG6700AC_GUEST (FA:35:DD:5E:9E:86)	Help
Guest Network	Enabled	Help
Guest Network Name (SSID)	SBG6700AC_GUEST	Help
IP Network	Guest	Help
IP Address	192.168.21.1	Help
Lease Pool Starting IP Address	192.168.21.10	Help
Lease Pool Ending IP Address	192.168.21.99	Help
Lease Time	86400	Help
UPnP Enable	Enabled	
Firewall Enable	Enabled	
DHCPv6 Server	Enabled	
Wireless Security	WPA2-PSK	Help
<b>WPA2-PSK Security Settings</b>		
Encryption	AES	Help
Passphrase	***** Show Passphrase	Help
<input type="button" value="Apply"/> <input type="button" value="Restore Guest Network Defaults"/>		

Figure 35: SBG6700-AC 5 GHz Wireless Guest Network Screen

4. Click the **2.4 GHz** or **5 GHz** tab to select the Wi-Fi frequency range for your wireless network.
5. Select the guest network from the Selected Guest Network drop-down list.
6. Select **Enabled** or **Disabled** in the Guest Network field to turn ON or OFF the selected wireless guest network.
7. Keep the default guest network name or enter a new name of your choice for your guest network in the Guest Network Name (SSID) field.
8. Select **LAN** or **Guest** from the IP Network drop-down list.
  - **LAN** –Configures the guest network to be part of your primary network and allow guest users to connect to your primary network
  - **Guest** –Configures the guest network to only allow access to a specific network and not your primary network
9. Enter the IP address for the SBG6700-AC on the Guest network in the IP Address field.
10. Enter the starting IP address for the guest network lease pool in the Lease Pool Starting IP Address field.
11. Enter the ending IP address for the guest network lease pool in the Lease Pool Ending IP Address field.
12. Enter the lease time for the guest network lease pool in the Lease Time field.
13. Select **Enabled** or **Disabled** in the UPnP (Universal Plug and Play) Enable field to allow or disallow any network devices, such as smart phones, tablets, gaming devices, or printers to automatically connect to your wireless home network.
14. Select **Enabled** or **Disabled** in the Firewall Enable field to turn ON or OFF the gateway firewall.
15. Select **Enabled** or **Disabled** in the DHCPv6 Server field to allow the DHCP server to send leases to the guest network clients from the guest network lease pool you specified earlier.



*Note: If the DHCP server is disabled, you must assign static IP addresses to the guest network STAs.*

16. Select one of the following wireless network security options for your wireless network from the Wireless Security drop-down list:
  - **WPA2-PSK**: Wi-Fi Protected Access version 2 with Pre-Shared Key (recommended)
  - **WPA2-PSK + WPA-PSK**: combination Wi-Fi Protected Access version 2 with Pre-Shared Key and Wi-Fi Protected Access with Pre-Shared Key
  - **WPA-PSK**: Wi-Fi Protected Access with Pre-Shared Key, standard encryption
  - **Unencrypted**: Turns off network security
  - **WPA2 + WPA (Enterprise)**: combination Wi-Fi Protected Access version 2 and Wi-Fi Protected Access provides additional network security and requires a user name and password for network logon
  - **WPA2 (Enterprise)**: Wi-Fi Protected Access version 2 provides additional network security and requires a user name and password for network logon
  - **WPA (Enterprise)**: Wi-Fi Protected Access provides additional network security and requires a user name and password for network logon

17. Choose the wireless network encryption type in the Encryption field:
  - **AES**—Advanced Encryption Standard: Provides the strongest encryption (recommended)
  - **TKIP+AES**—Temporal Key Integrity Protocol and Advanced Encryption Standard: Allows both AES and TKIP-capable clients to connect to your wireless network
18. Enter any combination of characters and words for the guest network password in the Passphrase field.
19. Select **Show Passphrase** to prevent your password from displaying in the field for security purposes.
20. Click **Apply**, when you are finished.

## Change Your Wireless Network Name (SSID)

The SSID (Service Set Identification) is the wireless network name assigned to your SBG6700-AC wireless primary and guest networks. The default SSID (listed on the gateway label) is automatically populated in the network configuration screens. A list of SSIDs of available wireless networks in close proximity of your home (for example, neighbors or local businesses) will display when you or someone else in your home attempt to establish a wireless network connection. For security purposes and quick recognition of your wireless network, ARRIS recommends that you change the default SSID. You should also consider changing the default wireless password or passphrase (see [Prevent Unauthorized Access](#) (page 51) for more information).



**Note:** When you change the SSID, any wireless devices that are already connected to your wireless network will be disconnected from the network. The wireless devices will have to be reconnected to the wireless network using the new SSID.

Do the following to change your wireless network name (SSID):

1. Open a web browser and log onto the SBG6700-AC to open the SBG6700-AC Web Manager.  
See [Start the Wireless Gateway Web Manager](#) (page 34) for more information, if needed.
2. Click **Wireless** on the SBG6700-AC Main Menu buttons or links.
3. Click **Primary Network Settings** from the Wireless submenu options to open the Wi-Fi Network screen.

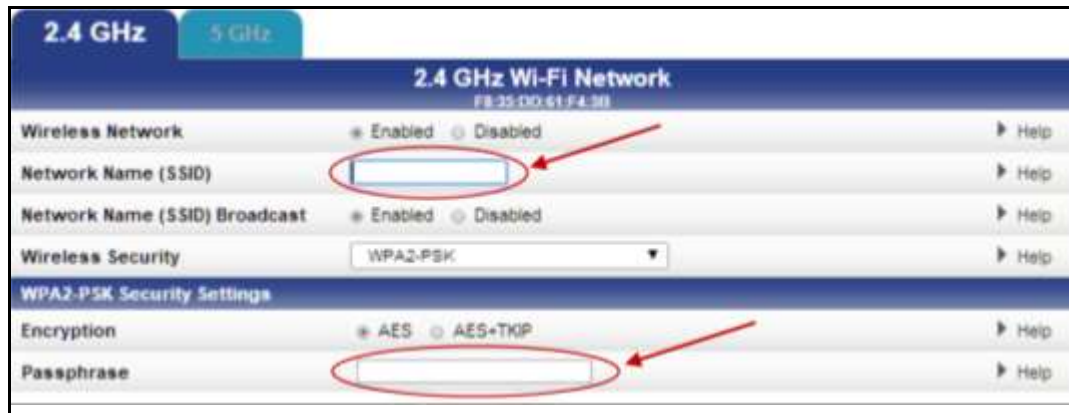


Figure 36: Change Your 2.4 GHz Network Name (SSID) and Password Screen



Figure 37: Change Your 5 GHz Network Name (SSID) and Password Screen

4. Click the **2.4 GHz** or **5 GHz** tab to select the frequency range for your wireless network.
5. Make sure **Enabled** is selected in the Wireless Network field to turn ON wireless networking on your home network.
6. Delete the current network name in the Network Name (SSID) field and then enter a new name of your choice for your wireless network.
7. The network name can contain any combination of up to 32 alphanumeric characters.
8. Make sure **Enabled** is selected in the Network Name (SSID) Broadcast field.
9. Delete the current wireless password (passphrase) in the Passphrase field and enter a new passphrase for the wireless network password.

See [Prevent Unauthorized Access](#) (page 51) for more information.

10. Click **Apply** at the bottom of the screen, when you are finished.

The new wireless network name should appear in the list of available wireless networks when you reconnect your wireless devices.



## Change the Wireless Channel

Network interference may occur at any time when using a wireless network connection. This may be caused by other wireless access points that are using the same wireless channel as your SBG6700-AC and are also operating within close proximity of your home.

When experiencing wireless network interference, you can change the wireless channel on the SBG6700-AC to improve network connectivity (or signal strength) and prevent network interference. By default, the SBG6700-AC is set on **Channel 1**.

Do the following to change the wireless channel on the SBG6700-AC:

1. Open a web browser and log onto the SBG6700-AC to open the SBG6700-AC Web Manager.  
See [Start the Wireless Gateway Web Manager](#) (page 34) for more information, if needed.
2. Click the **Wireless** menu button on the SBG6700-AC Web Manager main screen.
3. Click **802.11 Radio** from the Wireless submenu options to open the Wireless 802.11 Radio screen.

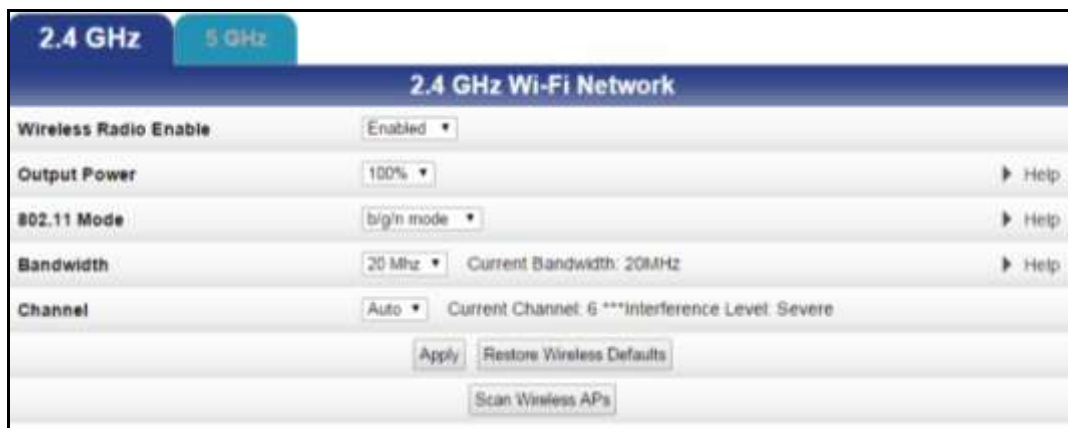


Figure 38: SBG6700-AC 2.4 GHz Wireless 802.11 Radio Screen



Figure 39: SBG6700-AC 5 GHz Wireless 802.11 Radio Screen

4. Click the **2.4 GHz** or **5 GHz** tab to select the Wi-Fi frequency band for your wireless network.
5. Select **Enabled** or **Disabled** from the Wireless Radio Enable drop-down list to turn ON or OFF the Wi-Fi Radio on the SBG6700-AC.
6. Select the Wi-Fi signal strength for your home network from the Output Power drop-down list:
  - **100%** (full power)
  - **75%**
  - **50%**
  - **25%**
7. Select the wireless networking mode in the 802.11 Mode drop-down list:
  - **b only**
  - **b/g**
  - **g/n**
  - **b/g/n** (default for 2.4 GHz)
  - **n only**
8. Select the data transfer rate for your SBG6700-AC in the Bandwidth drop-down list:
  - **20 MHz** (default)
  - **40 MHz**
9. Select a channel number from the Channel drop-down list that is different from the channel number listed as the Current Channel.



**Note:** For 2.4 GHz Wi-Fi networks, ARRIS recommends that you use **Channel 6** or **11**, if it is not listed as the Current Channel. In the Wi-Fi spectrum, there are multiple channels that overlap and thus degrade wireless network performance. **Channels 1, 6, and 11** are used for better network performance and stability because they do not overlap.

10. Click **Apply**, when you are finished.

# Protecting & Monitoring Your Wireless Network

After you have successfully connected the SBG6700-AC and your wireless devices, you should configure the SBG6700-AC to protect your wireless network from unwanted and unauthorized access by any wireless network devices that are within range of your wireless network. Although network security for the SBG6700-AC is already configured, you can use the SBG6700-AC Web Manager to set the level of security and access that you want to allow on your wireless network.

## Prevent Unauthorized Access



**Caution:** To prevent unauthorized access and configuration to your wireless network, ARRIS recommends that you immediately change the default user name and password after connecting to the Internet and logging on to the SBG6700-AC for the first time.

One of the most important recommendations for securing your wireless home network is to change the default user password on your SBG6700-AC and other wireless devices as well. Default passwords are commonly used and shared on the Internet.

To ensure that your wireless home network is secure, ARRIS recommends that you follow these best practices for user passwords:

- Always create a secure password or pass phrase that is not easily guessed.
- Use phrases instead of names so that it may be easier for you to remember.
- Use a combination of upper and lowercase letters, numbers, and symbols.
- Continue to change your administrator password on a regular basis.



**Note:** *If your service provider supplied the SBG6700-AC, you may not have the necessary user privileges to change the log in user name.*

## Change the Default User Name and Password

To change the default user name:

1. Open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on the computer connected to the SBG6700-AC.
2. Type the default LAN IP address, **192.168.0.1**, in the Address bar and then press **Enter** to log onto the SBG6700-AC.

The Gateway Login screen displays.

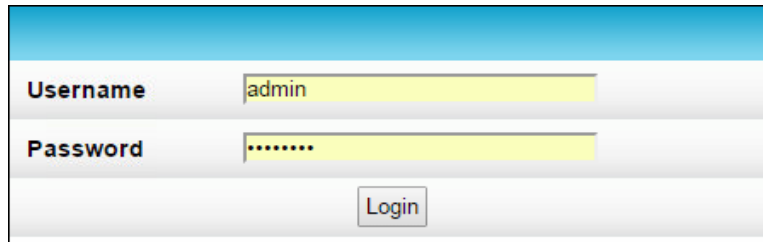


Figure 40: Gateway Login Screen

3. Type the default user name and password as they appear below. Both entries are case-sensitive:
  - Username: **admin**
  - Password: **password**
4. Click **Login** to open the SBG6700-AC Web Manager.

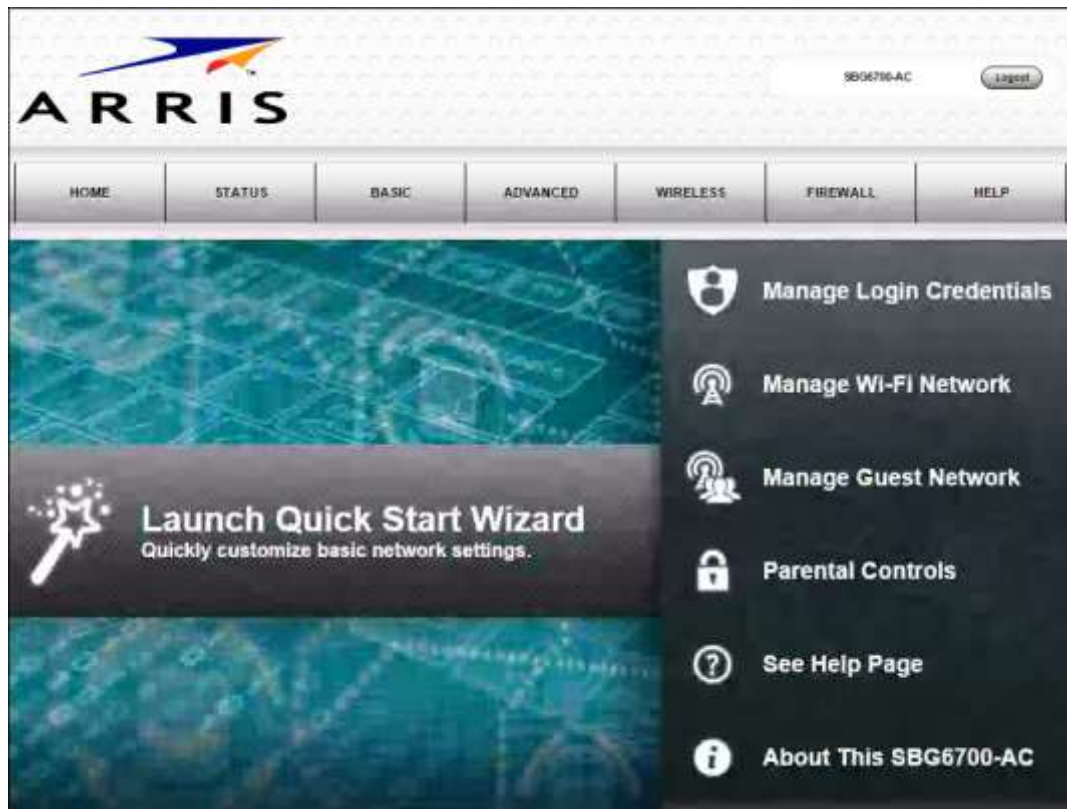


Figure 41: SBG6700-AC Web Manager Main Screen

5. Click **Status** on the SBG6700-AC Web Manager main menu bar.
6. Click **Security** from the Status submenu options list to display the Status Security screen.

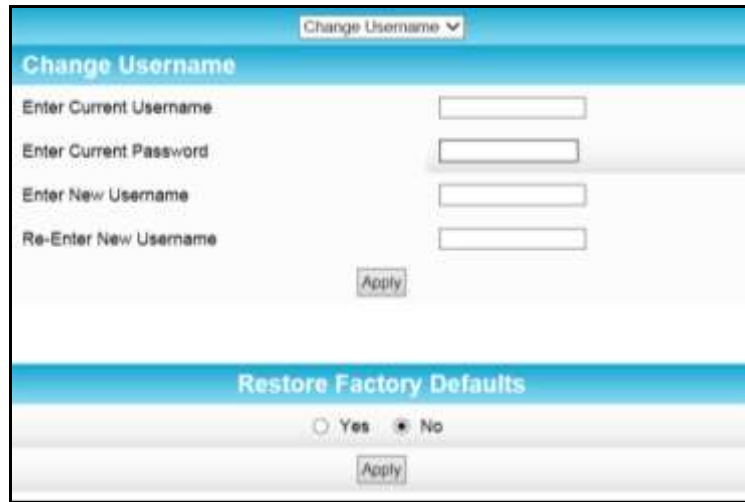


Figure 42: Change Username Screen



7. Confirm that **Change Username** is displayed in the drop-down selection box at the top of the screen.
8. Complete each field entry, but note the following:
  - All fields are case-sensitive.  
 **Note:** If this is your first time logging on to the SBG6700-AC, the current username is **admin** and the current password is **password**.
  - Make sure **No** is selected under Restore Factory Defaults.  
 **WARNING!** If **Yes** is selected, your current user name, password, and all of your custom gateway configuration settings that you may have already set up will be permanently deleted.
9. Click **Apply** to update your user name.
10. Click **Change Username** drop-down arrow to display **Change Password**.



Figure 43: Change User Password Screen

11. Complete each field entry, but note the following:
  - All fields are case-sensitive.
  - Username is your new user name, if you changed it.
  - Make sure **No** is selected for Restore Factory Defaults.
  - Find a secure place to write down and keep your new user name and password.
12. Click **Apply** to update your password.

## Set Up Firewall Protection

You can set up firewall filters and firewall alert notifications on your wireless network. You can also block Java Applets, Cookies, ActiveX controls, popup windows, Proxies, and website access.

To set the firewall protection level:

1. From any web manager screen, click the **Firewall** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Protection Level** from the Firewall submenu options list to display the Firewall Protection Level screen.



**Figure 44: Firewall Protection Level Screen**

3. Click the Firewall Protection Setting drop-down button to select the firewall protection level you want for your wireless network.

Available Firewall protection levels:

- **Off**– No security, highest risk (see Figure 44)



**Note:** Selecting **Off** will disable firewall protection on your home network. Your computer(s) and other Ethernet-enabled devices on your network will be at risk for possible attacks from viruses and hackers.

- **Low**– Common security, higher risk



Figure 45: Firewall Protection Level – Medium Screen

- **Medium** – Safer configuration, modest risk

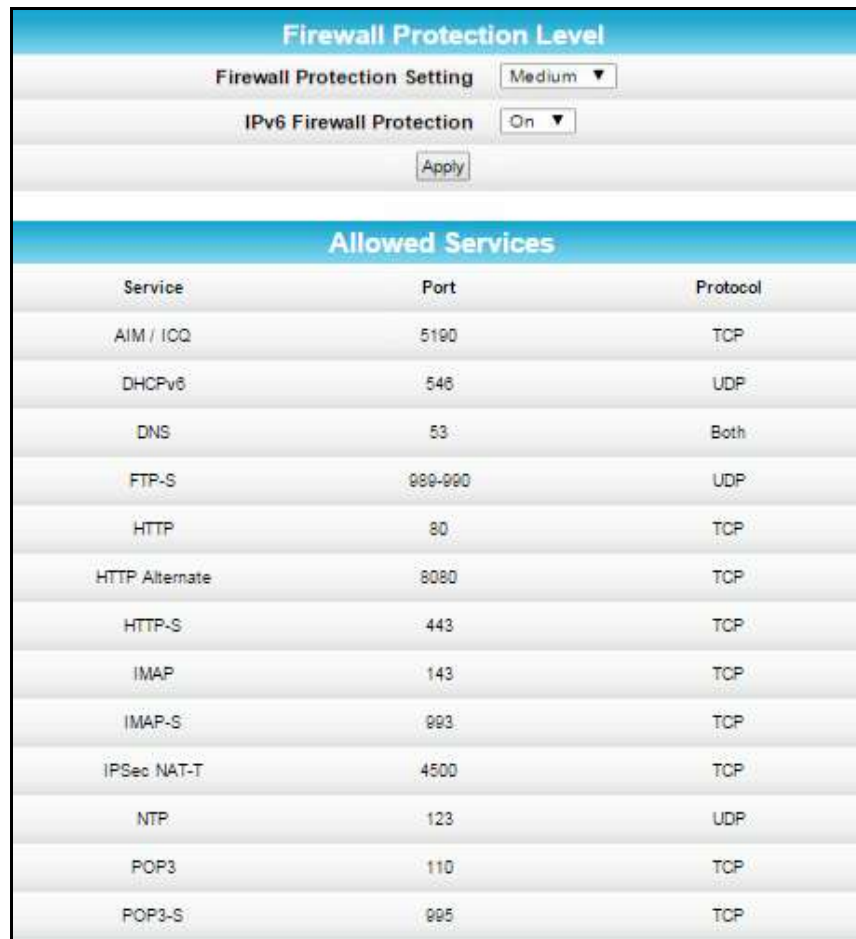


Figure 46: Firewall Protection Level – Medium Screen

- **High** – Safest configuration, highest security

Firewall Protection Level

Firewall Protection Setting High ▼

IPv6 Firewall Protection On ▼

Allowed Services

Service	Port	Protocol
DNS	53	Both
HTTP	80	TCP
HTTP-S	443	TCP
IMAP-S	993	TCP
IPSec NAT-T	4500	TCP
NTP	123	UDP
POP3-S	995	TCP
SMTP	25	TCP
SMTP-S	435	TCP
SSH	22	TCP

**Figure 47: Firewall Protection Level – High Screen**

4. Select each Web filter that you want to set for your gateway firewall.
5. Click **Apply**, when you are finished.

## Set Up Parental Controls

You can set up the following Parental Controls to manage and limit the usage and activity for specific users and network devices on your home network:

- Allow or block access to specific Internet sites.
- Allow or block access to specific web addresses.
- Set time limitations for computer usage or Internet access
- Create specific log in, time access, and content filtering rules



**Note:** Any Parental Control filters that do not include assigned ports will apply to all ports. This also applies to MAC addresses.

You can also link each user on your home network to specific rules for login, time-access, and content filtering.



To set Parental Controls:

1. From any web manager screen, click the **Firewall** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Parental Control** from the Firewall submenu options list to display the Firewall Parental Control screen.



**Note:** Before setting up any Parental Control filters, you must first set the time zone on your SBG6700-AC for your current location.

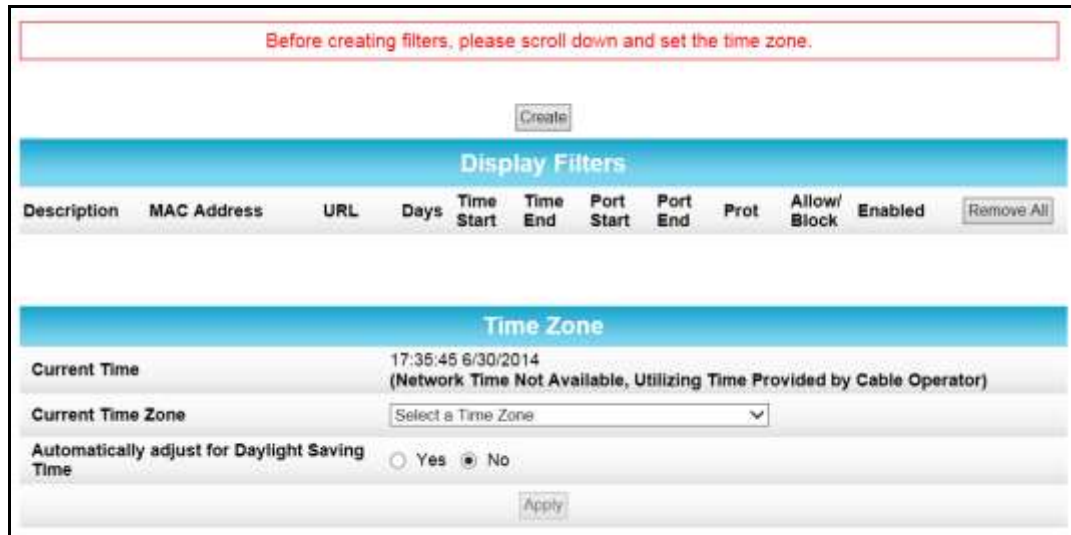


Figure 48: Parental Control-Change Time Zone Screen

3. Click **Current Time Zone** drop-down button to select your time zone.
4. Select **Yes** or **No** to automatically adjust the time for Daylight Saving Time.
5. Click **Apply** to set the time zone.
6. Click **Create** to continue setting up Parental Controls.

**Figure 49: Create Parental Controls Screen**

7. Enter a name for the user profile that you want to create in the Description field.
8. Enter the 12-digit (hexadecimal) MAC address of the device for which you are creating Parental Controls in the MAC Address field.
9. Enter the web address of the Internet site that you want to block or access.
10. Enter the Starting port number of the in the Start Port field.
11. Enter the Ending port number of the in the End Port field.
12. Select the days of the week that you want to allow the selected user to access the Internet.
13. Select the time range that you want to allow the selected user to access the Internet.
14. Select to **Allow** or **Block** Internet access for the time and days you set previously.
15. Select **On** or **Off** in the Enabled field to enable or disable this Parental Control restriction.
16. Click **Apply**, when you are finished.

## Set Up IP Filtering

You can use IP Filtering to configure Internet access restrictions on specific network devices on your home network using their IP addresses. You will have to create IP address filters that contain the starting and ending IP address range of each device for which you want to block Internet access.

To configure IP filters:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **IP Filtering** from the Advanced submenu options list to display the Advanced IP Filtering screen.

Start Address	End Address	Enabled
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>
192.168.0.0	192.168.0.0	<input type="checkbox"/>

Apply

**Figure 50: Set Up IP Filters Screen**

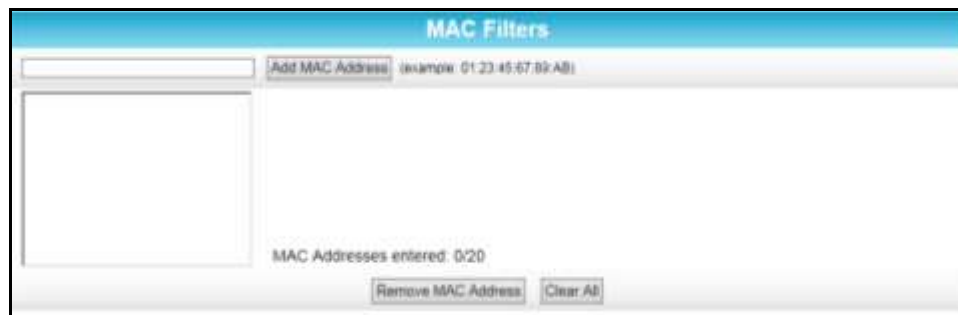
3. Enter the least significant byte of the starting IP address for the range you are setting up in the Start Address field.
4. Enter the least significant byte of the ending IP address for the range you are setting up in the End Address field.
5. Select **Enabled** to activate the IP address filter.
6. Repeat steps 3 thru 5 for each additional range of IP addresses that you want to block Internet access.
7. Click **Apply** to create your IP filters.

## Set Up MAC Filtering

MAC filtering allows you to define up to twenty Media Access Control (MAC) address filters to prevent computers from sending outgoing TCP/UDP traffic to the WAN via their MAC addresses. This is useful because the MAC address of a specific NIC card never changes, unlike its IP address, which can be assigned via the DHCP server or hard-coded to various addresses over time.

To configure MAC filters:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **MAC Filtering** from the Advanced submenu options list to display the Advanced MAC Filtering screen.



**Figure 51: Set Up MAC Filters Screen**

3. Enter the MAC address for the computer you want to block.
4. Enter the least significant byte of the starting IP address for the range you are setting up.
5. Click **Add MAC Address**.
6. Repeat steps 3 through 5 to add up to 20 MAC addresses.
7. To delete a MAC address, click on the MAC address in the MAC Address list and then click **Remove MAC Address** button.  
Repeat for each MAC Address that you want to remove from the list.
8. Click **Clear All** button to delete all MAC addresses from the MAC Address list.

## Set Up Port Filtering

You can use port filtering to define port filters to prevent all network devices from sending outgoing TCP/UDP traffic to the WAN on specific IP ports. By specifying a starting and ending port range, you can determine what TCP/UDP traffic is allowed out to the WAN on a per-port basis.



**Note:** The specified port ranges are blocked for ALL computers, and this setting is not IP address or MAC address specific. For example, if you wanted to block all computers on your home network from accessing HTTP sites (or web surfing), you would create the following port filter.

- Set **Start Port** to **80**
- Set **End Port** to **80**
- Set **Protocol** to **TCP**
- Select **Enabled**

To configure Port filters:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Port Filtering** from the Advanced submenu options list to display the Advanced Port Filtering screen.

Start Port	End Port	Protocol	Enabled
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>
<input type="text" value="1"/>	<input type="text" value="80808"/>	Both	<input type="checkbox"/>

**Figure 52: Advanced Port Filtering Screen**

3. Enter the starting port number of the Port Filtering range in the Start Port field.
4. Enter the ending port number of the Port Filtering range in the End Port field.
5. Select **TCP**, **UDP**, or **BOTH** from the drop-down Protocol list.
6. Select **Enabled** to activate the selected IP port filters. Otherwise, leave unchecked.

## Set Up Port Triggers

You can use Port Triggers to configure dynamic triggers to specific devices on the LAN. This allows special applications that require specific port numbers with bi-directional traffic to function properly. Applications such as video conferencing, voice, gaming, and some messaging program features may require these special settings.



**Note:** If you enable the firewall and set up custom port triggers, then you must configure the firewall to allow traffic through those custom ports. See [Set Up Firewall Protection](#) (page 54) for more information.

To configure Port Triggers:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Port Triggers** from the Advanced submenu options list to display the Advanced Port Filtering screen.



Figure 53: Advanced Port Triggers Screen

3. Click **Create Port Triggers** button to open the Add Port Triggering Entry window.



Figure 54: Create Port Triggers Screen

4. Enter the starting port number for the port to be triggered in the Trigger Start Port field.
5. Enter the ending port number for the port to be triggered in the Trigger End Port field.
6. Enter the starting port number of the Port Trigger range in the Target Start Port field.
7. Enter the ending port number of the Port Trigger range in the Target End Port field.
8. Select **TCP**, **UDP**, or **BOTH** from the Internet Protocol drop-down list.
9. Enter a unique name in the Description field.
10. Select **On** to enable IP port triggers or **Off** to disable them.

11. Click **Apply** to create your port triggers.
12. Repeat steps 3 thru 11 to create additional port triggers.

## Set Up Port Forwarding

You can use Port Forwarding to set up a computer or other network device on your home network (LAN) to be accessible to computers or other remote network devices on the Internet. This allows you to open specific ports behind the firewall on your LAN to set up dedicated connections between your computer and other remote computers for online gaming or other online services. Some allowable services are predefined under the Commonly Forwarded Ports. See Figure 56 for a list of commonly used port numbers.



**Note:** ARRIS recommends that you manually configure the TCP/IP settings listed below on the computer you are setting up for remote access. Otherwise, remote access to your computer will not be available on the Internet.

- IP address
- Subnet mask
- Default gateway
- DNS address (at least one)

To set up Port Forwarding:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Port Forwarding** from the Advanced submenu options list to display the Advanced Port Forwarding screen.



**Note:** To map a port, you would enter the range of port numbers that you want forwarded locally and the IP address for sending traffic to those ports. If you only want a single port specification, enter the same port number in the start and end locations for that IP address.

The screenshot shows the 'Advanced Port Forwarding' configuration interface. At the top, there is a section titled 'IPv4 Entry' with a table for configuring individual port forwarding rules. Below this is a section titled 'Forwarded Ports' which contains a table listing the configured rules.

External IP Address & Start/End Port	Local IP Address & Start/End Port	Description	Protocol	Enabled
0.0.0.0 0 0	0.0.0.0 0 0	Commonly Forwarded Ports	TCP	Off

External IP Address & Start/End Port	Local IP Address & Start/End Port	Description	Protocol	Forwarding	Remove All

Figure 55: Advanced Port Forwarding Screen

3. Do one of the following to set up the External IP Address:

- Keep the IP Address set at **0.0.0.0** in the External IP Address field and then enter the port number in the Start Port field. Repeat the same port number in the End Port field (select a specific port from the Commonly Forwarded Ports drop-down list, see Figure 55 or 56).

This allows incoming data traffic on the specified ports from any remote IP address.

- Enter a specific remote IP address of your choice in the External IP Address field and then enter the specific port numbers in the Start and End Port fields. Select a specific port from the Commonly Forwarded Ports drop-down list (see Figure 55 or 56).

This allows incoming data traffic on the specified ports from only one remote IP address.



**Note:** To forward a range of ports, enter the first number of the port range in the Start Port field and the last number of the port range in the End Port field.

4. Do the following to set up your Local IP Address:

- a. Enter the IP address of your local computer that you are setting up for port forwarding.
- b. Enter the port number of your choice in the Start Port field.
- c. Repeat the same port number in the End Port field

Select a specific port from the Commonly Forwarded Ports drop-down list see Figure 55 or 56 for the list.



**Note:** To forward a range of ports, enter the first number of the port range in the Local Start Port field and the last number of the port range in the Local End Port field.

5. Enter a description to name the forwarded port you are creating.
6. Select **TCP**, **UDP**, or **BOTH** from the Internet Protocol drop-down list.
7. Select **On** to enable port forwarding or **Off** to disable it.
8. Click **Apply**, when you are finished.



Commonly Forwarded Ports		
Battle.net.....	6112 / TCP	
BitTorrent.....	6881-6999 / Both	
Call of Duty.....	28960 / UDP	
eMule.....	4662 / TCP	
eMule.....	4672 / UDP	
GameSpy Arcade.....	6500 / TCP	
Gnutella.....	6346-6347 / Both	
Half-Life.....	27015 / Both	
Halo.....	2302 / UDP	
Internet Radio.....	8000 / Both	
IRC.....	6665-6669 / TCP	
MS Media Server.....	1755 / Both	
Playstation 3.....	80 / TCP	
Playstation 3.....	3478 / UDP	
Playstation 3.....	443 / TCP	
Playstation 3.....	3479 / UDP	
Playstation 3.....	5223 / TCP	
Playstation 3.....	3658 / UDP	
Quicktime.....	6970 / UDP	
Second Life.....	12035-12036 / UDP	
Slingbox.....	5001 / UDP	
Steam.....	1725 / UDP	
Steam Friends.....	1200 / UDP	
Synergy.....	24800 / TCP	
TeamSpeak.....	8767 / UDP	
Ventrillo.....	3784-3785 / Both	
War of Warcraft.....	3724 / Both	
XBOX 360.....	80 / TCP	
XBOX 360.....	88 / UDP	

Figure 56: Commonly Used Forwarded Ports List

## Set Up the DMZ Host



**WARNING!** The gaming DMZ host is not protected by the SBG6700-AC firewall. It is exposed to the Internet and thus vulnerable to attacks or hacking from any computer on the Internet. Consider carefully before configuring a device to be in the DMZ.

You can configure one computer on your home network to be the DMZ Host. That computer will operate outside of the SBG6700-AC firewall and allow remote access from the Internet to your computer, gaming device, or other IP-enabled device. The DMZ Host feature will only allow outside users to have direct access to the designated DMZ Host device and not your home network.

To create the DMZ Host:

1. From any web manager screen, click the **Advanced** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **DMZ Host** from the Advanced submenu options list to display the DMZ Host screen.



Figure 57: Advanced DMZ Host Screen

3. Enter the last one to three digits (from 2 to 254) of the IP address of the computer or gaming device that you are setting up as the DMZ host.
4. Click **Apply**, when you are finished.



**Note:** Remember to reset the IP address back to 0 (zero) to close all the ports when you are finished with the needed application. If you do not reset the IP address, that computer will be exposed to the public Internet.

## Set Up Firewall Event Log Notifications

When a firewall attack is detected on your home network, a separate email alert notification is generated and a local log or report of the event is created. You can set up automatic email alert notifications for whenever a firewall attack is detected on the SBG6700-AC. See [Local Log](#) for more information.

To set up Firewall Event Log notifications:

1. From any web manager screen, click the **Firewall** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Local Log** from the Firewall submenu options list to display the DMZ Host screen.

**Figure 58: Firewall Local Log Screen**

3. Enter your email address in the Contact Email Address field.
4. Enter the name of the email server in the SMTP Server Name field. Check with your service or email provider.
5. Enter the user name for your email account.
6. Enter the password for your email account.
7. Select **Enable** checkbox in the E-mail Alerts field to allow for automatic Email alerts.
8. Click **Apply**, when you are finished.

## Store Remote Firewall Logs

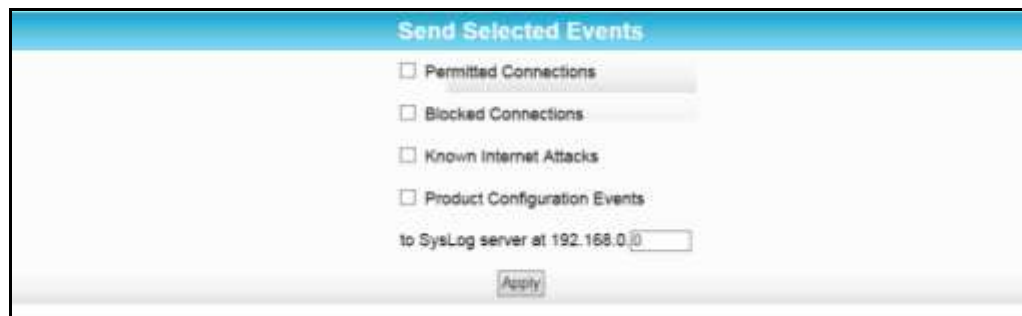
You can store firewall attack reports or logs on a computer in your home, so that multiple instances can be logged over a period of time. You can select individual attack or configuration items to send to the SysLog server, so that only the items of interest will be monitored.



**Note:** The SysLog server must be on the same network as the Private LAN behind the Configuration Manager (typically **192.168.0.x**).

To store remote Firewall logs:

1. From any web manager screen, click the **Firewall** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Remote Log** from the Firewall submenu options list to display the DMZ Host screen.



**Figure 59: Firewall Remote Log Screen**

3. Select all desired event types that you want to monitor. This will activate the SysLog monitoring feature.
4. Enter the last digits from **10** to **254** of the SysLog server's IP address.



**Note:** Normally, the IP address of this SysLog server is hard-coded so that the address always agrees with the entry on this page.

5. Click **Apply**, when you are finished

## Managing Your Gateway and Connected Networks

Use the SBG6700-AC Web Manager to view and monitor the network configuration settings and operational status of your gateway. You can also configure your network connections and wireless security settings. See *Protecting & Monitoring Your Wireless Network* (page 51) for more information.

### View the Gateway Product Information

The Status Product Information screen displays general product information, including the software (or firmware) version and the current network connection status of the gateway.

To open the Status Product Information page:

1. From any web manager screen, click the **Status** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Product Information** from the Status submenu options.
3. Click the **Refresh** button (F5) in your web browser to reload the information on the screen.

Information	
Standard Specification Compliant	DOCSIS 3.0
Hardware Version	1
Software Version	D30GW-EAGLE-1.5.0.1-GA-03-NOSH
Cable Modem MAC Address	3c:36:e4:f9:69
Serial Number	391383410600126702040002
Status	
Up Time	6 days 01h:19m:32s
Cable Modem IP Address	...

Figure 60: SBG6700-AC Status – Product Information Screen

### View the Gateway Network Connection Status

The Status Connection screen displays information about the RF upstream and downstream channels, including downstream channel frequency, upstream channel ID, and upstream and downstream signal power and modulation.

This screen also displays IP lease information including the current IP address of the wireless gateway, the duration of both leases, the expiration time of both leases, and the current system time from the DOCSIS time server.

To open the Status Connection screen:

1. From any web manager screen, click the **Status** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Connection** from the Status submenu options.

Startup Procedure									
Procedure			Status						Comment
Ac									Locked
Connectivity State			OK						Operational
Boot State			OK						Operational
Configuration File			OK						
Security			Enabled						BPI+
DOCSIS Network Access Enabled			Allowed						
Downstream Bonded Channels									
Channel	Lock Status	Modulation	Channel ID	Frequency	Power	SNR	Corrected	Uncorrectables	
1	Locked	QAM256	2	711000000 Hz	-5.2 dBmV	45.4 dB	1	0	
2	Locked	QAM256	1	705000000 Hz	-5.3 dBmV	45.4 dB	3	0	
3	Locked	QAM256	3	717000000 Hz	-5.3 dBmV	44.7 dB	3	0	
4	Locked	QAM256	4	723000000 Hz	-5.3 dBmV	44.6 dB	0	0	
5	Locked	QAM256	5	729000000 Hz	-5.6 dBmV	44.0 dB	2	0	
6	Locked	QAM256	6	735000000 Hz	-5.6 dBmV	44.7 dB	1	0	
7	Locked	QAM256	7	741000000 Hz	-5.8 dBmV	44.6 dB	1	0	
8	Locked	QAM256	8	747000000 Hz	-5.8 dBmV	44.6 dB	0	0	
Upstream Bonded Channels									
Channel	Lock Status	US Channel Type	Channel ID	Symbol Rate	Frequency	Power			
1	Locked	TDMA and ATDMA	2	2560 Ksym/sec	185000000 Hz	47.5 dBmV			
2	Locked	ATDMA	1	5120 Ksym/sec	307000000 Hz	48.0 dBmV			
3	Locked	ATDMA	3	5120 Ksym/sec	233000000 Hz	47.7 dBmV			
4	Locked	TDMA and ATDMA	4	2560 Ksym/sec	355000000 Hz	47.5 dBmV			

Figure 61: SBG6700-AC Status Connection Screen

## Back Up Your Gateway Configuration

You can save a backup copy of the current gateway configuration settings to your local computer. You can use the backup file to restore your custom gateway settings in the event that you made changes that you no longer want.



**Caution:** ARRIS recommends that you perform the gateway configuration backup using the SBG6700-AC default login username and password.

To create a backup copy of your gateway configuration settings:

1. From any web manager screen, click the **Basic** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Backup and Restore** from the Basic submenu options.

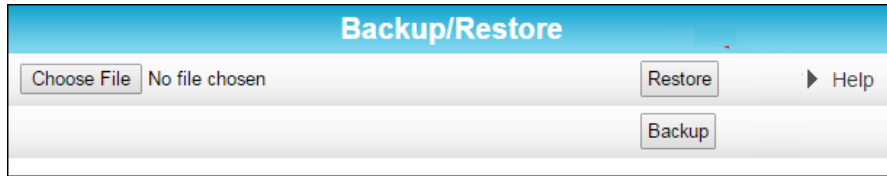
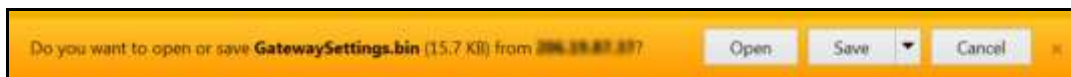


Figure 62: SBG6700-AC Backup and Restore Screen

3. Click **Backup** and then click **OK** at the "Select 'Save' when prompted" message.



4. Click **Save** to create a backup file of your SBG6700-AC configuration. A download is complete message will display.



**Note:** *GatewaySettings.bin* is the default file name for your backup configuration file.

5. Click **Open** or **Open folder** to open the configuration file or click **View downloads** to display a list of your configuration files in the Downloads folder on your computer.

## Restore Your Configuration Settings



**WARNING!** This action will delete your current SBG6700-AC configuration settings and allow you to restore a previously saved gateway configuration.



**Note:** *After the configuration settings are restored, the SBG6700-AC will automatically reboot and you will have to log on using the default username (**admin**) and password (**password**).*

1. From any web manager screen, click the **Basic** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Backup and Restore** from the Basic submenu options.

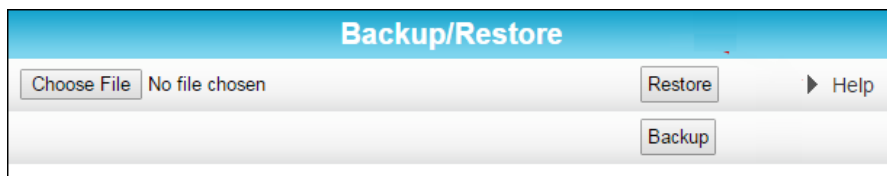


Figure 63: SBG6700-AC Backup and Restore Screen

3. Click **Choose File** to search for a saved configuration file (**GatewaySettings.bin**) in the Downloads folder on your computer.
4. Select the configuration file you want to restore.
5. Click **Restore**. The SBG6700-AC will automatically reboot.

## Reset Your Configuration Settings



**WARNING!** This process also deletes any custom SBG6700-AC configurations you may have already created. ARRIS recommends that you create a backup copy of your configuration before resetting your gateway. See [Back Up Your Gateway Configuration](#) (page 69) for more information.

From the SBG6700-AC Web Manager, do the following to open the Status Security screen:

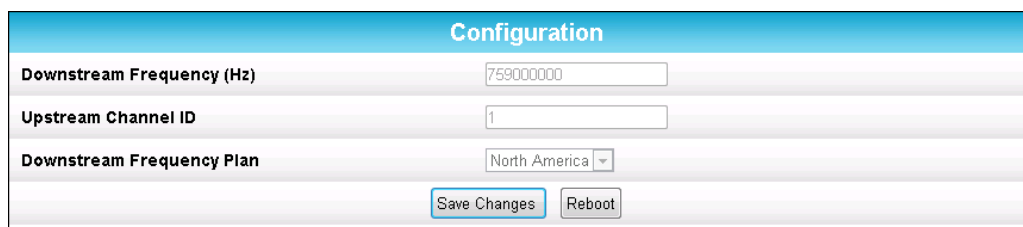
1. From any web manager screen, click the **Status** menu button on the SBG6700-AC Web Manager main menu bar.
2. Click **Security** from the Status submenu options.

**Figure 64: Restore Factory Defaults Screen**

3. Select **Yes** under Restore Factory Defaults.
4. Click **Apply** to reset the default username and password and restore the original gateway configuration.

The message, **This action will restore factory default settings. Please reboot the modem for new settings to take effect**, appears.

5. Click **OK**.
6. Click **Status** on the SBG6700-AC Main Menu.
7. Click **Configuration** from the Status submenu options to display the Status Configuration screen.



Configuration	
Downstream Frequency (Hz)	<input type="text" value="759000000"/>
Upstream Channel ID	<input type="text" value="1"/>
Downstream Frequency Plan	<input type="text" value="North America"/>
<input type="button" value="Save Changes"/> <input type="button" value="Reboot"/>	

Figure 65: Status Configuration Screen

8. Click **Reboot**.
9. Log back in using the default username and password.
  - Username: **admin**
  - Password: **password**

## Exit the SBG6700-AC Web Manager

To log out and close the SBG6700-AC Web Manager:

- Click **Logout** button located in the upper right corner of the SBG6700-AC Web Manager screen.



## Troubleshooting Tips

If the solutions listed in the Troubleshooting Solutions table below do not solve your problem, please contact your service provider for assistance. Your service provider may ask for the status of the SBG6700-AC front panel LEDs (see [Front Panel LED Icons and Error Conditions](#) (page 74) for more information).

You may have to reset the SBG6700-AC gateway configuration to its original factory settings if the gateway is not functioning properly. See [Reset Your Configuration Settings](#) (page 71) for more information.

## Solutions

**Table 5. Troubleshooting Solutions**






Gateway Problem	Possible Solution
<b>Power LED Icon is OFF</b>	<ul style="list-style-type: none"> <li>■ Check the power connection on the gateway and to the electrical outlet.</li> <li>■ Check that the electrical outlet is working. Is the outlet controlled by a light switch? If so, unplug the gateway power cord and connect it to another electrical outlet that is not controlled by a wall switch.</li> </ul>
<b>Cannot Send or Receive Data</b>	<ul style="list-style-type: none"> <li>■ Check each end of the coaxial cable connection on the gateway and cable wall outlet. Use your hand to tighten each connector, if necessary.</li> <li>■ Check the Ethernet cable to make sure it is properly connected to the gateway and computer.</li> <li>■ On the front panel, check the status of the LED icons and refer to <a href="#">Front Panel LED Icons and Error Conditions</a> (page 74) to identify the problem.</li> <li>■ If you have cable television service, check your television to ensure your cable service is operating properly.</li> <li>■ If none of the above solutions resolves the problem, contact your service provider or call ARRIS Technical Support at <b>1-877-466-8646</b> for assistance.</li> </ul>

Gateway Problem	Possible Solution
<b>Cannot Access the Internet</b>	<ul style="list-style-type: none"> <li>■ Check that all cable and power connections on your gateway and computer are properly connected.</li> <li>■ Check that the <b>Power</b>, <b>Online</b>, and <b>Wireless</b> LED icons on the front panel are lit up solid.</li> <li>■ Contact your service provider for assistance.</li> </ul>
<b>Wireless devices cannot send or receive data</b>	<ul style="list-style-type: none"> <li>■ If the problem still continues after checking the coaxial cable and Ethernet connections and your IP address, check the <b>Wireless Security Mode</b> setting on the Wireless Primary Network screen.</li> <li>■ If you enabled WPA and configured a passphrase on the gateway, be sure each affected wireless client has the identical passphrase. If this does not solve the problem, check if the wireless client supports WPA.</li> <li>■ If you enabled WEP and configured a key on the gateway, 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 gateway.</li> </ul>

## Front Panel LED Icons and Error Conditions

The SBG6700-AC front panel LED icons provide status information for the following error conditions:

**Table 6. Front Panel LED Icons and Error Conditions**

Led Icon	Status	If, During Startup:	If, During Normal Operation
 POWER	OFF	wireless gateway is not properly plugged into the electrical wall outlet	wireless gateway is unplugged
 RECEIVE	BLINKING	Downstream receive channel cannot be acquired	Downstream channel is lost
 SEND	BLINKING	Upstream send channel cannot be acquired	Upstream channel is lost
 ONLINE	BLINKING	IP registration is unsuccessful	IP registration is lost
 WIRELESS	OFF	LED is disabled	LED is disabled

Led Icon	Status	If, During Startup:	If, During Normal Operation
	<b>OFF</b>	LED is disabled	LED is disabled

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## Warranty Information

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SURFboard SBG6700-AC Wireless Gateway

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