CONVERGENCE ENABLED

SURFboard SBR-AC1900P Wi-Fi Router

User Guide

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ARRIS Copyrights and Trademarks

Patent Notice

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Safety Requirements

The ARRIS SBR-AC1900P Wi-Fi Router complies with the applicable requirements for performance, construction, labeling, and information when used as outlined below:

- Do not use product near water (i.e. wet basement, bathtub, sink or near a swimming pool, etc.), to avoid risk of electrocution.
- The product shall be cleaned using only a damp, lint-free, cloth. No solvents or cleaning agents shall be used.
- Do not use spray cleaners or aerosols on the Wi-Fi Router.
- Avoid using and/or connecting the equipment during an electrical storm, to avoid risk of electrocution.
- Do not locate the equipment within 6 feet (1.9 m) of a flame or ignition source (i.e. heat registers, space heaters, fireplaces, etc.).
- Use the power cord included with the equipment.
- Equipment should be installed near the power outlet and should be easily accessible.
- In areas of high surge events or poor grounding situations and areas prone to lightning strikes, additional surge protection may be required (i.e. PF11VNT3 from American Power Conversion) on the AC and Ethernet lines.
- When the Wi-Fi Router is connected to a local computer through Ethernet cables, the computer must be properly grounded to the building/residence AC ground network. All plug-in cards within the computer must be properly installed and grounded to the computer frame per the manufacturer's specifications.
- Ensure proper ventilation. Position the Wi-Fi Router so that air flows freely around it and the ventilation holes on the unit are not blocked.
- Do not mount the Wi-Fi Router on surfaces that are sensitive to heat and/or which may be damaged by the heat generated by the modem or its accessories.

FCC Part 15

This equipment has been tested and found to comply with the requirements for a Class B digital device under Part 15 of the Federal Communications Commission (FCC) rules. These requirements are intended to provide reasonable protection against harmful interference in a residential installation. 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 equipment 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 equipment 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.

WARNING

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

For the U.S. model, the country code is preset and cannot be changed. Per FCC regulations, the country code setting for all Wi-Fi products marketed in the U.S. must be fixed to U.S. operational channels only.

Operation of this device is restricted to indoor use only.

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 11.8 inches (30 cm) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux CNR exemptes de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:
(1) Ce dispositif ne peut causer d'interférences; et(2) Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Caution:

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:

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

Industry Canada ICES-003 Compliance Label:CAN ICES-3(B)/NMB-3(B)

Industry Canada ICES-006 Compliance Label: CAN ICES-6/NMB-6

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30 cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 30 cm de distance entre la source de rayonnement et votre corps.

Industry Canada ICES-003 Compliance Label:CAN ICES-3(B)/NMB-3(B)

Industry Canada ICES-006 Compliance Label: CAN ICES-6/NMB-6

Product Overview

Introduction

Get ready to experience the Internet's express lane! Whether you're checking out streaming media, downloading new software, or checking your email, the SURFboard SBR-AC1900P Wi-Fi Router brings it all to you faster and more reliably.

The SURFboard SBR-AC1900P Wi-Fi Router provides four Ethernet connections for use as the hub of your home/office Local Area Network (LAN). The SBR-AC1900P also provides 802.11a/b/g/n/ac wireless connectivity for enhanced mobility and versatility.

The SURFboard RipCurrent feature (using G.hn Power Line Communication) also allows you to place wired and wireless extenders around your home using your AC power grid and existing AC outlets to allow for network connectivity in or around your home environment.

About The Wi-Fi Router

The SBR-AC1900P is more than just a WI-FI Router. This advanced Access Point is the start of a new home network experience that offers the following benefits:

- Two concurrent 802.11AC radios: one for the 5 GHz band and one for the 2.4 GHz band. These radios provide automatic client-directed connections for optimal Wi-FI connectivity and speed based on a client's capability. Each radio includes a 3x3 MIMO antenna array for the best reach, range, and throughput.
- four gigabit Ethernet ports for ultra fast wired connectivity
- two USB ports, one at USB 3.0 and one at USB 2.0, for data and media storage or transfer and print sharing

- embedded Gigabit Home Networking (G.hn) via power lines, ready to connect to any number of extenders to reliably take your network to the farthest reaches of your environment.

The SBR-AC1900P includes the following features:

- Remote management capability, allowing you to make changes to the Wi-Fi Router's configuration from anywhere on the Internet
- Supports Ethernet and 802.11a/b/g/n/ac wireless connections; both wired and wireless connections can be used simultaneously
- Network Management using your smartphone or tablet
- Auto connection to Gigabit network extenders, including the wireless settings
- Option for automated product firmware upgrades
- Network supports up to 15 connected power line extenders
- Easy to navigate User Interface, including a network set-up Wizard
- Default settings configured for standard environments, with advanced settings for sophisticated users
- USB ports include a file structure that provides high-speed throughput and data integrity protection
- Support for NAS and DLNA

What is G.hn?

SURFboard RipCurrent is a technology that allows you to set up a high-speed home network over existing AC wiring and outlets. There's no need to run additional cables; your devices can communicate at data rates up to 1 Gb/s using the network of power lines that already exists in your home.

The SBR-AC1900P uses the power cable connected to the Wi-Fi Router to connect to your home AC power grid. G.hn is an ITU Specification managed by the HomeGrid Forum (http://www.homegridforum.org/). This technology allows the SBR-AC1900P to distribute all data to each of the AC power outlets in the home. With a corresponding G.hn Extender, the Wi-Fi or wired network can be extended to any room, including basements, garages, or far reaching bedrooms. Connect entertainment devices, security cameras, gaming consoles, managed appliance, anything that uses IP (Internet Protocol).

The G.hn technology is more robust than previous home power line communication implementations to give you better 'real world' throughput and stability. G.hn also proves much more efficient in an environment with multiple power line networks (such as apartment buildings or office buildings) with the capability of recognizing up to 250 other networks to avoid interference. G.hn communications are encrypted using the advanced standard AES 128-bit encryption for secure transmissions.

In order to ensure the best performance of your G.hn network, we recommend that you only use 3-prong grounded outlets. A 2-prong outlet will operate sufficiently, but with a lower throughput speed.

What's in the Box?

Make sure you have the following items before proceeding.

- SBR-AC1900P Wi-Fi Router
- Power Cable
- Wireless Installation Guide
- Ethernet Cable
- End User License Agreement

Important: Before returning this product to the store, please call ARRIS Technical Support for assistance in resolving any technical issues.

Support for SURFboard products is managed by ARRIS. For assistance, please call 1-877-466-8646 or visit the ARRIS Consumer Support website at *http://www.arris.com/consumer*. (160043)

Items You Need

Make sure you have the following items on hand before continuing:

- **Wi-Fi Router package:** see *What's in the Box?* (page 10) for a list of items in the package.
- **Ethernet Cable for WAN input:** In addition to the Ethernet cable provided, you may need additional Ethernet cables if you want to connect to wired clients. Please use a standard CAT 5e or CAT 6-rated Ethernet cable with RJ45 type connectors on both ends. You can buy Ethernet cables from any electronics retailer and many discount stores.

System Requirements

The SURFboard Wi-Fi Router operates with most computers. The following describes requirements for each operating system; see the documentation for your system for details on enabling and configuring networking.

To use the Wi-Fi Router, you need high-speed Internet service from your service provider.

Recommended Hardware

The following hardware configuration is recommended. Computers not meeting this configuration can still work with the SBR-AC1900P, but may not be able to make maximum use of SBR-AC1900P throughput.

- CPU: P4, 3GHz or faster
- RAM: 1GB or greater
- Ethernet: Gig-E (1000Base-T)
- Wi-Fi: 802.11a, b, g, n, or ac compliant Wi-Fi equipment

Windows

Windows Vista, Windows 7, or Windows 8. A supported Ethernet or wireless LAN connection must be available.

Mac OS

System 7.5 to Mac OS 9.2 (Open Transport recommended) or Mac OS X. A supported Ethernet or wireless LAN connection must be available.

Linux/Unix

Hardware drivers, TCP/IP, and DHCP must be enabled in the kernel. A supported Ethernet or wireless LAN connection must be available.

About this Manual

This manual covers the SURFboard SBR-AC1900P Wi-Fi Router. The model number is on the label affixed to the bottom of the Wi-Fi Router.
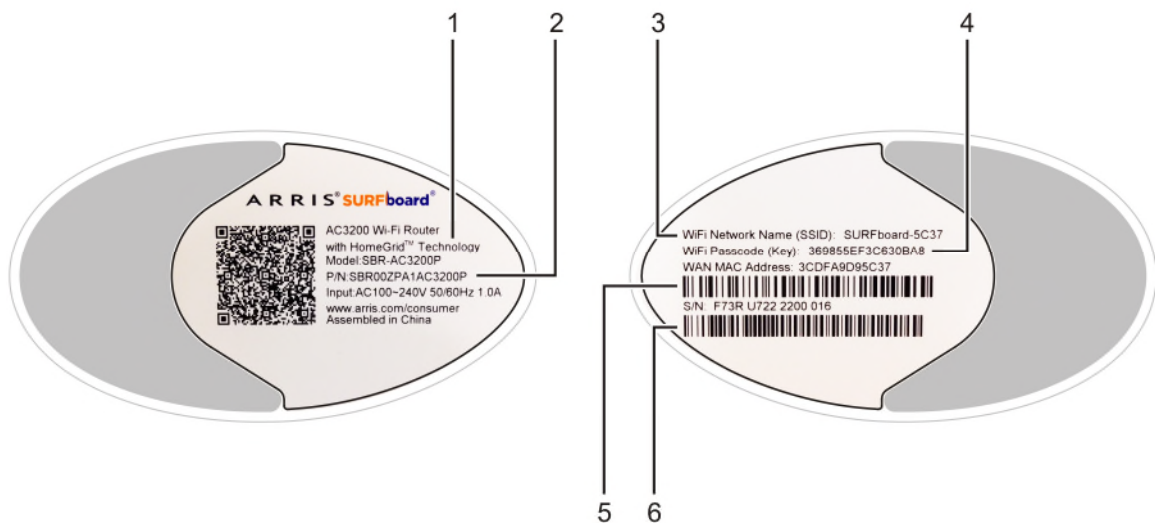
1. Model Name
2. P/N
3. WiFi Network Name (SSID)
4. WiFi Passcode (Key)
5. WAN MAC Address
6. S/N

Contact Information

Please visit the ARRIS Support website *http://www.arris.com/support* for self-help technical support and product documentation. We can also provide technical assistance via chat and email on the support website. ARRIS Technical Support is available by phone at 877-466-8646. Please be prepared to provide your product's model number and serial number, which can be found on the Wi-Fi Router's label.

Installing the Wi-Fi Router

Before you start, make sure that:

■ You have all the Items You Need:

■ The modem and power outlets are available nearby.
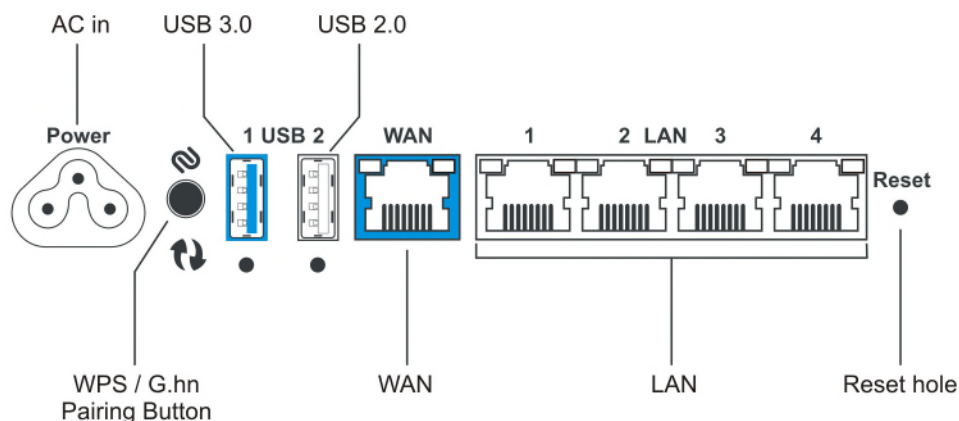
Front Panel

The front of the Wi-Fi Router has a single LED that indicates the status of the Wi-Fi Router.

Color/Behavior	Description
Solid green	Normal operation.
Solid amber	Standby mode.
Flashing amber	WPS pairing mode
Flashing red	Start-up/error mode

Rear Panel

The rear of the Wi-Fi Router has the following connectors and controls:

Name	Description
AC in	Connector for the power cord.
WPS/G.hn pairing button:	Begins associating the Wi-Fi Router with either a wireless device or a G.hn device. ■ Press and hold the button for less than 5 seconds to initiate G.hn pairing. ■ Press and hold the button for more than 5 seconds to initiate WPS pairing.
USB 3.0	USB 3.0 host connector.
USB 2.0	USB 2.0 host connector.
WAN	Connector for cabling to the Internet services modem.
LAN (1 - 4)	Connectors for cabling to devices using Ethernet cables.
Reset hole	Resets the Wi-Fi Router as if you power cycled the unit. Use a pointed non-metallic object to press this button. **Note:** If you hold the Reset button for more than 5 seconds, the Wi-Fi Router will be reset to the factory default settings and will reboot.

Indicator Lights for the SBR-AC1900P

The Wi-Fi Router has several LED indicator lights on the rear panel to assist in troubleshooting:

G.hn signal strength   G.hn secure link   2.4 GHz Wi-Fi   5.0 GHz Wi-Fi

LED	Color/Behavior	Description
G.hn signal strength	Steady green	Good link
	Steady amber	Poor link
	Steady red	No link
G.hn secure link	Steady green	Secure link
	Steady red	No secure link
Wi-Fi links (2.4 GHz and 5.0 GHz)	Steady green	Wireless interface enabled
	Flashing green	Wireless activity

LED	Color/Behavior	Description
	Off	Wireless interface disabled

Selecting an Installation Location

There are a number of factors to consider when choosing a location to install the Wi-Fi Router:

■ Is an AC outlet available nearby? For best results, the outlet should not be switched and should be close enough to the Wi-Fi Router that extension cords are not required.

■ Is the modem nearby? Can you easily run cables between the Wi-Fi Router's location and the modem?

■ If you are connecting devices to the Ethernet ports, can you easily run cables between the Wi-Fi Router's location and those devices?

■ If you want to install the Wi-Fi Router on a desktop, is there enough space on either side to keep the vents clear? Blocking the vents may cause overheating.

■ How close are the wireless devices? In general, the Wi-Fi Router should be located close to the center of the user sphere. The Wi-Fi Router wireless connection range is typically 100–200 feet (30m–65m) for 2.4 GHz signals and less for 5 GHz signals. A number of factors can affect connection range, as described below.

Desktop Mounting Instructions

Position the Wi-Fi Router so that:

■ Air flows freely around it

■ The back faces the nearest wall

■ It will not fall to the floor if bumped or moved

■ The sides of the unit are not blocked.

If the modem is not located in an ideal location for the Wi-Fi Router, you can add a RipCurrent Network Extender to the modem device, then connect the SBR-AC1900P to the Internet using the power line in another location.

Note: Clean the Wi-Fi Router using only a clean, slightly moistened, cloth. Do not use aerosols in the vicinity of the Wi-Fi Router.

Factors Affecting Wireless Range

A number of factors can affect the usable range for wireless connections.

Increases range	■ Locating the unit centrally
	■ Creating as much "line-of-sight" as possible with client devices

Decreases range	■ Metal or concrete walls between the Wi-Fi Router and other devices
	■ Large metal appliances, aquariums, or metal cabinets between the Wi-Fi Router and other devices
	■ Interference and RF noise (2.4 GHz wireless phones, microwave ovens, wireless speaker/receiver systems, or other wireless networks)
	■ Placing the device in a cabinet or other enclosed space

Note: Decreasing the range of the wireless network may be beneficial, as long as the decreased range is sufficient for your needs. By limiting the network's range, you reduce interference with other networks and make it harder for unwanted users to find and connect to the network.

Note: Setting the transmit power level to High increases the range. Setting it to Medium or Low decreases the range proportionately. Medium or Low may be more appropriate for high-density residential locations.

Note: For locations within the home that do not receive a steady/stable Wi-Fi signal, simply add a RipCurrent Wi-Fi extender for full coverage in that location.

Ethernet, Wireless, or Gigabit Home Networking?

There are three ways to connect the computer (or other equipment) to the Wi-Fi Router. The following will help you decide which is best for you:

Ethernet

Ethernet is a standard method of connecting two or more computers into a Local Area Network (LAN). You can use the Ethernet connection if the computer has built-in Ethernet hardware. The SBR-AC1900P provides support for up to four such connected devices.

Note: To connect more than four computers to the SBR-AC1900P through the Ethernet ports, you need an Ethernet switch (available at computer retailers).

The Wi-Fi Router package comes with one 4-foot (1.2m) Ethernet cable (the connectors look like wide telephone connectors); you can purchase more cables if necessary at a computer retailer. If you are connecting the Wi-Fi Router directly to a computer, or to an Ethernet switch with a cross-over switch, ask for Category 5e (CAT5e) straight-through cable. CAT5e or Cat6 cable is required for gigabit Ethernet (Gig-E), not regular CAT5 cable.
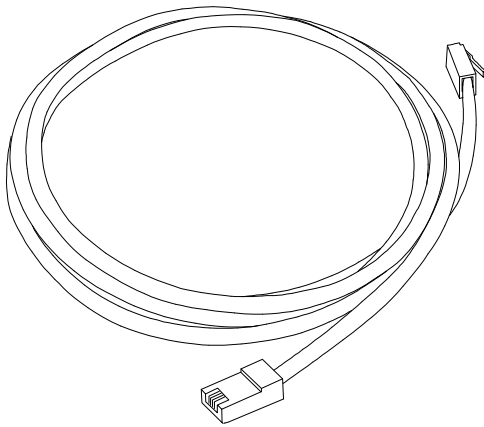
Wireless

Wireless access lets you connect additional (wireless-capable) devices to the Wi-Fi Router. The 802.11 wireless LAN standard allows one or more computers to access the SBR-AC1900P using a wireless (radio) signal. These connections are in addition to the connections supported via Ethernet.

Note: You can use the wireless connection if the computer has a built-in or aftermarket plug-in wireless adapter. To learn more about which wireless hardware works best with the computer, see your computer dealer.

Gigabit Home Networking

Gigabit Home Networking lets you connect additional devices over power lines using the G.hn Power Line Communications Standards. G/hn also allows you to use your AC power lines to transmit and receive network communications from your SBR-AC1900P to clients connected to a G.hn Network Extender.

Combined

If you have two or more computers, you can use Ethernet for up to four devices and wireless or Gigabit Home Networking for the others. To connect five or more computers to the Ethernet ports, you will need an Ethernet switch (available at computer retailers).

Connecting the Wi-Fi Router

1. Unplug the power to turn off the Internet services modem.

2. Connect one end of the Ethernet cable (included) to the modem, and the other end to the WAN port on the Wi-Fi Router.

3. Reconnect the plug on the modem to turn the modem back on. Wait approximately 2 minutes to allow the modem to fully power up.

4. Connect the power adapter (included) to the power connector on the back of the Wi-Fi Router, and then connect the power adapter to an available AC outlet. Wait until the 2.4GHz and 5GHz LEDs on the rear panel of the Wi-Fi Router turn solid green.

5. To manage the setup of the Wi-Fi Router, you can use a second Ethernet cable (not provided) to connect a computer to an available LAN port on the SBR-AC1900P, or you can connect wirelessly by using the preset wireless security settings printed on the Wi-Fi Router's label located on the bottom of the Wi-Fi Router.

6. Open a browser on the computer to access the management interface of the Wi-Fi Router, and navigate to 192.168.0.1. If the webpage does not display correctly, try another browser.

Configuring the Wireless Connection

The SBR-AC1900P ships with a secure SSID that is unique for every device. Wi-Fi network information is located on the label on the bottom of the Wi-Fi Router. You should configure the Wi-Fi Router's wireless settings.

Note: At a minimum, you should set a login password and set up wireless security. Refer to Configuring the Wireless Network for complete instructions on configuring the wireless connection.

Setting Up Your Network Extenders

After you install your Wi-Fi Router, you can add up to 15 G.hn power line extenders. The extenders transmit and receive data using the power lines, once the extender has been plugged into any AC outlet in the house and paired with the Wi-Fi Router.

Connect your G.hn PLC extender to any outlet. Press the G.hn pairing button on the extender (refer to the extender's user guide to find the location), and then press the G.hn pairing button on the Wi-Fi Router (located in the rear inset). The devices will connect and start to communicate.

If the extender is a SURFboard Wi-Fi capable extender, the SBR-AC1900P will also configure the Wi-Fi settings on the extender so that any clients connected to the router can also connect to the Wi-Fi extender.

Setting up an Internet Connection

IMPORTANT! Your computer may already be configured to automatically access the Internet. If so, do not change the network options on your computer. Please contact ARRIS Technical Support for assistance or verification.

If you cannot access the Internet after installing the Wi-Fi Router, you may have to manually set up your computer to connect to the Internet. To do this, you will have to enable the network options on your computer to automatically obtain an IP address and DNS server address. After configuring the network options, you should verify the IP address.

If you still cannot access the Internet after configuring the IP address, contact ARRIS Technical Support for assistance.

Please note, operating system-specific commands for configuring computer network options are not provided in this document. The same general steps provided below apply to the following Microsoft Windows operating systems:

- Windows 8
- Windows 7
- Windows Vista
- Windows XP

Note: For Mac, UNIX, and Linux computers, please follow the instructions provided in the applicable user documentation.

If you are unfamiliar with the network configuration commands for your operating system or need assistance, we highly recommend that you refer to the user documentation for the operating system running on your computer for more information.

Configure Your IP Address

Note: The following instructions apply to Windows 7. Some windows and commands used in this procedure may differ slightly from your computer depending on your operating system.

1. Open the Control Panel or **Network Connections** using the Start button from the taskbar on your computer desktop.

2. Click **View network status and tasks** to open the Network and Sharing window.
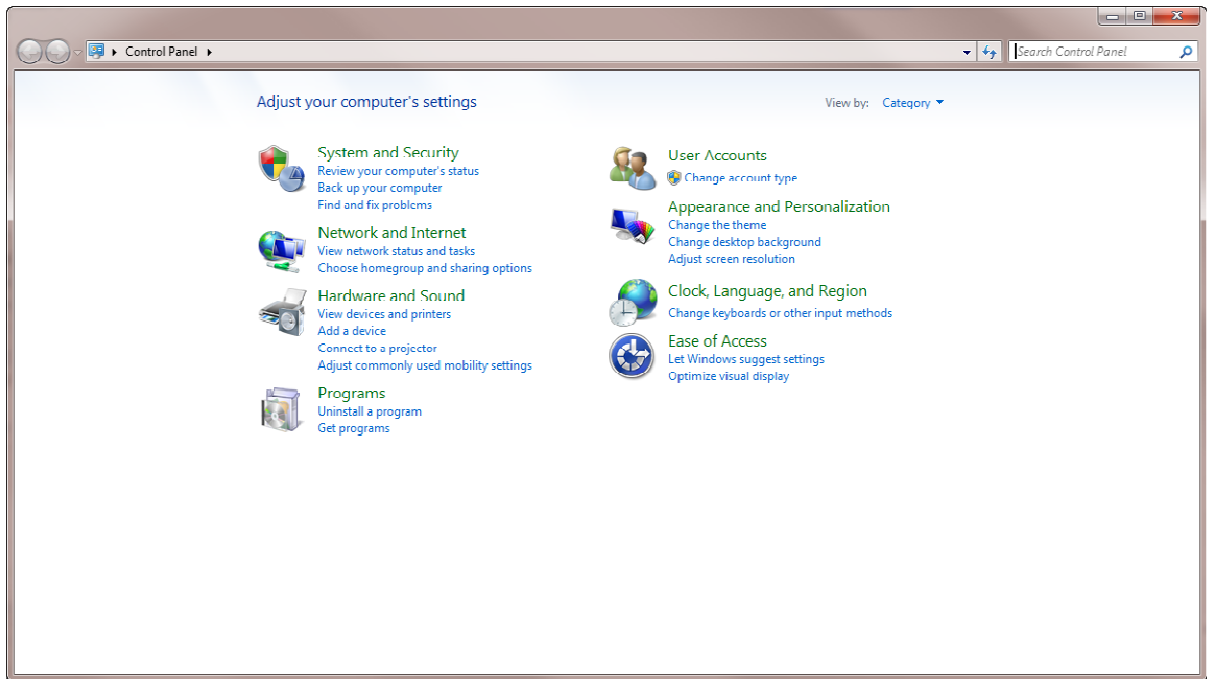
3. Click **Change adapter settings** from the Control Panel Home pane to open the Network Connections window.

4. Click **Local Area Connection** to open the Local Area Connection Status window.
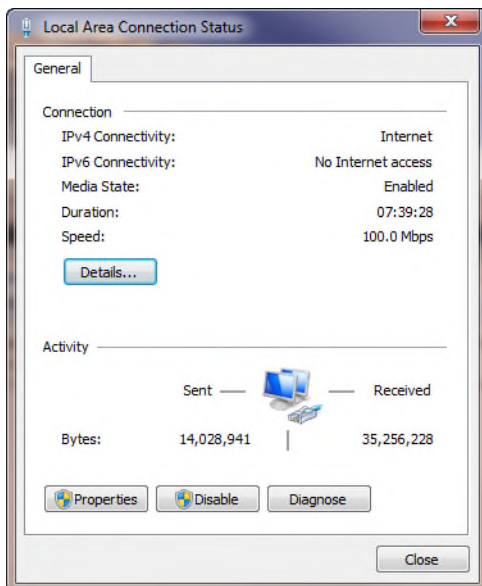
5. Click **Properties** to open the Local Area Connection Properties window.
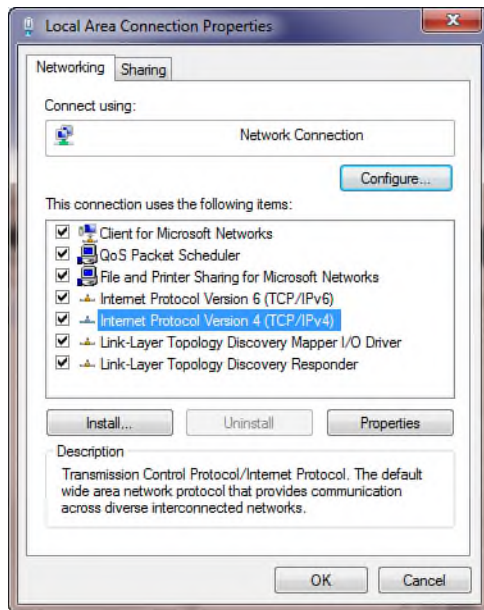
6. Select **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties** to open the **TCP/IPv4** Properties window.
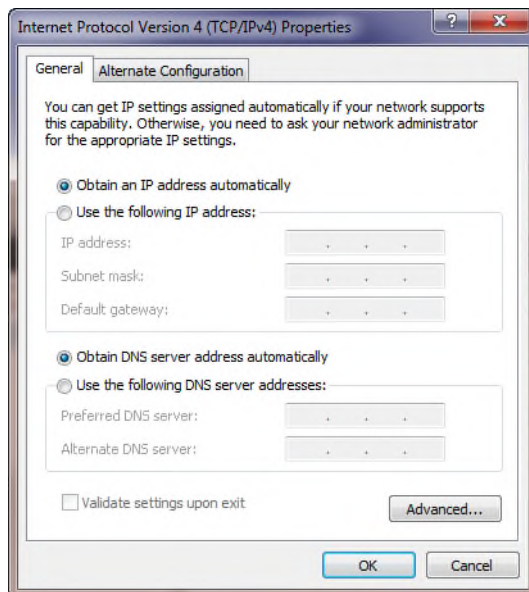
7. Select **Obtain an IP address automatically** and **M**.

8. Click **OK** to save the TCP/IP settings and close the Internet Protocol Properties window.

9. Step through to close the remaining windows and exit.

Verify & Renew Your IP Address

1. Open a command prompt window using the **Start** button and **Run** command from the Taskbar on your desktop.

2. Type **cmdand** click **OK** to open a command prompt window.

3. Type **ipconfig** and press **Enter** to display the IP configuration.

4. To renew the IP address, type **ipconfig/renew** and press **Enter**. A new IP address for your computer or other Ethernet-enabled device will display.

5. Type **exit** and then press **Enter** to return to Windows.

Setting Up a Wireless Network Connection

It is highly recommended that you first verify that your computer can connect to the Internet using an Ethernet connection before configuring your wireless network.

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

- Launch the SBR-AC1900P Quick Start Wizard
- *Setting Up a Wireless Network Connection* (page 23)
- Use the SBR-AC1900P WPS Pairing Button

After setting up your wireless network connection, check that your wireless network connection was set up properly. See *Test Your Wireless Network Connection* (page 26) for more information.
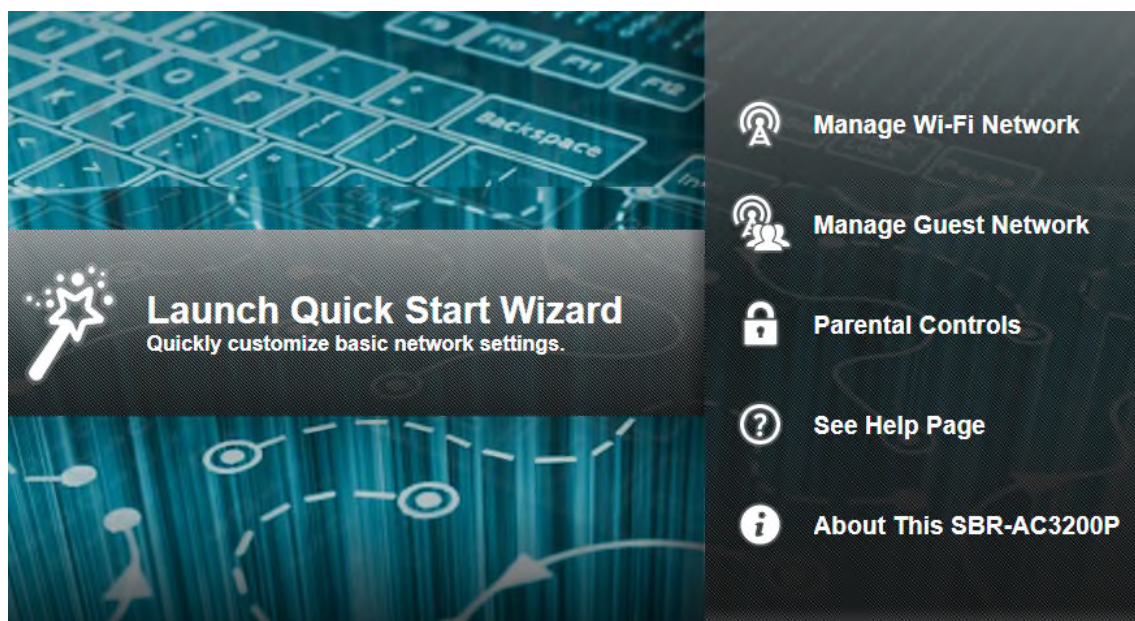
Launch the SBR-AC1900P Quick Start Wizard

The SBR-AC1900P Quick Start Wizard is a six-step application to help you quickly configure your basic wireless network settings. Depending on your home network setup, you can further customize your wireless home network configuration after completing the wizard.

1. Open a web browser (Internet Explorer, Google Chrome, Firefox, or Safari)on the computer connected to the SBR-AC1900P.
2. Type the default LAN IP address, **http://192.168.0.1** in the Address bar and then press **Enter**. The Login screen displays.
3. Type the default username and password. Both entries are case-sensitive.
   Username: **admin**
   Password: **password**
4. Click **Login** to open the SBR-AC1900P Web Manager. The Launch Quick Start Wizard screen displays.

Note: If you have changed the default user name or password and cannot remember the new user name or password, you can reset the Wi-Fi Router to factory default settings. To do this, insert a pointed, non-metallic object into the indented **Reset** button on the back of the SBR-AC1900P, then press and hold the button for more than five seconds. The Wi-Fi Router will be reset to its original factory settings, and any customized settings that you have set **will be lost**.

5. Click **Launch Quick Start Wizard** to start the wizard.

SBR-AC1900P Quick Start Wizard Opening Screen

The Welcome screen displays.

6. Click **Next**.

7. Enter a Network Name (SSID) for your wireless network.

   The network name must contain from one to 32 alphanumeric characters.

8. Enter a Passphrase or Wi-Fi Security Key and then click **Next**.

   This is the sign-on access code for your wireless network. The code must contain from 8 to 64 characters consisting of any combination of letters, numbers, and symbols.

   Remember that your passphrase should be as unique as possible to protect your wireless network and deter hackers or unauthorized access to your network.

   2.4 GHz and 5 GHz network configurations are created for your wireless network.

9. Click **Next**.

   The Wi-Fi security type is created. The WPA2-PSK security code is the strongest security default.

10. Click **Next** to start the Wi-Fi Security mode.

    WPA2-PSK, the default security code, is automatically set and the network settings are displayed.

11. Click **Apply** to accept or Previous to change the configuration.

Manually Set Up a Wireless Network on Your Computer

 Note: The steps for setting up a wireless network may differ slightly depending on the Windows operating system running on your computer. The following steps apply to Windows 7 systems.

1. From the Windows taskbar, click **Start** button and then click **Control Panel**.
2. Click **View network status and tasks.**
3. Click **Set up a new connection or network**.
4. Click **Connect to the Internet**.

   Note: The You are already connected to the Internet message may appear. Ignore this message and proceed with the next step.
5. Click **Set up a new connection anyway** and then click **Wireless**.
6. Scroll down and select the wireless network name (see the WiFi Network Name listed on the Wi-Fi Router's label, located on the bottom of the Wi-Fi Router).

    Note: ARRIS recommends that you use the default SSID name assigned to your Wi-Fi Router (located on the label). You have the option to change the network name to one that may be easier for you to remember.

7. Enter **Network security key code** in the Security key field (see WPA-PSK code listed on the Wi-Fi Router's label) and then click **OK** to complete the wireless network connection.

   A Connected status message showing the wireless network connection should display.
8. Close the Wireless Network Connection window.

Use the SBR-AC1900P WPS Pairing Button

 Use the WPS Pairing button option to connect your WPS-enabled wireless devices. WPS automatically assigns a random wireless network name (SSID) and Wi-Fi Security Key to the SBR-AC1900P and other WPS-enabled devices to connect to your wireless home network.

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

1. Power ON your SBR-AC1900P and other WPS-enabled devices that you want to connect to your wireless network.
2. Press and hold the WPS button located on the rear of the SBR-AC1900P for five to 10 seconds and then release. (See *Rear Panel* (page 13) for more information.)
3. If applicable, press the WPS button on your WPS-enabled computer or other WPS device.

4. Repeat step 3 for each additional WPS-enabled device that you want to connect to your wireless network.

Test Your Wireless Network Connection

Perform the following connectivity test to check that the SBR-AC1900P and other wireless devices are connected to your wireless home network:

1. If the wireless devices connected to the wireless network, disconnect the Ethernet cable from your computer and the SBR-AC1900P.

2. Open a web browser on your computer.

3. Type a valid URL (for example, *www.surfboard.com* (*http://www.surfboard.com*)) in the address bar, and then click or press **Enter**.

4. If the website did not open, please call ARRIS Technical Support at 1-877-466-8646 for assistance.

Chapter 6

Managing Your Wi-Fi Router and Connected Networks

Use the SBR-AC1900P Web Manager to view and monitor the configuration settings and operational status of your Wi-Fi Router. You can also configure your network connections and wireless security settings. See *Protecting & Monitoring Your Wireless Network* (page 35) for more information.
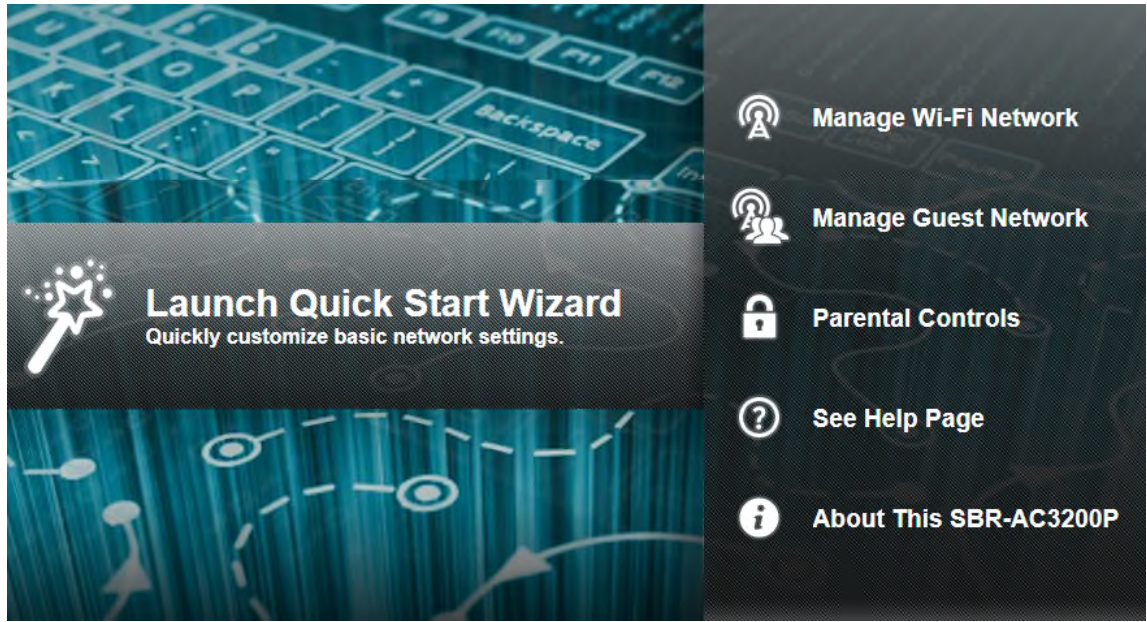
Start the Wi-Fi Router Web Manager

Note: You must use the default user name and password (listed below) to log in to the SBR-AC1900P Web Manager for the first time. For network security purposes, we highly recommend that you change the default user name and password after logging onto the SBR-AC1900P for the first time. See *Change the Default User Name and Password* (page 35) for more information.

1. Open any web browser on the computer connected to the SBR-AC1900P.

2. In the Address bar, type **http://192.168.100.254** for the IP address, and then press **Enter**. The Login screen displays.

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

   Username: **admin**

   Password: **password**

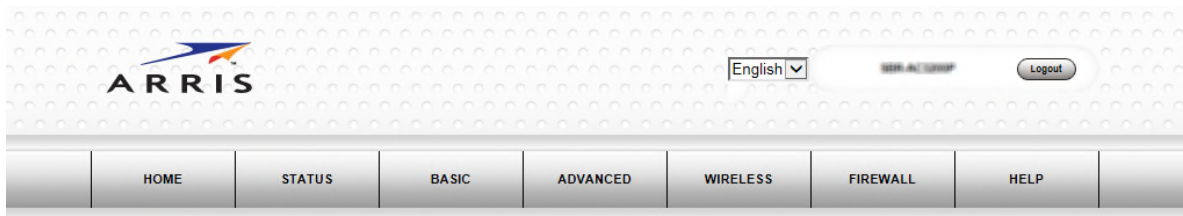4. Click **Login** to open the SBR-AC1900P Web Manager. The SBR-AC1900P Main Screen displays.

Note: If you have changed the default user name or password and cannot remember the new user name or password, you can reset the Wi-Fi Router to factor default settings. To do this, insert a pointed, non-metallic object into the indented **Reset** button on the back of the SBR-AC1900P, then press and hold the button for more than five seconds. The Wi-Fi Router will be reset to its original factory settings, and any customized settings that you have set **will be lost**.

Wi-Fi Router Web Manager Menu Options

Main Menu Buttons

The SBR-AC1900P main menu buttons are displayed along the top of the SBR-AC1900P Web Manager screen. To display the drop-down submenu options, click the menu button.

Main Menu Links

The SBR-AC1900P main menu and related submenu option links are also displayed along the bottom of the SBR-AC1900P Web Manager screen. To open a submenu option, click the link.
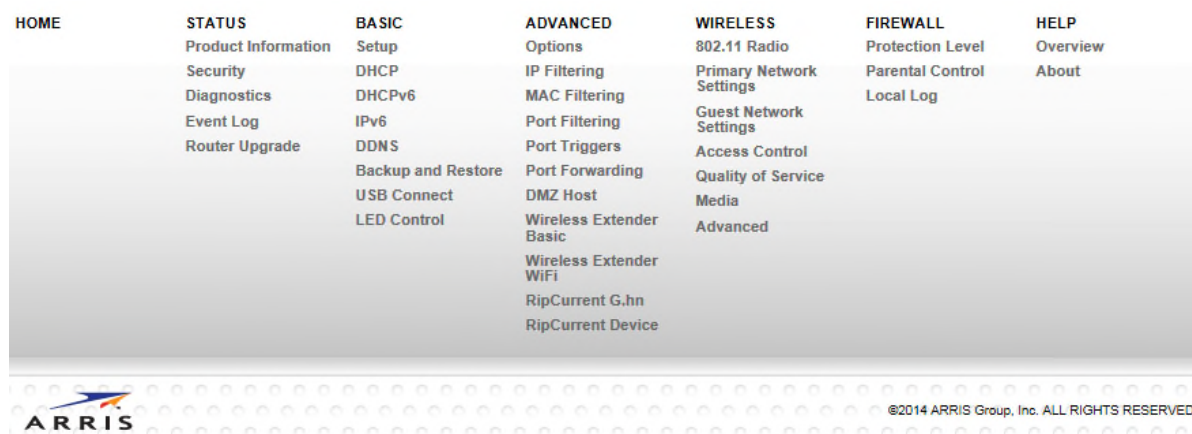
| Menu Option	Function
Home	Displays the Quick Start Wizard main screen
Status	Provides information about the Wi-Fi Router hardware and software, MAC address, Wi-Fi Router IP address, serial number, and related information. Additional screens provide diagnostic tools and also allow you to change your Wi-Fi Router user name and password.
Basic	Configures the Wi-Fi Router IP-related configuration data, including Network Configuration, WAN Connection Type, DHCP, and DDNS
Advanced	Controls Internet protocols which configure and monitor how the Wi-Fi Router routes IP traffic on the SBR-AC1900P
Wireless	Configures and monitors the Wi-Fi Router wireless networking features
Firewall	Configures and monitors the Wi-Fi Router firewall
Help	Provides general information to help you set up your home network
Logout	Closes the SBR-AC1900P Web Manager

Get Help

You can choose any of the following three options to obtain help information for any SBR-AC1900P Web Manager function. General help information is available for any SBR-AC1900P menu option when you click the **Help** button on that page.

■ *Overview Help* (page 30)

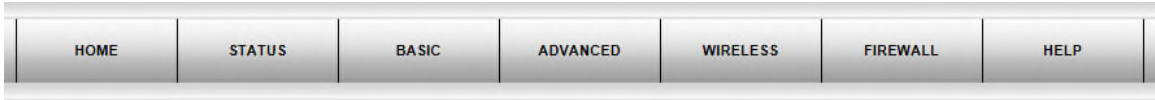■ Help Links

■ *Field Level Help* (page 31)

Overview Help

General help information is available when you click **Help, Overview** on the SBR-AC1900P Main Menu.
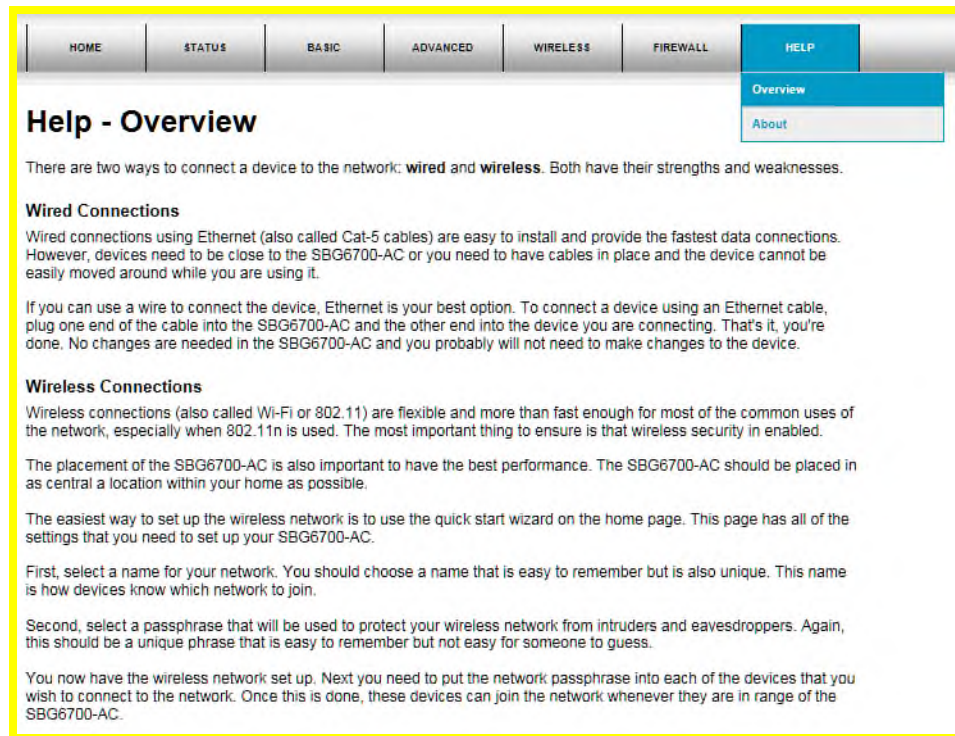
Figure 1: Help Overview Screen

Help Links

Provides a concise list of your configuration settings with applicable links for easy access when you click **Help, About** on the SBR-AC1900P Main Menu. The link opens the related configuration 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).
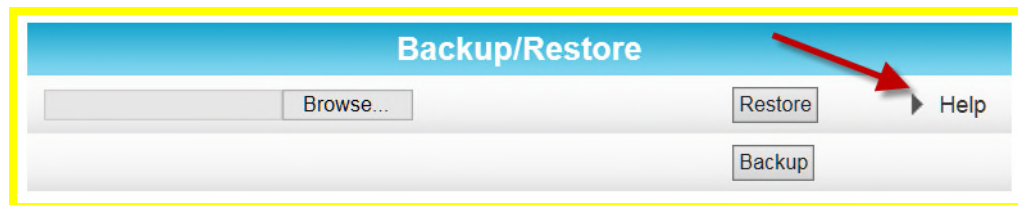
View the Wi-Fi Router Product Information

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

To open the Status Product Information page:

1. Click **Status** on the SBR-AC1900P Main Menu.

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	
Hardware Version	REV.1
Software Version	1.0.0-B01
Router MAC Address	3C:DF:A9:D9:5C:37
Serial Number	F73RU7222200016

| Status	
Up Time	00 days 00h:12m:53s
Router IP Address	---

Back Up Your Wi-Fi Router Configuration

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

Caution: We highly recommend that you perform the configuration backup using the SBR-AC1900P default login username and password.

To create a back up copy of your configuration settings:

1. Click **Basic** on the SBR-AC1900P Main Menu.

2. Click **Backup and Restore** from the Basic submenu options.

Backup/Restore			
Browse...		Restore	▶ Help
		Backup	
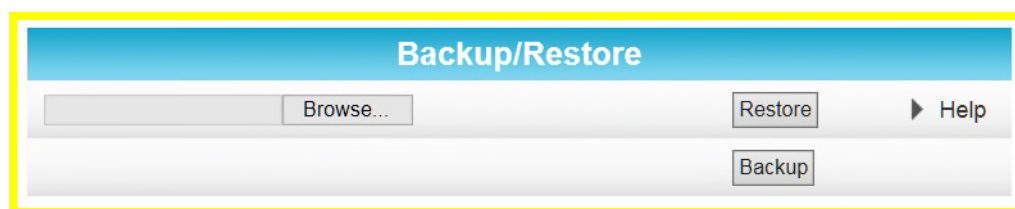
3. Click **Backup** to create a backup file of your SBR-AC1900P configuration settings. Follow the on-screen prompts to save the configuration file.

Restore Your Configuration Settings

WARNING! This action will delete your current configuration settings and allow you to restore a previously saved configuration.

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

1. Click **Basic** on the SBR-AC1900P Main Menu.

2. Click **Backup and Restore** from the Basic submenu options.

3. Click **Browse** to search for a previously saved configuration file from the Downloads folder on your computer.

4. Click **Restore.** The Wi-Fi Router will automatically reboot.

Reset Your Configuration Settings

WARNING! This process also deletes any custom Wi-Fi Router configurations you may have already created. We recommend that you create a backup copy of your configuration before resetting the Wi-Fi Router. See Back Up Your Wi-Fi Router Configuration for more information.

From the SBR-AC1900P Web Manager, do the following to open the Status Security screen:

1. Click **Status** on the SBR-AC1900P Main Menu.

2. Click **Security** from the Status submenu options.

Figure 2: 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 configuration.

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

5. Click **OK**.

6. Click **Status** on the SBR-AC1900P Main Menu.

7. Click **Configuration** from the Status submenu options to display the Status Configuration screen.

8. Click **Reboot**.

9. Log back in using the default username and password.

- Username: **admin**
- Password: **password**

Exit the SBR-AC1900P Web Manager

To log out and close the SBR-AC1900P Web Manager:

■ Click **Logout** located in the upper right corner of the screen above the SBR-AC1900P Main Menu.

Protecting & Monitoring Your Wireless Network

After you have successfully connected the SBR-AC1900P Wi-Fi Router and your wireless devices, you should configure the Wi-Fi Router to protect your wireless network from unwanted and unauthorized access by any wireless devices within range of your wireless network. Although security for the SBR-AC1900P Wi-Fi Router is already configured, you can use the SBR-AC1900P Configuration Manager to tailor the level of security and access that you want to allow on your network.

Prevent Unauthorized Access

Caution: To prevent unauthorized access and configuration to your wireless network, we highly recommend that you immediately change the default user name and password after connecting to the Internet and logging on to the SBR-AC1900P for the first time.

One of the most important recommendations for securing your wireless home network is to change the default administrator password on your SBR-AC1900P 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, it is recommended 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.
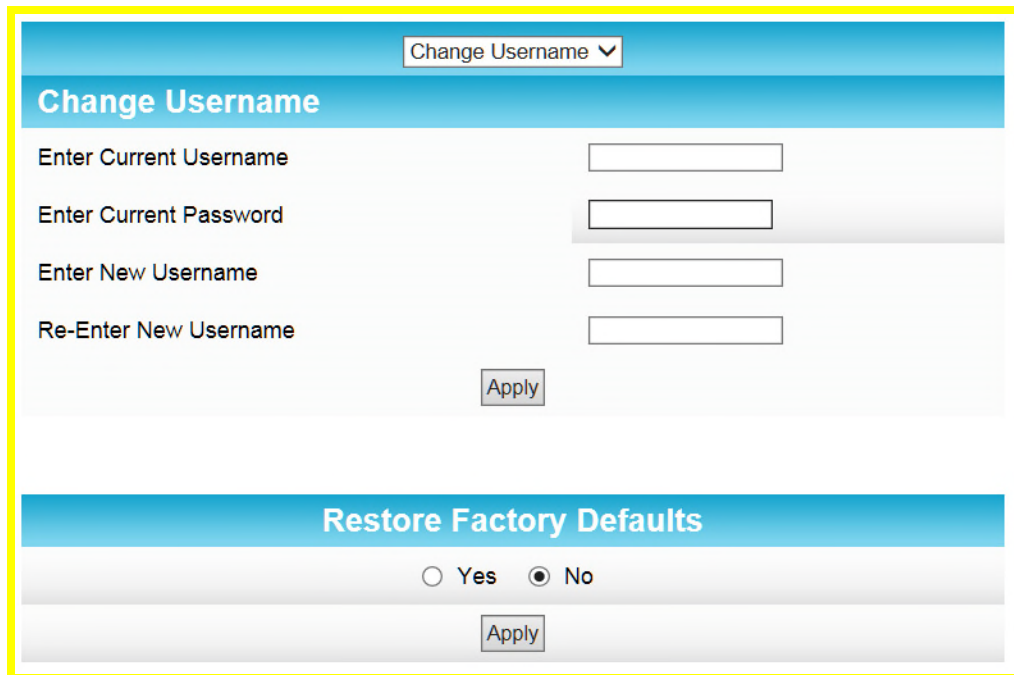- Continue to change your administrator password on a regular basis.

Note: If your service provider supplied the SBR-AC1900P Wi-Fi Router, 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. Log in to the SBR-AC1900P from any web browser on the computer connected to the SBR-AC1900P.
2. Type the SBR-AC1900P Web Manager IP address, `http://192.168.0.1`, in the Address bar and then press **Enter**. The Login screen displays.
3. Type the default username and password as they appear below:
    - Username: **admin**

- Password: **password**

4. Click **Login** to open the SBR-AC1900P Web Manager. The Status Connection screen displays.

5. Click the Status menu button and then click Security to display the Status Security screen.

6. Confirm that Change Username is displayed in the drop-down selection box.

7. Complete each field entry, but note the following:

    - All fields (for example, Current Username & Current Password) are case-sensitive.

        Note: For first time logons, the current username is admin and the current password is password.

    - Make sure **No** is selected under Restore Factory Defaults.

Figure 3:   Change User Name Screen

8. Click **Apply** to update your user name.

9. Click Change Username drop-down arrow to display Change Password.

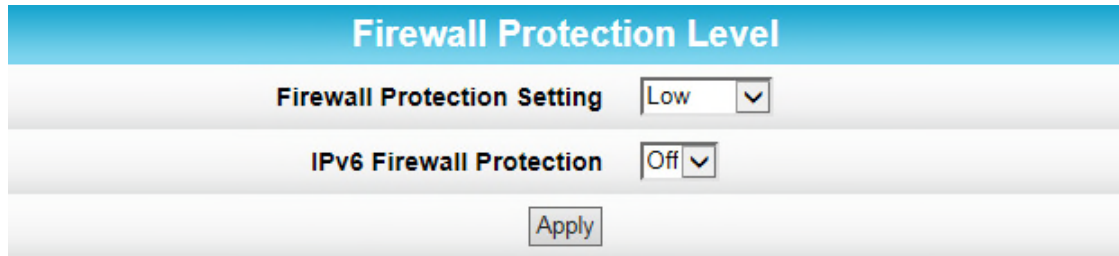

Figure 4: Change User Password Screen

10. 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.
11. Click **Apply** to update your password.

Set Up Firewall Protection

You can set up firewall filters and firewall alert notifications on your wireless home network. You can also block Java Applets, Cookies, ActiveX controls, popup windows, Proxies, and website access. See Protection Level for more information.

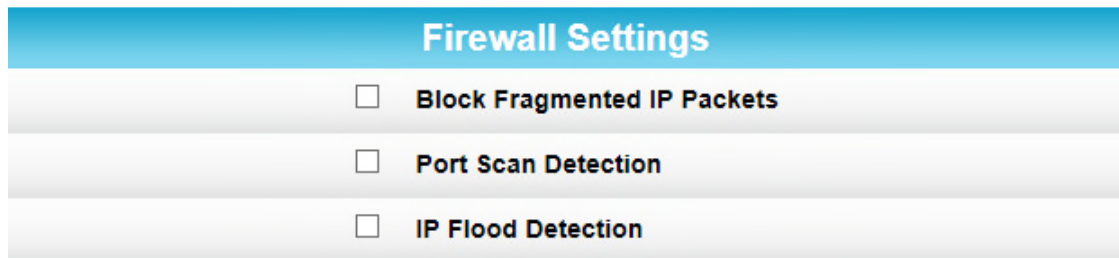To set the firewall protection level:

1. From any screen, click the Firewall-Protection Level menu link or click the Firewall menu button on the SBR-AC1900P Main Menu and then select **Protection Level**.

Firewall Protection Level

Firewall Protection Setting	Low
IPv6 Firewall Protection	Off

Apply
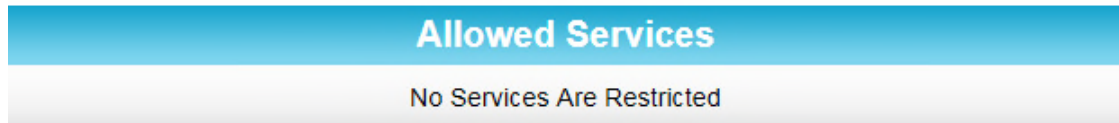
Firewall Settings

☐ Block Fragmented IP Packets

☐ Port Scan Detection

☐ IP Flood Detection

Allowed Services

No Services Are Restricted

2. Click the Firewall Protection Setting drop-down button to select the firewall protection level.

   Possible values:
   - Off
   - Low
   - Medium
   - High

   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.

3. Use the IPv6 Firewall Protection drop-down button to turn firewall protection on or off for IPv6 connections.

4. Select each Web filter that you want to set for the firewall and then click **Apply**.

Set Up Parental Controls

You can set up the following Parental Controls on your home network:

- Allow or block access to specific Internet sites.
- Allow or block access to specific MAC addresses.

■ Set time limitations for computer usage or Internet access.

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

You can also link each user on yoru network to specified rules for login, time-access, and content filtering. See Parental Control for more information.

To set Parental Controls:

1. From any screen, click the Firewall-Parental Control menu link or click the Firewall menu button on the SBR-AC1900P Main Menu and then select **Parental Control**.

2. Click Current Time Zone drop-down button to select your time zone.

3. Select Yes or No to automatically adjust the time for Daylight Saving Time.

4. At the top of the screen, click Create to continue setting up Parental Controls.

5. Enter a name for the user profile that you want to create in the Description field.

6. Enter the 12-digit (hexadecimal) MAC address of the device for which you are creating Parental Controls in the MAC Address field.

7. Enter the web address of the Internet site that you want to block or access.

8. Enter the Starting port number in the Start Port field.

9. Enter the Ending port number in the End Port field.

10. Select the days of the week that you want to allow the selected user to access the Internet.

11. Select the time range that you want to allow the selected user to access the Internet.

12. Select to Allow or Block Internet access for the time and days you set previously.

13. Select On or Off in the Enabled field to enable or disable this Parental Control restriction.

14. Click Apply when done.

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 for more information.

To configure Port Triggers:

1. Click **Advanced** on the SBR-AC1900P Main Menu bar.

2. Click Port Triggers from the Advanced submenu options.

Figure 5:   Advanced Port Triggers Screen

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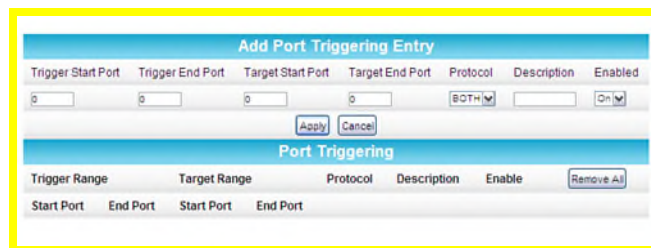

Figure 6:   Create Port Triggers Screen

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 for each additional port trigger that you want to create.

Set Up the DMZ Host

WARNING! The gaming DMZ host is not protected by the SBR-AC1900P <SBEProductType> 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 SBR-AC1900P 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. See DMZ Host for more information.

To create the DMZ Host:

1. Click **Advanced** on the SBR-AC1900P Main Menu bar.

2. Click **DMZ Host** from the Advanced submenu options.

Figure 7:   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**.

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.

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