SURFboard™

High-Speed Cable Modems

SBG6900-AC
DOCSIS 3.0 Consumer Series Wireless Gateway

Features:

- Best in Class Wi-Fi® Performance
- Dual Concurrent Radios with theoretical wireless throughput of close to two Gbps
- High Power MIMO Antennas provide connectivity over Extended distances
- Uninterrupted streaming video
- Lightning speed gaming
- Maintains performance, even while supporting multiple network users
- Includes Beamforming for both 802.11ac and 802.11n based clients for increased Wi-Fi transmission and reception performance
- Automatic radio selection to steer clients with lesser capability, or greater distance from the AP, to the 2.4 GHz radio. With video and higher end devices steered to the 5 GHz radio for improved reception and throughput.
- Intelligent priorities set for different levels of service guarantee. Video streaming uninterrupted by lower priority traffic.
- Dual USB 2.0 ports supporting connected hard drives with SAMBA, and DLNA Media Sharing (it can charge your USB cabled devices as well)

Product Overview

The ARRIS SBG6900-AC Wireless Gateway powers the delivery of today's innovative, ultra-broadband services both in and around the homes.

Using 802.11ac technology, the SBG6900-AC provides consumers with fast and extensible Wi-Fi®. Designed to protect preferred data types and clients based on default settings or customizable preference settings. The SBG6900-AC's advanced feature set includes sophisticated, DOCSIS 3.0 channel bonding and best-in-class RF immunity, which delivers the speed and reliability demanded by today's smart home applications. Equipped with such features as a Wi-Fi pairing button and user-friendly, online diagnostics and configuration, the SBG6900-AC is as easy to setup as it is to use.

ARRIS

Product Highlights

Easy to Setup and Use

• Plug-and-play installation

• Wi-Fi® pairing button for easy Wi-Fi Protected Setup™ (WPS) Wi-Fi connection

• Easy Wi-Fi Network Set-up Wizard

• Default settings for recommended Security and Quality of Service protection supports standard Internet browser software

• Front panel, multicolor LEDs indicate status and simplify troubleshooting, now with a feature to disable for controlling brightness levels

• User-friendly online diagnostics and configuration

Advanced Services Ready

• DOCSIS 3.0

• Channel bonding of up to sixteen downstream and four upstream channels; capable of data rates of over 680 Mbps for Internet connectivity in the received (downstream) data stream and over 100 Mbps in the send (upstream) data stream

• 1 GHz-capable tuner

• Best-in-class RF Immunity, built into SURFboard products since 2006, protects against potential service impacting interference

• Supports both IPv4 and IPv6

• Supports 802.3az Energy Efficient Ethernet and meets Small Networking Equipment energy efficiency requirements

• Compatible with SURFboard RipCurrent Gigabit Network Extenders for transporting Internet signals via the AC Power Lines (requires minimum of 2 external adapters)

• Beamforming support for optimal Wi-Fi® delivery

• Backwards compatible to 802.11a/b/g/n

• Integrated 2.4 GHz 802.11n with support for 256 QAM (802.11ac feature) with support for 256 QAM (802.11ac feature) and 5 GHz 802.11ac Wi-Fi® access point, concurrent radio operation

• 3x3 MIMO antenna arrays offer performance benefits for wireless LAN (WLAN) access points

• Powerful High-gain Wi-Fi® output added for optimized throughput over a greater range

• Four 1GB Ethernet ports enable flexible, high-speed connectivity with Auto Negotiate and Auto MDIX

• Support for Multicast IP services

• Support for multiple Guest SSIDs for segregated networks

• MoCA reject filter ensures care-free interoperation between MoCA and DOCSIS

• Internal power supply eliminates bulky transformers

Reliable and Secure

• WPA/WPA2 Wi-Fi® security

• Advanced firewall with DoS protection and intrusion prevention

• Enhanced security: supports AES traffic encryption

Benefits

• Top of the line Cable Modem Wireless Access Point with best in class wireless throughput, reach, range, and robustness

• Supported by the ARRIS highly rated Consumer Support

SURFboard® SBG6900-AC

GENERAL SPECIFICATIONS

Cable Interface	F-Connector, female 75 Ω
Network Interface	Four one-gigabit (10/100/1000) Ethernet ports
2.4 Wi-Fi Interface	802.11n Wi-Fi (also certified for 802.11a/b/g)
5 GHz Wi-Fi Interface	802.11ac Wi-Fi (also certified for 802.11 a/b/g/n)
USB 2.0	Front and Rear, SAMBA, DLNA Media Server
Dimensions	8.8 (h) x 2.1 (w) x 10.1 (l) in (224 x 54 x 256.5 mm)
Regulatory	RoHS compliant, FCC, UL listed (U.S. and Canada),Industry Canada, Voluntary Compliance for SNE
DOCSIS 3.0	Bonding capability of 16 downstreams and 4 upstreams

Input Power

North America	105 to 125 VAC, 60 Hz
Internal Power Supply	36W/12Vdc
Power Management	802.11e WMM power save/U-APSD (Unscheduled-Automatic Power Save Delivery),802.3az EEE

Environmental

Operating Temperature	32 F to 104 °F (0 °C to 40 °C)
Storage Temperature	–22 °F to 158 °F (–30 °C to 70 °C)
Operating Humidity	5 to 95% R.H. (non-condensing)

DOCSIS Downstream

Modulation	64 or 256 QAM
Bandwidth	Full bandwidth capture window 108 MHz – 1002 MHz
Maximum PHY Rate	DOCSIS: 686.144 Mbps (16 channels) / 42.884 (single channel) @ 256 QAM at 5.36 Msym/s
Symbol Rate	64 QAM 5.057 Msym/s; 256 QAM 5.361 Msym/s
Operating Level Range	–15 to 15 dBmV
Frequency Range	108 – 1002 MHz (edge to edge)
Frequency Plans	DOCSIS Annex B
Security	DOCSIS 3.0 Security (BPI+, EAE, SSD)
Provisioning	IPv4 IPv6 (dual stack) DS Lite

DOCSIS Upstream

Modulation	QPSK and 8, 16, 32, 64, 128, 256 QAM
Maximum PHY Rate @256 QAM at 6.4 MHz	122.8 Mbps: 4 channels 30.72 Mbps: single channel
Channel Width	200 kHz, 400 kHz, 800 kHz, 1.6 MHz, 3.2 MHz, 6.4 MHz
Symbol Rates	160, 320, 640, 1280, 2560, 5120 ksym/s
Frequency Range	5–42 MHz (edge to edge)

GENERAL SPECIFICATIONS (continued)

Compatibility

PC	Windows 7, Windows 8,Windows 8.1, Windows 10 (older versions of Windows, although not specifically supported, will work with this cable modem), UNIX, Linux®
Macintosh	Power PC or later; OS 10 or higher
Home Networking	Ethernet router and wireless access point

Management and Configuration

GUI	English, HTML based GUI, Google Translate for easy Translation

Network

Gateway	DHCP, NAT, DNS, VPN tunneling, GRE tunneling; static routing and dynamic IP routing (RIPv1, RIPv2); SPI firewall with DoS protection and intrusion prevention; port, packet,and URL keyword filtering; full suite of ALGs; UPnP IGD 1.0; L2TPv3, L2VPN, eRouter, DLNA
WLAN	802.11a/b/g/n/ac Wi-Fi, WDS bridging, 802.11e WMM admission control, QoS, QoS per Interface, Beamforming, Traffic Scheduling, Radio Steering
WLAN SSIDs	up to 8 per radio
WLAN Spatial Streams	6
Radios	5 GHz, +20dBm (MCS9) HPA*, 3x3 MIMO antenna array 2.4 GHz, +24dBm (MCS7) and +22dBm (MCS9) HPA*, 3x3 MIMO antenna array
DLNA = 16 Nodes	175 Mbps MAC layer throughput
Security	Default = security enabled WPA2, WPA-PSK, WEP 64/128, WPA, TKIP, AES, 802.1x,802.11i (pre-authentication)
Wi-Fi Pairing	WPS 2.0
Regulatory Domains	US, Canada

Management and Configuration

GUI	English, HTML based GUI, Google Translate for easy Translation

Memory

RAM	256MB DDR3
Flash	32 MB

*When combined with the antenna, gain will meet, but not exceed, FCC constraints on per-channel power.

All features, functionality, and other product specifications are subject to change without notice or obligation.

Wi-Fi throughput, reach, and range are factors that are greatly impacted by the operating environment, and the connected client capabilities.

For information on additional SURFboard products please visit www.SURFboard.com

For product support please visit www.arris.com/consumers

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