State-of-the-art wireless networking technology in a cost-effective, conveniently-sized package.

Motorola’s SBG901 SURFboard Wireless Cable Modern Gateway combines an industry-leading cable modem, an IEEE 802.11b/g wireless access point, and an advanced firewall into one compact product. It’s the perfect networking solution for the home, home office, or small business, allowing users to create a custom network to share a single broadband connection, files, networked printers, and peripherals without wires. Cost-effective and efficient, the SBG901 enables users to maximize the potential of their existing resources. The SBG901 also offers easily managed, enhanced network security for both wired and wireless users.

The SBG901’s new User GUI enables an easy set up and ease of use for the operator.

Designed for Service Assurance, the SBG901 is compatible with Motorola’s NBBS Device Management Platform and with Motorola’s eCare for remote access customer component troubleshooting and configuration, eliminating unnecessary truck rolls.

**Integrated DOCSIS 2.0 Cable Modem**
The integrated Motorola SURFboard cable modem incorporates the newest DOCSIS 2.0 silicon for improved performance over legacy DOCSIS products, design enhancements for a more environmentally friendly product, and feature evolution to meet the changing needs of MSO and end users. The Motorola SBG901 is the ideal device for expanding an operator’s home network service offerings.

**Wireless LAN Mobility**
The Motorola SBG901 merges the advantages of the SURFboard cable modem with the mobility of a wireless LAN (WLAN). It includes an integrated IEEE 802.11b/g Wi-Fi access point that allows users (with optional accessories) to roam around the home or small business and remain connected to the network. Now subscribers can place computers and peripherals where they’re convenient, not just where there’s an available connection.

The SBG901’s internal antennas streamline the look and feel of the unit while eliminating the possibility of breakage.

**Configurable Output Power**
The SBG901 offers an array of competitive advantages by providing superior transmission power with a close to omni-directional antenna, which delivers excellent coverage for the user. The SBG901’s improved range has increased user data throughput wireless data range of greater than 21 Mbps. The SBG901’s adjustable output power can be configured, allowing just the right amount of signal to fill the required area without interfering with homes or businesses.

**Commercial-Class Security**
Finally, Motorola’s SBG901 is secure. It includes an advanced firewall that helps protect the network from hackers and other outside interference while allowing desired data to pass through with ease. The firewall embedded in the gateway provides commercial-class protection through built-in denial-of-service attack prevention, stateful packet inspection, and intrusion detection. The firewall also allows VPN tunnel protocols to pass through, hiding the network from the outside world.
User-friendly Installation
Motorola’s integrated SBG901 includes stateful firewall protection and WEP (Wired Equivalency Privacy). The SBG901 is also equipped with a built-in, easy-to-use Motorola Wi-Fi installation wizard – a ‘zero-touch’ auto Wi-Fi provisioning tool – which seamlessly configures a secure Wi-Fi connection on a user’s machine. When the Wi-Fi wizard is finished, a secure WPA (Wi-Fi Protected Access) encrypted wireless connection is established to the gateway, protecting the user’s machine from hacker attacks. Motorola’s embedded software enables Wi-Fi deployments with high levels of quality, reliability, and customer satisfaction, with low operational and support costs for the MSO.

Service Assurance
Supporting the Wi-Fi home network is a new challenge for the cable industry. As the leading worldwide provider of DOCSIS® products, Motorola is helping ease cable operators into Wi-Fi delivery. By combining the highest-performing and lowest cost of ownership modems in the industry, with easy-to-use Wi-Fi installation and pairing tools as well as advanced remote management features, the SBG901 is offering an all-in-one approach to broadband home networking. In addition, Motorola’s field-proven NBBS device management software platform provides the MSO with intelligent management, auto-provisioning, and remote management features to improve accuracy, efficiency, and customer satisfaction. These value-adding features enable remote device administration for improved accuracy and reduced support costs. The SBG901 is compatible with Motorola’s NBBS scalable, carrier-grade software platform that enables cable operators to remotely access, configure, monitor, and troubleshoot their full portfolio of consumer devices, home networks, and services.
The SBG901 Wireless Cable Modem Gateway delivers:

- The speed of a DOCSIS 2.0 cable modem
- The mobility of a wireless LAN and the simplicity of “no new wires” technology
- The security of a firewall

Three networking products in one

Integrated DOCSIS® 2.0 SURFboard cable modem, router with one 10/100 Fast Ethernet port and auto-MDIX cross-over cable detection, and IEEE 802.11b/g wireless access point

Easy setup

An included CD-ROM provides an Installation Assistant, a Wireless Security Set Up Wizard, and multi-lingual product documents

Web-based management

Manage data and wireless network using a Web-based interface

Advanced security

Built-in firewall with stateful Packet Inspection (SPI), intrusion detection, and Denial of Service (DoS) attack prevention

Extensible networking

Network up to 253 desktop computers, laptops, and other Ethernet or wireless devices to create a full Class C network

Enterprise-capable

VPN pass-through (IPSec, PPTP, L2TP)

The SBG901 SURFboard Wireless Cable Modem Gateway

**STANDARDS COMPLIANCE**

- IEEE 802.11b/g, 802.11b DSSS, 802.11b/g OFDM, 802 1d, 802.3, 802.3u, 802.31 CPE
- Data: DOCSIS 2.0
- Wireless: Wi-Fi Alliance Certified

**MODULATION**

8***, 16, 32***, 64***, 128**** QAM or QPSK

**MAXIMUM DATA RATE**

30 Mbps

**BANDWIDTH**

200 kHz, 400 kHz, 800 kHz, 1.6 MHz, 3.2 MHz, 6.44 MHz

**SYMBOL RATES**

160, 320, 640, 1280, and 2560, and 5120 ksym/s

**OPERATING LEVEL RANGE**

A-TDMA: 8 to 54 dBmV (32 and 64 QAM); 8 to 55 dBmV (8 and 16 QAM); 8 to 58 dBmV (QPSK)

S-CDMA: 8 to 53 dBmV (all modulations)

**OUTPUT IMPEDANCE**

75 Ω (nominal)

**FREQUENCY RANGE**

DOCSIS: 5 to 42 MHz (edge to edge)

**MODULATION**

64 or 256 QAM

**MAXIMUM DATA RATE**

38 Mbps

**BANDWIDTH**

DOCSIS 6 MHz

**SYMBOL RATES**

64 QAM 5.069 Msym/s, 256 QAM 5.361 Msym/s

**OPERATING LEVEL RANGE**

–16 to 15 dBmV

**INPUT IMPEDANCE**

75 Ω (nominal)

**OUTPUT POWER**

17 dBm (EIRP) in 802.11 g Mode; 20 dBm (EIRP) in 802.11b Mode

**RECEIVE SENSITIVITY**

–74 dBm at 54 Mbps

**TRANSMIT POWER**

17 dBm (EIRP) in 802.11 g Mode; 20 dBm (EIRP) in 802.11b Mode

**FREQUENCY RANGE**

88 to 860 MHz

**WLAN RF CENTER FREQUENCY RANGE**

North America: 2.412 GHz to 2.462 GHz

**WIRELESS LAN**

IEEE 802.11b/g Wi-Fi

**NETWORK MANAGEMENT**

SNMP v1, v2c, v3; IP v4 addressing; LAN-side DHCP server; NAT, NAPT

**TRANSMIT POWER**

17 dBm (EIRP) in 802.11 g Mode; 20 dBm (EIRP) in 802.11b Mode

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Wireless device and its corresponding networks supportable by Motorola’s NIBBS Management System

**802.11i SECURITY**

WEP-64/128, WPA-PSK, WPA, WPA2, TKIP, AES, 802.1x, 802.11i (pre-authentication)

**DEVICE PAIRING**

User-friendly Wi-Fi protected setup (WPS) for secure WPS compatible device pairing

* Receiver sensitivity indicated under ideal conditions.
DATA SHEET
SBG901 SURFboard Wireless Cable Modem Gateway

Network, cont.

REGULATORY DOMAINS
To include US, Canada, ETSI, World

TRANSMIT POWER OUTPUT
IEEE 802.11b 20 dBm (EIRP)
IEEE 802.11g 17 dBm (EIRP)

RECEIVER SENSITIVITY
-74 dBm at 54 Mbps

Electrical

INPUT VOLTAGE RANGE
100 to 240 VAC, 50 to 60 Hz

POWER CONSUMPTION
9 W (nominal)

Physical

TEMPERATURE
Operating 32 °F to 104 °F (0 °C to 40 °C),
-150 to 10,000 ft
Storage -22 °F to 158 °F
(-30 °C to 70 °C)

HUMIDITY
5% to 95% (non-condensing)

DIMENSIONS
5.7 in H x 5.7 in W x 1.5 in D
(146.0 mm x 146.0 mm x 38.0 mm)

WEIGHT
15 oz (0.42 kg) (unit only)

Compatibility

PLATFORM
PC 90496, Pentium, or later; Windows® Vista ™, 2000, or XP; or Linux with Ethernet connection
Macintosh® Power PC or later; OS 9 or higher; Ethernet connection
UNIX® Ethernet connection
Home Networking Ethernet router or wireless access point

Environmental

Power supply meets H.R.6, EnergyStar, and CoC (European Code of Conduct) requirements
100% recyclable packaging
Unit meets CoC requirements for Energy Consumption of Broadband Equipment
Unit is RoHS compliant (lead free)

1 Certain features may not be activated by your service provider, and/or their network settings may limit the feature’s functionality. Additionally, certain features may require a subscription. Contact your service provider for details. All features, functionality, and other product specifications are subject to change without notice or obligation. Motorola shall not be liable for, and expressly disclaims, any direct or indirect liabilities, damages, losses, claims, demands, actions, causes of action, risks, or harms arising from or related to the services provided through this equipment. Important: Be aware that you will not be able to make any calls using this VoIP device if your broadband connection is not functioning properly.

2 Actual speeds will vary, and are often less than the maximum possible. Upload and download speeds are affected by several factors, including, but not limited to, network traffic and services offered by your cable operator or broadband service provider, computer equipment, type of server, number of connections to server, and availability of Internet routers.

3 Actual speeds will vary. Maximum speeds are only attainable with A-TDMA or S-CDMA technology.

4 Older versions of Windows, although not specifically supported, will work with this cable modem.

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