



# SBG900

## SURFboard® Wireless Cable Modem

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

### 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

Installation Wizard makes modem and wireless setup fast and easy

### 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<sup>2</sup> to create a full Class C network

### Enterprise-capable

VPN pass-through (IPSec, PPTP, L2TP)

Using the latest DOCSIS® 2.0 Advanced Time Division Multiple Access (A-TDMA) and Synchronous Code Division Multiple Access (S-CDMA) technology, Motorola's SBG900 SURFboard Wireless Cable Modem 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, and networked printers and peripherals, with or without wires. Cost-effective and efficient, the SBG900 eliminates the need for three separate products and enables users to maximize the potential of their existing resources. The SBG900 also offers enhanced network security for both wired and wireless users.

### Integrated DOCSIS 2.0 Cable Modem

The integrated Motorola SURFboard cable modem incorporates the latest DOCSIS 2.0 A-TDMA and S-CDMA technologies to provide up to three times greater upstream capacity than DOCSIS 1.0/1.1 systems. Packed with power, the cable modem is interoperable and backward compatible with DOCSIS 1.0 and 1.1 for a fast and timely transition—operators can deploy today without a service interruption. The Motorola SBG900 is flexible, allowing operators to maximize their current infrastructure investments and also offer additional cost-effective services, all at the same time.

### Wireless LAN Mobility

The Motorola SBG900 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.

### Configurable Output Power

The SBG900 offers an array of competitive advantages by providing superior transmission power with a high-gain antenna. The SBG900's adjustable output power can be configured, allowing just the right amount of signal to fill the required area without bleed-over to other homes or businesses.

### Commercial-Class Security

Finally, Motorola's SBG900 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.

The SBG900 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; and the security of a firewall.

## Specifications



### LED Indicators

Front-panel LEDs (Power, Receive, Send, Online, PC Activity, and Wireless) make monitoring system activity fast and easy.



### WIRELESS

Standards Compliance	
IEEE	802.11b/g, 802.11b DSSS, 802.11b/g OFDM, 802.1d, 802.3, 802.3u, 802.31
Other	DOCSIS 2.0, CableHome® 1.0
RF Center Frequency Range	
North America	2.412 GHz to 2.462 GHz
Japan	2.412 GHz to 2.4835 GHz
Data Rate and Modulation Types	
	1 Mbit/s DBPSK; 2 Mbit/s DQP SK; 5.5 Mbit/s, 11 Mbit/s CCK; 6 Mbit/s, 9 Mbit/s, 12 Mbit/s, 18 Mbit/s, 24 Mbit/s, 36 Mbit/s, 48 Mbit/s, 54 Mbit/s OFDM
Number of channels	
	Europe (13), Spain (2), France (4), US (11), Japan (14)
Transmit Power	
	17 dBm (EIRP)
Receive Sensitivity	
	-65 dBm at 54 Mbps

### ROUTER

Network Management	
	SNMP v1, v2c, v3; IP v4 addressing; LAN-side DHCP server; NAT, NAPT
Interfaces	
Cable interface	F-connector, female, 75 W
CPE wired interface	USB 1.1, 10/100 Fast Ethernet (auto-sensing)
CPE wireless interface	802.11b/g
Data protocol	TCP/IP

### DOWNSTREAM

Modulation	
	64 or 256 QAM
Maximum Data Rate <sup>1</sup>	
	38 Mbps
Bandwidth	
	6 MHz
Symbol Rates	
	64 QAM 5.069 Msym/s, 256 QAM 5.361 Msym/s
Operating Level Range	
	-15 to 15 dBmV
Input Impedance	
	75 Ω (nominal)
Frequency Range	
	88 to 860 MHz

### UPSTREAM

Modulation	
	8***, 16, 32***, 64***, 128**** QAM or QPSK
Maximum Data Rate <sup>3</sup>	
	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 51204 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	
	5 to 42 MHz (edge to edge)

### SECURITY

Encryption	SSID, WPA, 64-bit and 128-bit WEP
Firewall	Denial-of-service (DOS) attack prevention, stateful packet inspection, intrusion detection, DMZ, MAC filtering, security event logging, radius

### ELECTRICAL

Input Voltage Range	100 to 240 VAC, 50 to 60 Hz
Power Consumption	9 W (nominal), CEC-compliant

### PHYSICAL

Temperature	
Operating	32 °F to 104 °F (0 °C to 40 °C), -150 to 10,000 ft
Storage	-22 °F to 176 °F (-30 °C to 80 °C)
Humidity	
	5% to 95% (non-condensing)
Dimensions	
Without antenna	6.7 in H x 1.8 in W x 5.9 in L (17.0 cm x 4.6 cm x 15.0 cm)
With antenna	8.7 in H x 1.8 in W x 5.9 in L (22.1 cm x 4.6 cm x 15.0 cm)
Weight	
	15 oz (0.42 kg) (unit only)

### COMPATIBILITY

PC	80486, Pentium, or later; Windows® Vista, 2000, or XP or Linux with Ethernet connection <sup>5</sup>
Macintosh	Power PC or later; OS 8 or later; Ethernet connection
UNIX	Ethernet connection

Specifications are subject to change without notice.

\*\*\* With A-TDMA or S-CDMA enabled CMTS  
\*\*\*\* With S-CDMA enabled CMTS

<sup>1</sup> 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 router(s).

<sup>2</sup> Check with your local cable operator to determine the number of connections allowed and associated service charges.

<sup>3</sup> Actual speeds will vary. Maximum speeds of 30 Mbps are only attainable with A-TDMA or S-CDMA technology.

<sup>4</sup> With A-TDMA- or S-CDMA-enabled CMTS.

<sup>5</sup> Older versions of Windows, although not specifically supported, will work with this cable modem.



Motorola, Inc., 101 Tournament Drive, Horsham, Pennsylvania 19044 U.S.A. [www.motorola.com](http://www.motorola.com)

MOTOROLA, the Stylized M Logo, and SURFboard are registered in the U.S. Patent and Trademark Office. DOCSIS and CableHome are registered trademarks of Cable Laboratories, Inc. Wi-Fi and the Wi-Fi Alliance logo are registered marks of the Wi-Fi Alliance. All other product or service names are the property of their respective owners. © Motorola, Inc. 2009. All rights reserved.

