SBG901

SURFboard® Wireless Cable Modem Gateway

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

Motorola's SBG901 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, 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 evolvement 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[2]. 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.

Internal Antennas

Streamlines look and feel.

Eliminates breakage.

LED Indicators

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

Wireless Pairing Button

Easy connection to devices supporting this feature.

ECOMOTO™

Motorola Cares for the Environment
Motorola believes in "going green" — we have a global commitment to sustaining the environment. Motorola has been working for years to continually improve our environmental profile. We are in step with our customers and their increasing interest in partnering with a company that will help them reduce their carbon footprint, while offering compelling products that will help them grow their eco-conscious customer base.

Motorola designed the SBG901 to minimize its impact on the environment
Motorola's modems comply with international environmental and energy efficient standards, including ENERGY STAR Qualified power supplies, European Code of Conduct compliance for both the power supply and modem, and lead-free circuit boards as certified by RoHS compliance.

Packaging
The SBG901 uses Motorola's new, environmentally friendly package design: our modems ship in single pack boxes. By both eliminating the suspension plastic and reducing the box size, Motorola is helping to reduce the environmental impact of the SBG901. As an even more impactful step, operators may choose to receive the products in a bulk package, thus reducing the extra waste and transport weight associated with single packages. Motorola's bulk packaging solutions eliminate excess installation CDs and USB cables. Additionally, customers have the option to reduce the number of cables shipped with each unit. The packaging is 100% recyclable. Our packaging is now labeled with standard recycling codes (such as ♲) to make it easier for our customers to identify recycling opportunities.

General

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[2] to create a full Class C network

Enterprise-capable
VPN pass-through (IPSec, PPTP, L2TP)

STANDARDS COMPLIANCE

IEEE	802.11b/g, 802.11b DSSS, 802.11b/g OFDM, 802.1d, 802.3, 802.3u, 802.31CPE
Data	DOCSIS 2.0
Wireless	Wi-Fi Alliance Certified

WLAN RF CENTER FREQUENCY RANGE

North America	2.412 GHz to 2.462 GHz

DATA RATE AND MODULATION TYPES
1 Mbit/s DBPSK; 2 Mbit/s DQPSK; 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 OFDMOptions

INTERFACES

Cable interface	F-connector, female, 75 Ω
CPE wired interface	10/100 Fast Ethernet (auto-sensing)
CPE wireless interface	802.11b/g
Data protocol	TCP/IP

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

RECEIVE SENSITIVITY
−74 dBm at 54 Mbps

Downstream

MODULATION
64 or 256 QAM

MAXIMUM DATA RATE[3]
DOCSIS ≤ 38 Mbps

BANDWIDTH
DOCSIS 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[3]
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[4]

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)

Network

GATEWAY
DHCP, NAT, VPN tunneling; static routing and dynamic IP routing; SPI firewall with DoS protection and intrusion prevention; port, packet, and URL keyword filtering; full suite of ALGs; UPnP IGD 1.0

WIRELESS LAN
802.11b/g Wi-Fi

NETWORK MANAGEMENT
SNMP v1, v2c, v3, IP v6 addressing; LAN-side DHCP server; NAT, NAPT
Wireless device and its corresponding networks supportable by Motorola's NBBS 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

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

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[4]
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)

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