



# SB5101NJ SURFboard® Cable Modem

## HIGHLIGHTS

Compatible with Windows®, Macintosh®, and Unix® computers

DOCSIS® 2.0 compliant

10/100 Base-T Ethernet (RJ-45) data port (Ethernet cable included)

Front-panel LEDs indicate status and simplify troubleshooting

User-friendly online diagnostics page

Supports standard Internet software

Supports up to 63 computers on a single Internet connection (additional networking hardware required)

Remote configuration and monitoring from the headend using SNMP and TFTP

Stylish and space-saving enclosure

Multi-language User Guide via World Wide Web

Prepare to experience the Internet without limits and put the power of broadband to work for you with a Motorola cable modem

Easy to use. The SB5101NJ Motorola SURFboard Cable Modem unlocks the potential of offering high-speed data service to consumers. Consumers can get their favorite Web sites quickly, download graphics with unbelievable ease, and enjoy real-time interactive PC gaming and expand console gaming with broadband Internet access from the cable modem market leader—Motorola.

Powerful, flexible, and easy to install and use, Motorola's next-generation SB5101NJ cable modem maximizes your current infrastructure investment while allowing you to offer new value-added services to your customers. Incorporating DOCSIS 2.0 technology, which provides up to three times the upstream capacity of DOCSIS 1.0 or 1.1, the SB5101NJ allows your customers to surf the Internet at speeds as high as 30 Mbps. For a smooth transition, the SB5101NJ is backwards-compatible with DOCSIS 1.0 and 1.1.

The Motorola SB5101NJ cable modem is always on and always connected, enabling quick and easy high-speed Internet services for surfing, downloading, working, shopping, gaming and e-mailing.

Installation couldn't be simpler—just connect the coaxial cable to the SB5101NJ using an existing cable outlet, then connect the cable modem to a PC via Ethernet. Troubleshooting is a breeze, too, thanks to front-panel status indicator LEDs and an online diagnostics page.

Motorola cable modems provide a historically reliable platform. The SB5101NJ has an annualized field failure rate of less than 0.3%. With the power and speed of Motorola's SB5101NJ cable modem, easy and reliable high-speed Internet access is always at your customers' fingertips.



# Specifications

In addition to delivering high-quality gateways, Motorola is also committed to helping its customers reduce their environmental footprint. We are improving the environmental profile of our products and helping our customers to be greener when they use our products.

Motorola has a global commitment to be part of the solution to climate change, and has worked for years to continually improve our environmental profile, such as running our operations in a safe and energy-efficient manner. Motorola's SURFboard portfolio of customer premises equipment (CPE) helps subscribers lower their energy consumption, thereby helping them reduce their carbon footprint. We are in step with our customers and their increasing interest in partnering with a company that helps them reduce their environmental impact, while offering compelling products to help them grow their eco-conscious customer base.

Motorola is working to make products with a reduced environmental impact. In the development of our next-generation SURFboard portfolio of CPE, we have focused on energy efficiency, lead-free manufacturing and packaging / recycling enhancements. Depending on models and market, our units are ENERGY STAR qualified and compliant with European Code of Conduct regulations. In addition, the devices and power supplies are lead-free and RoHS compliant. Finally, all new SURFboard CPE use environmentally friendly package designs. The CPE are available in single bulk pack boxes that eliminate the use of suspension plastic and reduce box size, thereby reducing waste and transport costs. Motorola's SURFboard modem's packaging is 100% recyclable and is marked with standard recycling codes to make it easier for our customers to identify recycling opportunities.

GENERAL	
Cable Interface	F-Connector, female, 75 Ω
CPE Network Interface	10/100 Base-T Ethernet
Data Protocol	TCP/IP
Dimensions	6.2 in H x 2.3 in W x 6.0 in D (15.75 cm x 5.84 cm x 15.24 cm)
Power	9 W (nominal)

INPUT POWER	
Input Power	90 to 110 VAC, 50 to 60 Hz

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)
Operating Altitude	-200 feet to 10,000 feet AMSL
Operating Humidity	5% to 95%
Power supply meets H.R.6 requirements	
100% recyclable packaging	
Unit is RoHS compliant (lead free)	

DOWNSTREAM	
Modulation	64 or 256 QAM
Maximum Data Rate*	DOCSIS ≤ 38 Mbps
Bandwidth	DOCSIS 6 MHz
Symbol Rate	
DOCSIS	64 QAM 5.057 Msym/s, 256 QAM 5.361 Msym/s
Operating Level Range	-15 to +15 dBmV
Input Impedance	75 Ω (nominal)
Frequency Range	88 to 862 MHz (edge to edge)

UPSTREAM	
Modulation	8***, 16, 32***, 64***, 128**** QAM or QPSK
Maximum Channel Rate**	30 Mbps
Bandwidth	200 kHz, 400 kHz, 800 kHz, 1.6 MHz, 3.2 MHz, 6.4*** MHz
Symbol Rates	160, 320, 640, 1280 and 2560 and 5120*** ksym/s
Operating Level Range	
A-TDMA	+8 to +54 dBmV (32 QAM, 64 QAM) +8 to +55 dBmV (8 QAM, 16 QAM)
S-CDMA	+8 to +58 dBmV (QPSK) +8 to +53 dBmV (all modulations)
Output Impedance	75 Ω (nominal)
Frequency Range	5 to 65 MHz (edge to edge)

COMPATIBILITY	
PC	90496, Pentium, or later; Windows Vista™, 2000, or XP (older versions of Windows, although not specifically supported, will work with this cable modem)
Linux®	Ethernet connection
Macintosh®	Power PC or later; OS 9 or higher; Ethernet connection
UNIX®	Ethernet connection

\* Actual speeds will vary, and are often less than the maximum possible. Data transmission speed is approximate and depends on the configuration and capacity of your network, as well as the amount of traffic on the network.  
\*\* Actual data throughput will be less due to physical layer overhead (error correction coding, burst preamble, and guard interval).  
\*\*\* With A-TDMA- or S-CDMA-enabled CMTS.  
\*\*\*\* With S-CDMA-enabled CMTS.

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.



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