SPECIFICATION SHEET

MOTOROLA

SBV5121e VoIP Cable Modem

IP telephony converges with cable data service in one convenient package

HIGHLIGHTS

Easy to use and simple to set up

Plug-and-play installation

Front-panel, easy-to-read operational status LEDs for power, data activity, and voice status

Intuitive, built-in Web-based diagnostics for quick and easy troubleshooting

Up to two lines (RJ-11) of full-featured telephone service

10/100Base-T Ethernet (RJ-45) or a USB port for high-speed data access

Support for CLASS services (caller ID, call waiting, three-way calling, etc.)

Automatic fax modem processing

Top-mounted standby button disables both the Ethernet and USB ports for increased data security

SNMP and TFTP support for remote configuration and monitoring

EuroDOCSIS 2.0 and EuroPacketCable 1.0 certified; interoperable with EuroPacketCable 1.5

Provides a "hybrid" functionality that enables operation in either a DOCSIS® or EuroDOCSIS network

Network Call Signaling (NCS) and Session Initiation Protocol (SIP) support

Configurable to meet multiple telco market standards (ETSI harmonized impedence, 600 Ω)

G.711 and other low-rate vocoder support

DC powering via transformer or uninterruptible power supply

Support for 16 Service IDs (SIDs) allows for future enhanced features

Unlock the potential of telephone service over your broadband cable connection.

The next-generation Motorola SBV5121e voice-over-IP (VoIP) cable modem is based on Motorola's proven cable modem experience. By using industry standard signaling protocols, the SBV5121e provides high-speed Internet access and up to two lines of primary line VoIP telephone service over cable's broadband connection to the home. The SBV5121e's two telephone lines are terminated in two RJ-11 connectors. In addition, its integrated cable modem connects to a computer through either a 10/100Base-T (RJ-45) Ethernet or a USB data port.

The SBV5121e VoIP Cable Modem is an intelligent way to communicate converging voice and data on one network. The SBV5121e enables:

- One infrastructure for communication services
- One bill for voice and data services
- Simultaneous use of phone lines and high-speed data services
- Support for a variety of CLASS features provided today by the telephone company (caller ID, call waiting, call forwarding, etc.)

As part of Motorola's broadband family of telephony products, the SBV5121e combines voice and data on one network, in one product. By combining multiple services in one unit, consumers can enjoy an efficient solution that offers many advantages over competing technologies.

SBV5121e VoIP Cable Modem

GENERAL SPECIFICATIONS

Cable Interface	F-connector, female, 75 Ω
Network Interface	USB, Ethernet 10/100Base-T
Data Protocol	TCP/IP
Dimensions	20.09 cm (7.9 in) H x 15.93 cm (6.3 in) D x 6.65 (2.6 in) cm W
Power	9 W (nominal)
Input Power	100 to 240 VAC, 50 to 60 Hz
Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage Temperature	–30 °C to 80 °C (–22 °F to 176 °F)
Operating Humidity	0 to 95% R.H. (non-condensing)
Compliance	ROHS and CE compliant

DOWNSTREAM

Modulation	64 or 256 QAM
Maximum Data Rate*	Up to 51 Mbps
Bandwidth	8 MHz
Symbol Rates	64 QAM 6.952 Msym/s, 256 QAM 6.952 Msym/s
Operating Level Range	64 QAM 43 to 73 dBµV, 256 QAM 47 to 77 dBµV
Frequency Range	108 to 860 MHz
Input Impedance	75 Ω (nominal)

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, 2560, and 5120*** ksym/s
Operating Level Range	
A-TDMA	68 to 114 dBµV (32 QAM, 64 QAM), 68 to 115 dBµV (8 QAM, 16 QAM) 68 to 118 dBµV (QPSK)
S-CDMA	68 to 113 dBµV (all modulations)
Output Impedance	75 Ω (nominal)
Frequency Range	5 to 65 MHz (edge to edge)

TELEPHONY

Line Type	2-wire
Hook State Signaling	Loop start
Maximum Line Length (one-way)	500 ft (AWG 26/0.4 mm @ 65 °C)
DTMF Level Sensitivity Range	0 to –20 dBm
Speech Coding	64 kbps PCM, µ-law or A-law companding; supports G.711 and other low-rate vocoders
Line Termination	Configurable based on market needs
Loss Plan	Receive (D/A) 11 dB; transmit (A/D) 4 dB (configurable based on market needs)
Loss Plan Tolerance (one-way)	±1 dB
60/50 Hz Loss	>20 dB (referenced to off-hook loss at 1004 Hz)
Ringing Wave Form	Quasi-trapezoidal
Ringing Crest Factor	1.2<CF<1.6
Ring Trip (maximum)	200 mS with 300 W termination

*When comparing download speeds with a traditional 28.8k analog modem. 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 service, number of connections to server, and availability of Internet router(s).

**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 Cable Modem Termination System (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.

Your service provider, not Motorola, is responsible for the provision of Voice-over-IP (VoIP) telephony services through this equipment. 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 or you lose electrical power.

MOTOROLA

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