

SBV5120

VoIP CABLE MODEM



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

The next-generation Motorola SBV5120 Voice-over-IP (VoIP) cable modem is based on Motorola's proven cable modem experience. By using industry standard signaling protocols, the SBV5120 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 SBV5120's two telephone lines are terminated in two RJ-11 connectors. In addition, its integrated cable modem connects to a computer through either a 10/100 Base-T (RJ-45) Ethernet or a USB data port.

The SBV5120 VoIP Cable Modem is an intelligent way to communicate converging voice and data on one network. The SBV5120 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 SBV5120 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.

SPECIFICATION SHEET

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
- 10/100 Base-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
- DOCSIS® 2.0 and PacketCable™ 1.0 certified; interoperable with DOCSIS 1.0 and 1.1 and compatible with PacketCable 1.5
- Network Call Signaling (NCS) and Session Initiation Protocol (SIP) support
- Configurable to meet multiple telco market standards (ETSI harmonized impedance, 600 Ohms)

- G.711 and other low-rate vocoder support
- DC powering via transformer or uninterruptible power supply
- Lithium-ion battery back-up (optional)
- Support for 16 Service IDs (SIDs) allows for future enhanced features



SBV5120 VoIP Cable Modem

GENERAL SPECIFICATIONS

Cable interface	F-connector, female, 75 Ω
Network interface	USB, Ethernet 10/100Base-T
Data protocol	TCP/IP
Dimensions	7.91" (20.09 cm) H x 6.27" (15.93 cm) D x 2.62" (6.65 cm) W
Power	9W (nominal)
Input power	105 to 125VAC, 60 Hz North America; 100 to 240 VAC, 50 to 60 Hz outside North America
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)

DOWNSTREAM

Modulation	64 or 256 QAM
Maximum data rate*	38 Mbps (256 QAM at 5.361 Msym/s)
Bandwidth	6 MHz
Symbol rates	64 QAM 5.069 Msym/s, 256 QAM 5.361 Msym/s
Operating level range	-15 to 15 dBmV
Frequency range	88 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 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) 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)

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 and -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) 4 dB; transmit (A/D) 2 dB (configurable based on market needs)
Loss plan tolerance (one-way)	\pm 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

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*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 and are not using Motorola's PB1000 battery back-up.