SURFboard® SBV5220

Digital Voice Modem with Integrated Battery Backup

IP telephony converges with cable data service in one convenient package.

Highlights

Plug-and-play installation

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

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

Up to two lines of full-featured telephone service

High-speed 10/100 Ethernet (RJ-45) and USB data access

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

Automatic fax modem processing

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

DOCSIS® 2.0- and PacketCable™ 1.0-certified
Interoperable with DOCSIS 1.0 and 1.1 and compatible with PacketCable 1.5

Fast, Convenient, Reliable

The Motorola SURFboard SBV5220 Digital Voice Modem with Lithium-ion battery backup uses industry-standard signaling protocols to provide high-speed Internet access and up to two lines of primary line Voice-over-IP (VoIP) telephone service over cable's broadband connection to the home. With both 10/100 Ethernet and USB network connectivity and two RJ-11 connectors, the SBV5220 is an intelligent, flexible, and convenient way to converge voice and data on one network. The SBV5220's integrated Lithium-ion battery backup minimizes the likelihood that a consumer will lose telephone service during a power outage.

A Single Solution for Intelligent Convergence

The SBV5220 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, including caller ID, call waiting, and call forwarding

As part of Motorola's broadband family of telephony products, the SBV5220 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.

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Digital Voice Modem with Integrated Battery Backup

More Highlights

Two integrated slots for field-replaceable Lithium-ion batteries, which can provide backup power during a power outage
Three-cell 2.2 Ahr 12.6 V batteries available

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

SNMP and TFTP support for remote configuration and monitoring

Configurable to meet multiple telco market standards
ETSI harmonized impedance, 600 Ω

G.711 and low-rate vocoder support

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

GENERAL SPECIFICATIONS

Cable Interface	F-connector, female, 75 Ω
Network Interface	USB, 10/100 Ethernet
Data Protocol	TCP/IP
Dimensions	20.14 cm H x 17.32 cm D x 6.89 cm W (7.93 in x 6.82 in x 3.5 in)

POWER

Power	3–4 W (nominal)
Input	
North America	105 to 125 VAC, 60 Hz
Elsewhere	100 to 240 VAC, 50 to 60 Hz

ENVIRONMENT

Operating Temperature	0 °C to 50 °C (32 °F to 122 °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
Max. 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
Max. 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	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 Loop Length	1000 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) 4 dB; transmit (A/D) 2 dB (configurable based on market needs)
Loss Plan Tolerance	±1 dB (one-way)
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

All features, functionality, and other product specifications are subject to change without notice or obligation.

*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. Battery back-up times may vary based on many factors, including the battery age, charging state, storing conditions, and operating temperature, as well as by factors such as data activity and length of active telephone calls.

MOTOROLA

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543285-001-a 5798 - 0807 - 0K