

**MOTOROLA****ARRIS**

SURFBOARD® SB6141 CABLE MODEM

Count on the ARRIS SURFboard DOCSIS® 3.0 Cable Modem to deliver innovative, ultra-broadband data service.

High Value and Increased Data Rates

The easy-to-use SB6141 SURFboard® DOCSIS 3.0 Cable Modem unlocks the power of high-speed data. Utilizing the power of DOCSIS 3.0, the SB6141 enables channel bonding of up to eight downstream channels and four upstream channels, which enables advanced multimedia services with data rates of over 300 Mbps for received data and over 100 Mbps when sending data.

With SURFboard® cable modems, high-speed Internet access is always at your fingertips – always on and always connected. The SB6141 is the ideal solution for the high-end residential user, the small home office owner, and the medium to large business enterprise.

Highlights

- Compatible with Windows®, Macintosh®, and UNIX® computers
- DOCSIS 3.0 certified
- Backwards compatible to DOCSIS 2.0
- Capable of downloading at speeds up to 8 times faster than DOCSIS 2.0
- DOCSIS 3.0 compatible, featuring:
 - Channel bonding of up to eight downstream channels and four upstream channels increasing data rates of over 300 Mbps for received data and over 100 Mbps when sending data
 - Supports IPv4 and IPv6 to expand network addressing capabilities
 - Enhanced security: supports AES traffic encryption
- IP multicast support
- GigE (RJ-45) data port with Auto Negotiate and Auto MDIX
- User-friendly online diagnostics
- Includes an internal filter to eliminate potential interference from MoCA signals' intermodulation beats
- Online assistance for easy network set-up
- ARRIS support options via phone, chat, or e-mail



General Specifications

Cable Interface	75 Ω F-connector
CPE Network Interface	10/100/1000Base-T Ethernet (RJ-45)
Data Protocol	TCP/IP
Dimensions	5.24 in H x 5.24 in W x 1.65 in D (133 mm x 133 mm x 42 mm)
Power	9W (nominal)
Input Power	
North America	105 to 125 VAC, 60 Hz
Outside North America	100 to 240 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)

Downstream

Modulation	64 or 256 QAM
Capture Bandwidth	Dual 96 MHz Capture windows
Maximum Theoretical Data Rate*	
DOCSIS	343.072 Mbps (8 channels) / 42.884 (single channel) @ 256 QAM at 5.36 Msym/s
Bandwidth	
DOCSIS	$\leq$ 48 MHz
Symbol Rate	
DOCSIS	64 QAM 5.057 Msym/s; 256 QAM 5.361 Msym/s
Operating Level Range	-15 to 15 dBmV
Bonded Channel RF	
Level Tolerance	10dBmV
Input Impedance	75 Ω (nominal)
Frequency Range	108 to 1002 MHz (edge to edge)
Frequency Plan	
DOCSIS	Annex B
Security	DOCSIS 3.0 Security (BPI+, EAE, SSD)
Network Management	SNMP v2 & v3
Provisioning	Supports IP addressing using IPv4 and/or IPv6 (dual stack)
MoCA Interference Rejection	1 GHz Low Pass filter at tuners input



DATA SHEET SURFBOARD® SB6141 CABLE MODEM

Upstream

Modulation	QPSK and 8, 16, 32, 64, 128 QAM
Maximum Channel Rate*	
DOCSIS	131.072 Mbps (4 channels) / 32.768 Mbps (single channel): @ 128 QAM at 6.4 MHz
Channel Width	200 kHz, 400 kHz, 800 kHz, 1.6 MHz, 3.2 MHz, 6.4 MHz
Symbol Rates	160, 320, 640, 1280, 2560, 5120 ksym/s
Operating Level Range	Level range per channel (Multiple Transmit Channel mode disabled, or only Multiple Transmit Channel mode enabled with one channel in the TCS)
DOCSIS	
TDMA	
	Pmin to +57 dBmV (32 QAM, 64 QAM)
	Pmin to +58 dBmV (8 QAM, 16 QAM)
	Pmin to +61 dBmV (QPSK)
S-CDMA	
	Pmin to +56 dBmV (all modulations), where:
	Pmin = +17 dBmV, 1280 kHz modulation rate
	Pmin = +20 dBmV, 2560 kHz modulation rate
	Pmin = +23 dBmV, 5120 kHz modulation rate
Level range per channel (two channels in the TCS)	
TDMA	
	Pmin to +54 dBmV (32 QAM, 64 QAM)
	Pmin to +55 dBmV (8 QAM, 16 QAM)
	Pmin to +58 dBmV (QPSK)
S-CDMA	
	Pmin to +53 dBmV (all modulations), where:
	Pmin = +17 dBmV, 1280 kHz modulation rate
	Pmin = +20 dBmV, 2560 kHz modulation rate
	Pmin = +23 dBmV, 5120 kHz modulation rate
Level range per channel (three or four channels in the TCS)	
TDMA	
	Pmin to +51 dBmV (32 QAM, 64 QAM)
	Pmin to +52 dBmV (8 QAM, 16 QAM)
	Pmin to +55 dBmV (QPSK)
S-CDMA	
	Pmin to +53 dBmV (all modulations), where:
	Pmin = +17 dBmV, 1280 kHz modulation rate
	Pmin = +20 dBmV, 2560 kHz modulation rate
	Pmin = +23 dBmV, 5120 kHz modulation rate
Output Impedance	75 Ω (nominal)
Frequency Range	5-42 MHz (edge to edge)
Compatibility	PC: Windows 7, Windows 8 or Linux® with Ethernet connection (older versions of Windows, although not specifically supported, will work with this cable modem)
	Macintosh: Power PC or later; OS 9 or higher, Ethernet connection
	UNIX: Ethernet connection
	Home Networking: Ethernet router or wireless access point

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, the capacity of, and the services offered by, your cable service provider or broadband service provider, network traffic, computer equipment, type of server, 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).

Certain features may not be activated by the service provider, and/or their network settings may limit the feature's functionality. Additionally, certain features may require a subscription.

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



©ARRIS Enterprises, Inc. 2014 All rights reserved. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS Enterprises, Inc. ("ARRIS"). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change. ARRIS and the ARRIS logo are all trademarks of ARRIS Enterprises, Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. MOTOROLA and the Stylized M logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC. and are used by ARRIS under license. All other product or service names are the property of their respective owners. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.