



# **SURFboard**™ SB6141 DOCSIS® 3.0 Cable Modem

User Guide

## ARRIS Copyrights and Trademarks

©2015 ARRIS Enterprises, Inc. 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, SURFboard, and the ARRIS logo are all trademarks or registered 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.

ARRIS provides this guide without warranty of any kind, implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. ARRIS may make improvements or changes in the product(s) described in this manual at any time.

The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

# Table of Contents

<b>1. Safety and Regulatory Information</b> .....	<b>5</b>
Important Safety Instructions.....	5
FCC Statements.....	7
Caring for the Environment by Recycling .....	9
<b>2. Getting Started</b> .....	<b>10</b>
Introduction .....	10
In the Box.....	10
Additional Item(s) You May Need.....	11
System Requirements.....	11
Contact Information .....	11
<b>3. Product Overview</b> .....	<b>12</b>
Front Panel .....	12
Rear Panel.....	13
Cable Modem Label.....	14
<b>4. Installing the Cable Modem</b> .....	<b>15</b>
Connect the SB6141 to Your Computer .....	15
Establish an Internet Connection .....	16
Wall Mount the SB6141.....	16
Wall Mounting Template .....	18
<b>5. Using the Cable Modem Web Manager</b> .....	<b>19</b>
Start the SB6141 Web Manager .....	19
SB6141 Web Manager Screen Options.....	19
Get Help.....	20
Exit the SB6141 Web Manager .....	21
<b>6. Monitoring Your Cable Modem and Connected Network</b> .....	<b>22</b>
View the SB6141 Cable Modem Status .....	22
View the SB6141 Product Information.....	23
View the SB6141 Event Log .....	23
View the SB6141 Cable Modem Configuration .....	24
Reset the SB6141 Configuration Settings .....	25
Restart the SB6141 .....	26
Exit the SB6141 Web Manager .....	27

**7. Troubleshooting Tips..... 28**  
    Solutions ..... 28  
    Front Panel LED Icons and Error Conditions..... 29

**8. Warranty Information ..... 30**

# Safety and Regulatory Information

---

## Important Safety Instructions

**Read This Before You Begin** — When using your equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Read all of the instructions listed here and/or in the user manual before you operate this device. Give particular attention to all safety precautions. Retain the instructions for future reference.
- This device must be installed and used in strict accordance with manufacturer's instructions, as described in the user documentation that is included with the device.
- Comply with all warning and caution statements in the instructions. Observe all warning and caution symbols that are affixed to this device.
- To prevent fire or shock hazard, do not expose this device to rain or moisture. The device must not be exposed to dripping or splashing. Do not place objects filled with liquids, such as vases, on the device.
- This device was qualified under test conditions that included the use of the supplied cables between system components. To ensure regulatory and safety compliance, use only the provided power and interface cables and install them properly.
- Different types of cord sets may be used for connections to the main POWER supply circuit. Use only a main line cord that complies with all applicable device safety requirements of the country of use.
- Installation of this device must be in accordance with national wiring codes and conform to local regulations.
- Operate this device only from the type of power source indicated on the device's marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- Do not overload outlets or extension cords, as this can result in a risk of fire or electric shock. Overloaded electrical outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard.
- Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords where they are attached to plugs and convenience receptacles, and examine the point where they exit from the device.

- Place this device in a location that is close enough to an electrical outlet to accommodate the length of the power cord.
- Place the device to allow for easy access when disconnecting the power cord of the device from the electrical wall outlet.
- Do not connect the plug into an extension cord, receptacle, or other outlet unless the plug can be fully inserted with no part of the blades exposed.
- Place this device on a stable surface.
- Avoid damaging the device with static by touching the coaxial cable when it is attached to the earth-grounded coaxial cable-TV wall outlet.
- Always first touch the coaxial cable connector on the device when disconnecting or reconnecting the Ethernet cable from the device or user's PC.
- It is recommended that the customer install an electrical surge protector in the electrical outlet to which this device is connected. This is to avoid damaging the device by local lightning strikes and other electrical surges.
- Postpone installation until there is no risk of thunderstorm or lightning activity in the area.
- Do not use this product near water: for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- Do not cover the device or block the airflow to the device with any other objects. Keep the device away from excessive heat and humidity and keep the device free from vibration and dust.
- Wipe the device with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the device or use forced air to remove dust.
- For added protection, unplug the device from the wall outlet and disconnect the cables to avoid damage to this device during lightning activity or power surges.
- Upon completion of any service or repairs to this device, ask the service technician to perform safety checks to determine that the device is in safe operating condition.
- Do not open the device. Do not perform any servicing other than that contained in the installation and troubleshooting instructions. Refer all servicing to qualified service personnel.
- This device should not be used in an environment that exceeds 104° F (40° C).

SAVE THE ABOVE INSTRUCTIONS

**Note to CATV System Installer** — This reminder is provided to call the CATV system installer's attention to Article 820.93 and 820.100 of the National Electric Code, which provides guidelines for proper grounding and, in particular, specifies that the Coaxial cable shield shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

## FCC Statements

### FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

**FCC Caution:** Any changes or modifications not expressly approved by Motorola for compliance could void the user's authority to operate the equipment.

### FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with the FCC RF exposure compliance requirements, the separation distance between the antenna and any person's body (including hands, wrists, feet and ankles) must be at least 8 inches (20.3 centimeters).

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except those already approved in this filing.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destinations. The firmware setting is not accessible by the end user.

## Industry Canada (IC) Statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

### CAN ICES-3 (B)/NMB-3 (B)

In Canada, RLAN devices are restricted from using the 5600-5650 MHz frequency band.

**Caution:** To reduce the potential for harmful interference to co-channel mobile satellite systems, use of the 5150-5250 MHz frequency band is restricted to indoor use only.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz frequency bands. These radars could cause interference and/or damage to License Exempt–Local Area Network (LE-LAN) devices.

### IC Radiation Exposure Statement

**Important Note:** *This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.*

## Avis D'Industrie Canada (IC)

Cet appareil est conforme à la réglementation RSS-210 d'Industrie Canada. Son utilisation est assujettie aux deux conditions suivantes:

- Cet appareil ne doit pas causer d'interférences et
- Cet appareil doit accepter toute interférence reçue, y compris les interférences causant un fonctionnement non désiré.

### CAN ICES-3 (B)/NMB-3 (B)

Au Canada, les appareils de réseau local sans fil ne sont pas autorisés à utiliser les bandes de fréquence 5600-5650 MHz.

**Avertissement:** afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux, les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur

Les radars à haute puissance sont définis en tant qu'utilisateurs principaux (c.-à-d. prioritaires) des bandes de fréquences 5250-5350 MHz et 5650-5850 MHz. Ces radars peuvent causer de l'interférence ou des dommages susceptibles de nuire aux appareils exempts de licence–réseau local (LAN-EL).

### Déclaration de IC sur L'Exposition aux Rayonnements

**Note Importante:** *cet équipement est conforme aux limites d'exposition aux rayonnements établies par IC pour un environnement non contrôlé. Cet équipement doit être installé et utilisé de manière à maintenir une distance d'au moins 20 cm entre la source de rayonnement et votre corps.*

## Caring for the Environment by Recycling



When you see this symbol on an ARRIS product, do not dispose of the product with residential or commercial waste.

### **Recycling your ARRIS Equipment**

Please do not dispose of this product with your residential or commercial waste. Some countries or regions, such as the European Union, have set up systems to collect and recycle electrical and electronic waste items. Contact your local authorities for information about practices established for your region. If collection systems are not available, call ARRIS Customer Service at **1-877-466-8646** for assistance.

# Getting Started

## Introduction

The ARRIS SURFboard® SB6141 DOCSIS 3.0® Cable Modem provides a secure ultra high-speed broadband connection to the Internet for your computer and other network devices on your home or small business network.

This guide provides a product overview and instructions for installing your SB6141 and monitoring your cable modem and network operational status.

## In the Box

Before installing the SB6141, check that the following items are also included in the box. If any items are missing, please call ARRIS Technical Support at **1-877-466-8646** for assistance.

**Table 1. SB6141 Package Contents**

Item		Description
<b>SB6141 Cable Modem</b>		High-speed DOCSIS 3.0 cable modem
<b>Power Supply</b>		Power cord for an electrical wall outlet connection
<b>Ethernet Cable</b>		Standard Category 5 (CAT5) or higher cable for connecting to the network
<b>Software License &amp; Regulatory Card</b>		Software license, warranty, Safety instructions, and regulatory information for the cable modem

Item		Description
<b>Support Information Card</b>		Contact information for obtaining technical support assistance with your SURFboard device
<b>SB6141 Quick Start Guide</b>		Basic information for installing the cable modem and connecting to the Internet on your home network.

## Additional Item(s) Needed (Not Included)

The following item is not included in the box and must be purchased separately, if required:

- Coaxial (coax) cable, if one is not already connected to a cable wall outlet

## System Requirements

- High-speed Internet access account
- Web browser access – Internet Explorer, Google Chrome, Firefox, or Safari
- Compatible operating systems:
  - Windows®10
  - Windows 8
  - Windows 7 Service Pack 1 (SP1)
  - Windows Vista™ SP2 or later
  - Windows XP SP3



**Note:** Microsoft no longer supports Windows XP. The SB6141 should still function without any problems.

- Macintosh® 10.4 or higher
- UNIX®
- Linux®

## Contact Information

For technical support and additional ARRIS product information:

- Visit the ARRIS Support website: [www.arris.com/consumer](http://www.arris.com/consumer)  
(<http://www.arris.com/consumer>)
- Call ARRIS Technical Support: **1-877-466-8646**

## Product Overview

### Front Panel

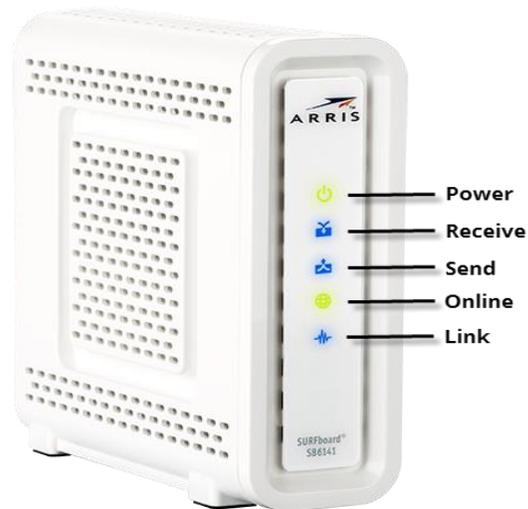


Figure 1: SB6141 Front View

Table 2. SB6141 Front Panel LED Icons

LED Icon	Blinking	On (Solid)
 POWER	Not applicable – icon does not blink.	<b>Green:</b> Power is properly connected.
 RECEIVE	Scanning for a downstream (receive) channel connection.	<b>Green:</b> Non-bonded downstream channel is connected. <b>Blue*:</b> High-speed Internet connection with bonded downstream channels.
 SEND	Scanning for an upstream (send) channel connection.	<b>Green:</b> Non-bonded upstream channel is connected. <b>Blue*:</b> High-speed Internet connection with bonded upstream channels.
 ONLINE	Scanning for an Internet connection.	<b>Green:</b> Startup process completed.

LED Icon	Blinking	On (Solid)
	Transmitting or receiving data on the Ethernet port	<p><b>Amber:</b> A computer, hub, or other network device is connected to the Ethernet (10Base-T) or Fast Ethernet (100Base-T) port</p> <p><b>Blue*:</b> High-speed Gigabit Ethernet (1000Base-T) connection is made from the SB6141 to your computer</p>

\***Blue:** Indicates DOCSIS 3.0 operation (high-speed Internet access) which may not be available in all locations. Check with your service provider for availability in your area.

## Rear Panel

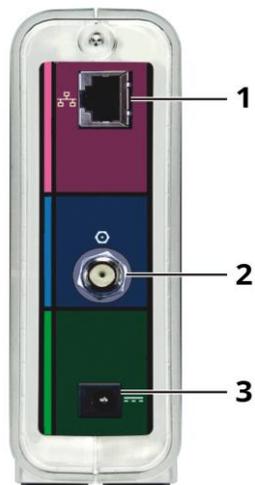


Figure 2: SB6141 Rear View

Table 3. SB6141 Rear Panel Ports & Connectors

Port Name	Description
1  ETHERNET	10/100/1000Base-T Ethernet port
2  CABLE	Coaxial cable connector
3  POWER	+12VDC Power connector
	 <b>WARNING!</b> To avoid any damage to your SB6141, only use the power supply provided in the box.

## Cable Modem Label

The cable modem label is located on the bottom of your SB6141. It contains the cable modem ID that you may need when contacting your service provider or ARRIS Technical Support.

To receive Internet service, contact your service provider for assistance. You may need to provide the following information listed on the cable modem label:

- Cable modem Model name (**SB6141**)
- Cable modem MAC address (**HFC MAC ID**)
- Cable modem Serial number (**S/N**)

## Installing the Cable Modem

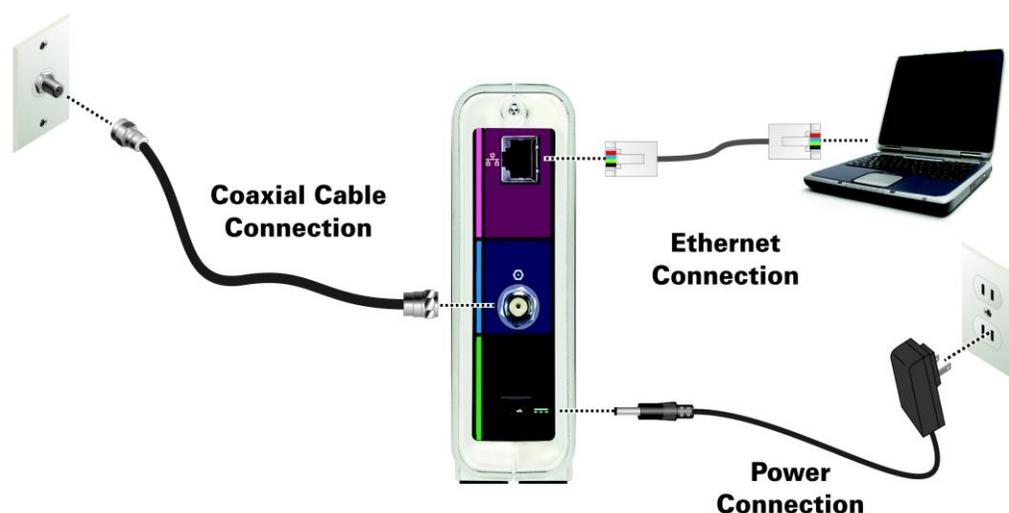


**Caution:** This product is for indoor use only. Do not route the Ethernet cable(s) outside of the building. Exposure of the cables to lightning could create a safety hazard and damage the product.

### Connect the SB6141 to Your Computer

Before installing the SB6141:

- Check with your service provider to ensure broadband cable service is available in your area.
- Choose a location in your home where your computer and cable modem are preferably near existing cable and electrical wall outlets.



**Figure 3: SB6141 Connection Diagram**

1. Check that a coaxial cable is already connected to a cable wall outlet or RF splitter (optional).
2. Connect the other end of the coaxial cable to the **Cable** connector on the rear of the SB6141.  
Use your hand to tighten the connectors to avoid damaging them.
3. Connect the Ethernet cable to the **Ethernet** port on the rear of the SB6141.
4. Connect the other end of the Ethernet cable to the **Ethernet** port on your computer.
5. Connect the power cord to the **Power** port on the rear of the SB6141.

6. Plug the other end of the power cord into an electrical wall outlet that is not controlled by a wall switch.



**Note:** This automatically powers ON the SB6141.

## Establish an Internet Connection

Although your computer may already be configured to automatically access the Internet, you should still perform the following cable modem connectivity test to check that your devices were connected properly:

1. Power ON the computer connected to the SB6141, if it is turned off, and then log in.
2. Contact your service provider to activate (provision) the SB6141. You may have to provide the HFC MAC ID listed on the cable modem label.



**Note:** Your service provider may allow for automatic activation which will automatically launch their special website when you open a web browser.

3. After the SB6141 is provisioned (or activated), open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on the computer.
4. Type a valid URL (such as **www.surfboard.com**) in the address bar and then press **Enter**. The ARRIS website should open. If it fails to open, please contact your service provider for assistance.
5. Check that the **Power**, **Receive**, **Send**, and **Online** front panel LEDs on the SB6141 light up in sequential order. See [Front Panel](#) (page 12) for additional LED status information.
  - If all four LEDs did not light up Solid and you are not connected to the Internet, you may have to contact your service provider to reactivate your SB6141 or check for possible signal issues.
  - If you still cannot connect to the Internet, the SB6141 may be defective. Please call ARRIS Technical Support at **1-877-466-8646** for assistance.

## Wall Mount the SB6141

If you choose to mount the SB6141 on a wall, please read the following before starting:

- Locate the unit as specified by the local or national codes governing residential or business cable TV and communications services.
- Follow all local standards for installing a network interface unit/network interface device (NIU/NID).
- Unplug the power cord on the SB6141 from the electrical wall outlet and verify that all the cables are repositioned away from the back of the SB6141 before mounting it on the wall.
- Decide if you are mounting the SB6141 horizontally or vertically on the wall.

- Gather the following items:
  - Wall-mounting template or ruler/measuring tape
  - Applicable screwdriver: Phillips or flathead
  - Two M3.5 (#6) screws with a flat underside and maximum screw head diameter of 9.0 mm to mount the SB6141.



**Note:** Contact a qualified installer to determine the appropriate screw length needed for mounting a cable modem.

See the figure below for the spacing needed between the screw heads and wall:

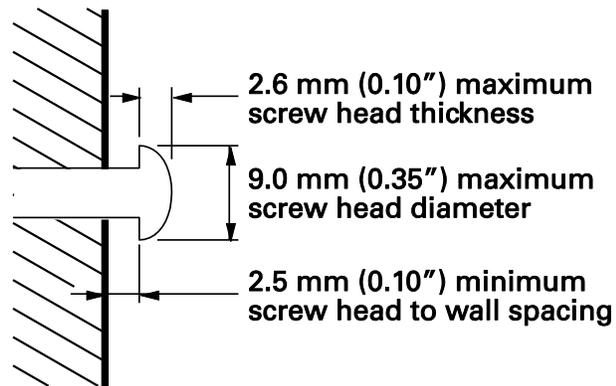


Figure 4: Wall Mount-Screw Head Dimensions



**Note:** If possible, mount the SB6141 to concrete, masonry, wooden stud, or some other solid wall material. Use anchor bolts if necessary (for example, if you mount the unit on drywall).



**Caution:** Before drilling holes in the wall, check the structure for potential damage to water, gas, or electrical lines.

Follow these steps to wall mount the SB6141:

1. Use the [wall mounting template](#) as a guide for drilling holes in the wall (see Figure 5).



**WARNING!** The wall mounting template is intended as a sample representation of the SB6141 side view. The mounting hole dimensions shown on the template are not accurate. BEFORE drilling any holes in the wall, check to ensure that your measurements match the holes on the side of the SB6141.

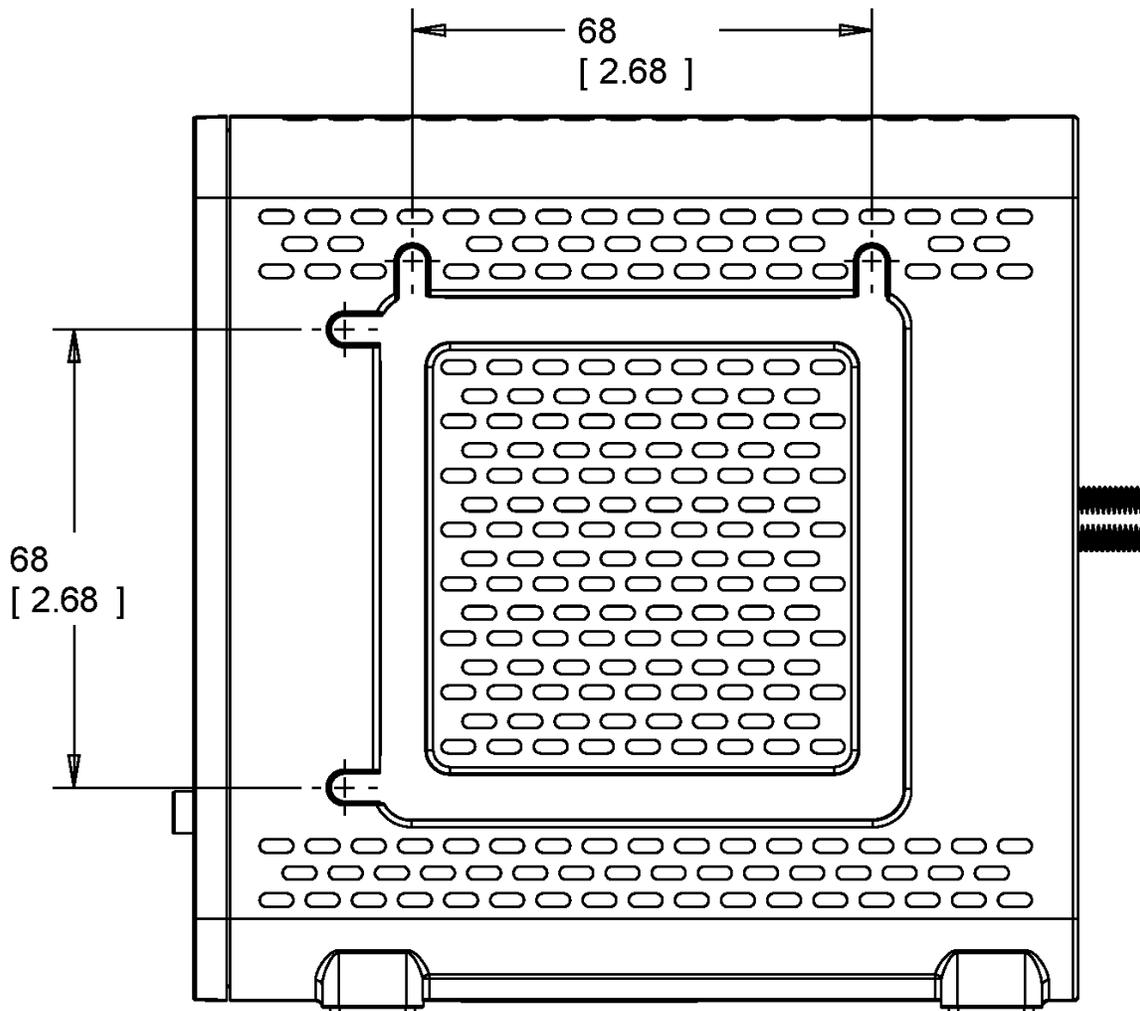
2. Select an appropriate depth and diameter to drill the holes to a depth of at least 1½ inches (3.8 cm).



**Note:** There must be .10 inch (2.5 mm) between the wall and underside of the screw head (see Figure 4). The installer must determine the depth of the hole, the necessary hardware and must be careful to select the appropriate depth and diameter.

3. Insert the #6 screws in the holes and then attach the SB6141.
4. Attach the SB6141 to the two screws on the wall. Check that it is securely mounted on the wall.
5. Reconnect the coaxial, Ethernet, and power cables.
6. Re-plug the power cord into the +12VDC Power connector on the SB6141 and the electrical wall outlet.
7. Arrange the cables to prevent any safety hazards.
8. Check that the SB6141 is still securely mounted on the wall.

## Wall Mounting Template



**Figure 5: Sample SB6141 Wall Mounting Template**

## Using the Cable Modem Web Manager

The SB6141 Web Manager is available to view and monitor the SB6141 operational status and also to reset or reboot the SB6141.

### Start the SB6141 Web Manager

1. Open any Web browser on the computer connected to the SB6141.
2. Type the default LAN IP address, **192.168.100.1**, in the Address bar and then press **Enter**.  
The SB6141 Status screen displays.

Cable Modem	
Status	Signal
Addresses	Configuration
Logs	Open Source
Help	

This page provides information about the startup process of the Cable Modem. If there is a problem with the startup, the word "Failed" may appear in the Status column. Should this occur, visit the Help area and perform the Checkup procedures listed there. If the problem continues, click on the word "Failed" for more detailed information about the failure, or call your service provider for assistance.

Task	Status
DOCSIS Downstream Channel Acquisition	Done
DOCSIS Ranging	Done
Establish IP Connectivity using DHCP	Done
Establish Time Of Day	Done
Transfer Operational Parameters through TFTP	Done
Register Connection	Done
Cable Modem Status	Operational
Initialize Baseline Privacy	Done

Cable Modem Operation	Value
Current Time and Date	Dec 09 2015 16:25:10
System Up Time	0 days 5h:32m:39s

[Status](#) | [Signal](#) | [Addresses](#) | [Configuration](#) | [Logs](#) | [Open Source](#) | [Help](#)

**Figure 6: SB6141 Opening Screen**



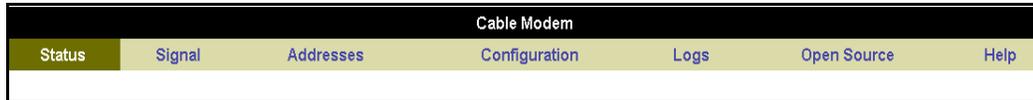
**Note:** If you cannot access the HTML pages in the SB6141 Web Manager, please contact ARRIS Technical Support for assistance.

## SB6141 Web Manager Screen Options

### Buttons and Links

You can use the web manager buttons or links to view the status and network configuration screens for the SB6141.

- The buttons are displayed along the top of the SB6141 Web Manager screen (see Figure 7). To display a specific web manager screen, click the button.



**Figure 7: SB6141 Web Manager Buttons**

- The links are displayed along the bottom of the SB6141 Web Manager screen (see figure below). To display a specific web manager screen, click the link.



**Figure 8: SB6141 Web Manager Links**

**Table 4. SB6141 Web Manager Screen Options**

Screen Option	Function
<b>Status</b>	Provides the current operational status of the cable modem.
<b>Signal</b>	Provides current status information for the upstream and downstream signals of the cable modem.
<b>Addresses</b>	Provides the serial number and MAC addresses for the cable modem and computers connected on your home network.
<b>Configuration</b>	Provides the network connection frequency and channel ID information for the cable modem. Also, allows you to reset the cable modem configuration to the factory default configuration and restart the cable modem.
<b>Logs</b>	Displays a listing of the time and actual events as they occur and are detected by the cable modem. This information may be useful to help diagnose and correct any problems that may occur with the cable modem.
<b>Open Source</b>	Provides information on the Open Source Software components, software licenses, and source code used in the cable modem.
<b>Help</b>	Provides a brief description for each screen option and general troubleshooting tips.

## Get Help

Help information is available for troubleshooting and resolving general issues that may occur with your SB6141.

- Click the **Help** menu button or link on the SB6141 Web Manager screen to open the SB6141 Help screen.

**Cable Modem**

[Status](#)   [Signal](#)   [Addresses](#)   [Configuration](#)   [Logs](#)   [Open Source](#)   [Help](#)

Model Name: SB6141  
 Vendor Name: Motorola  
 Firmware Name: SB\_KOMODO-1.0.6.15-SCM00-NOSH  
 Boot Version: PSPU-Boot(25CLK)(W) 1.0.12.18m5  
 Hardware Version: 8.0  
 Serial Number: 397179503728455301012022  
 Firmware Build Time: Jun 30 2015 14:13:22

This page provides an overview of the Modem Configuration Manager, and brief troubleshooting information. The help here is applicable only to the Cable Modem functionality.

The Modem Configuration Manager is divided into several pages, each with a unique purpose. To access any one of these pages, click on the appropriate link at the top or bottom of each page. To update the information while viewing these pages, press the Refresh button on your browser.

Name	Purpose
<a href="#">Modem Status</a>	The Modem Status Page provides information about the startup process of the Cable Modem. When you first access the Cable Modem, this page is displayed. The last line of the Modem Status Page gives the status of the Cable Modem. Under normal conditions this should read "Operational". If the last line does not read "Operational", a Standard Checkup should be performed.
<a href="#">Modem Signal</a>	The Modem Signal Page provides information about the connection between the Cable Modem and the cable company.
<a href="#">Modem Addresses</a>	The Modem Addresses Page provides information about the network connection between the Cable Modem and your computer. Also, it provides details about the connection between the Cable Modem and the service provider's computer systems.
<a href="#">Modem Configuration</a>	The Modem Configuration Page provides information about the current configuration of the Cable Modem.
<a href="#">Modem Logs</a>	The Modem Logs Page provides diagnostic messages generated by the Cable Modem. It is intended for use by a qualified technician.
<a href="#">Open Source</a>	This page provides information on open source software components, their licenses and source code used in Cable Modem.
<a href="#">Modem Help</a>	The Modem Help Page provides information about how to troubleshoot the Cable Modem.

**Cable Modem Standard Checkup**

- Check to make sure that the coaxial cable connecting your Cable Modem to the cable wall outlet is connected, and that the screws have been tightened.
- Check to make sure that the power cord on the Cable Modem is plugged into a wall outlet, and that the **Power** light on the front of the Cable Modem is on.
- Check to make sure that the 10/100BaseT Ethernet cable between the Cable Modem and your computer is connected, and the connectors are locked in place.
- Check to make sure that the **Send**, **Receive**, and **Online** lights on the front of the Cable Modem are on or blinking. If the lights are off and do not blink, reboot the modem by disconnecting and reconnecting the power plug in the back of the modem.
- Please consult the **Cable Modem User Guide** for additional information.

[Status](#) | [Signal](#) | [Addresses](#) | [Configuration](#) | [Logs](#) | [Open Source](#) | [Help](#)

Figure 9: SB6141 Help Overview Screen

## Exit the SB6141 Web Manager

To log out and close the SB6141 Web Manager:

- Close the web browser window.

# Monitoring Your Cable Modem and Connected Network



**Note:** You may notice that some of the SB6141 Web Manager configuration settings may be blocked and cannot be modified. This may be due to some restrictions set up by your service provider for security reasons and also to prevent unauthorized modifications to certain cable modem configuration parameters. Contact your service provider to obtain special authorization to change the cable modem frequencies or other configuration settings.

## View the SB6141 Cable Modem Status

The SB6141 Status screen displays the startup status of the SB6141 and the downstream and upstream bonded channel connections for receive and send data transmissions.

To open the Status screen:

1. Click the **Status** menu button or link on the SB6141 Web Manager screen (see Figure 10).
2. Open the Help screen for information to resolve any issues that resulted in a “failed” state during the cable modem startup.
3. Press **F5** to refresh or update the information on the screen.

Cable Modem	
Status	Signal
Addresses	Configuration
Logs	Open Source
Help	
<p>This page provides information about the startup process of the Cable Modem. If there is a problem with the startup, the word "Failed" may appear in the Status column. Should this occur, visit the Help area and perform the Checkup procedures listed there. If the problem continues, click on the word "Failed" for more detailed information about the failure, or call your service provider for assistance.</p>	
Task	Status
DOCSIS Downstream Channel Acquisition	Done
DOCSIS Ranging	Done
Establish IP Connectivity using DHCP	Done
Establish Time Of Day	Done
Transfer Operational Parameters through TFTP	Done
Register Connection	Done
Cable Modem Status	Operational
Initialize Baseline Privacy	Done
Cable Modem Operation	Value
Current Time and Date	Dec 09 2015 16:25:10
System Up Time	0 days 5h:32m:39s
<p><a href="#">Status</a>   <a href="#">Signal</a>   <a href="#">Addresses</a>   <a href="#">Configuration</a>   <a href="#">Logs</a>   <a href="#">Open Source</a>   <a href="#">Help</a></p>	

Figure 10: SB6141 Status Screen

## View the SB6141 Product Information

The SB6141 Addresses screen displays the cable modem serial number and network connection information between the SB6141 and your computer.

To open the Addresses screen:

1. Click the **Addresses** menu button or link on the SB6141 Web Manager screen.

Item	Value
Serial Number	397179503728455301012022
HFC MAC Address	6C-CA-08-81-CF-70
Ethernet IP Address	192.168.100.1
Ethernet MAC Address	3C-DF-A9-2B-84-03

#	Known CPE MAC Address (Max 64)	Status
1	64:31:50:18:8B:D4	Dynamic

**Figure 11: SB6141 Addresses Screen**

2. Press **F5** to refresh or update the information on the screen.

## View the SB6141 Event Log

The SB6141 generates a running log of the time and events or activities that it detects during the cable modem operation.



**Note:** This information may be useful to help diagnose and correct any problems that may occur with your cable modem. You may want to provide this information if you have to contact ARRIS Technical Support or your service provider for assistance.

To open the Logs screen:

1. Click the **Logs** menu button or link on the SB6141 Web Manager screen (see Figure 12).
2. Press **F5** to refresh or update the information on the screen.

Time	Priority	Code	Message
Dec 09 2015 10:53:15	3-Critical	R02.0	No Ranging Response received - T3 time-out:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Dec 09 2015 10:53:14	5-Warning	Z00.0	MIMO Event MIMO: Stored MIMO=-1 post cfg file MIMO=-1;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:39	5-Warning	T202.0	Lost MDD Timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:21	5-Warning	T203.0	MDD message timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:15	6-Notice	N/A	Cable Modem Reboot due to power reset ;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Dec 09 2015 10:49:13	5-Warning	Z00.0	MIMO Event MIMO: Stored MIMO=-1 post cfg file MIMO=-1;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:39	5-Warning	T202.0	Lost MDD Timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:21	5-Warning	T203.0	MDD message timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:15	6-Notice	N/A	Cable Modem Reboot due to power reset ;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Dec 09 2015 10:48:07	3-Critical	T05.0	SYNC Timing Synchronization failure - Loss of Sync:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Dec 09 2015 10:41:31	5-Warning	Z00.0	MIMO Event MIMO: Stored MIMO=-1 post cfg file MIMO=-1;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:39	5-Warning	T202.0	Lost MDD Timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:21	5-Warning	T203.0	MDD message timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:15	6-Notice	N/A	Cable Modem Reboot due to power reset ;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.1;CM-VER=3.0;
Dec 09 2015 09:38:26	5-Warning	Z00.0	MIMO Event MIMO: Stored MIMO=-1 post cfg file MIMO=-1;CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;
Jan 01 1970 00:00:39	5-Warning	T202.0	Lost MDD Timeout:CM-MAC=6c:ca:08:81:cf:70:CMTS-MAC=00:04:28:25:9c:54;CM-QOS=1.1;CM-VER=3.0;

Figure 12: SB6141 Logs Screen

## View the SB6141 Cable Modem Configuration

The SB6141 Cable Modem Configuration screen displays the downstream and upstream connection to the network. When the SB6141 successfully connects to the network, it stores the connection frequency to automatically connect whenever you have to log back in to the SB6141.

To open the Configuration screen:

- Click the **Configuration** menu tab or link on the SB6141 Web Manager screen.

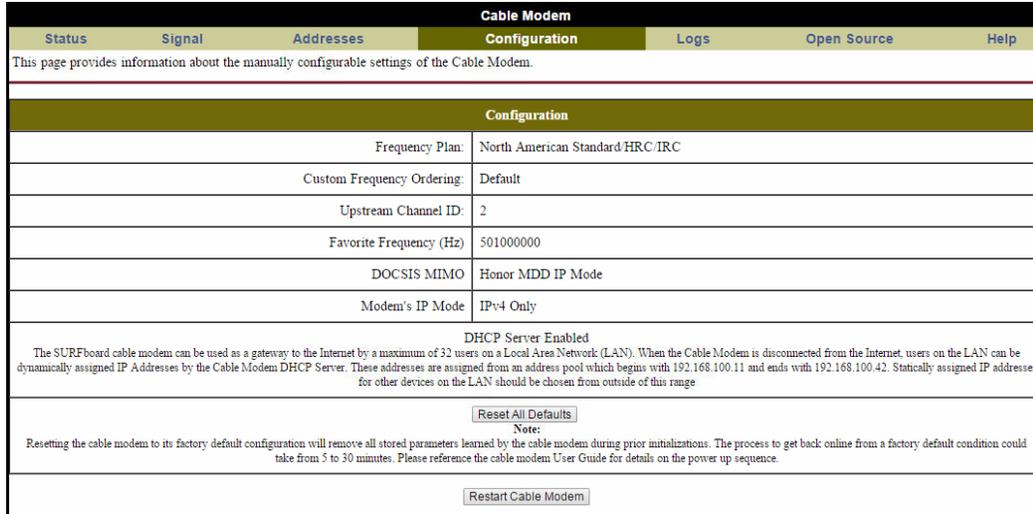


Figure 13: SB6141 Configuration Screen

## Reset the SB6141 Configuration Settings

You can reset the SB6141 configuration back to the default factory settings. The process to restore the cable modem factory defaults will take from 5 to 30 minutes to complete. Your network connection will be disabled until after the cable modem is restored.



**WARNING!** This action deletes your current SB6141 configuration and replaces it with the factory default settings.

To open the Configuration screen:

1. Click the **Configuration** menu tab or link on the SB6141 Web Manager Menu. The Configuration screen displays.

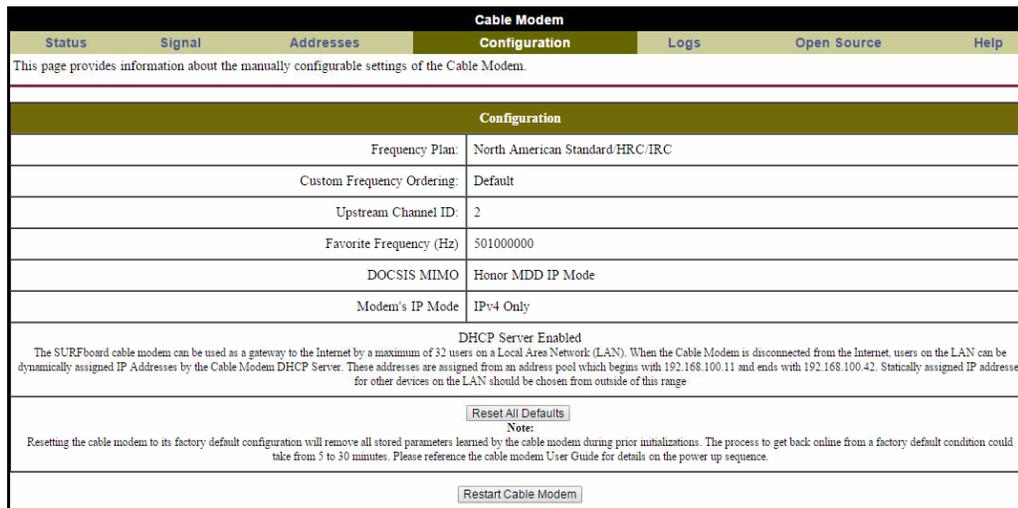


Figure 14: SB6141 Configuration Screen

2. Click **Reset All Defaults**.

The following message dialog will display.

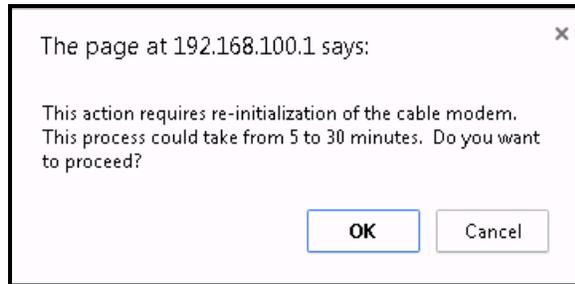


Figure 15: Restore Factory Defaults Dialog Box

3. Click **OK** to continue.

The SB6141 Web Manager will automatically open when the Reset All Defaults process is finished.

## Restart the SB6141

To reboot the SB6141:

1. Click the **Configuration** menu tab or menu link on the SB6141 Web Manager Menu.

The Configuration screen displays.

Cable Modem						
Status	Signal	Addresses	Configuration	Logs	Open Source	Help
This page provides information about the manually configurable settings of the Cable Modem.						
Configuration						
Frequency Plan:	North American Standard/HRC/IRC					
Custom Frequency Ordering:	Default					
Upstream Channel ID:	2					
Favorite Frequency (Hz):	501000000					
DOCSIS MIMO:	Honor MDD IP Mode					
Modem's IP Mode:	IPv4 Only					
DHCP Server Enabled The SURFboard cable modem can be used as a gateway to the Internet by a maximum of 32 users on a Local Area Network (LAN). When the Cable Modem is disconnected from the Internet, users on the LAN can be dynamically assigned IP Addresses by the Cable Modem DHCP Server. These addresses are assigned from an address pool which begins with 192.168.100.11 and ends with 192.168.100.42. Statically assigned IP addresses for other devices on the LAN should be chosen from outside of this range.						
<input type="button" value="Reset All Defaults"/>						
Note: Resetting the cable modem to its factory default configuration will remove all stored parameters learned by the cable modem during prior initializations. The process to get back online from a factory default condition could take from 5 to 30 minutes. Please reference the cable modem User Guide for details on the power up sequence.						
<input type="button" value="Restart Cable Modem"/>						

Figure 16: SB6141 Configuration Screen

2. Click **Restart Cable Modem**.

The following message dialog will display:



**Figure 17: Cable Modem-Reboot Dialog Box**

3. Click **OK**.  
The following message will display: **The device has been reset... RELOAD.**
4. Click **RELOAD** to open the SB6141 Web Manager.

## Exit the SB6141 Web Manager

To exit the SB6141 Web Manager:

- Close the web browser window.

## Troubleshooting Tips

If the solutions listed in the Troubleshooting Solutions table below do not solve your problem, please contact your service provider for assistance. Your service provider may ask for the status of the SB6141 front panel LEDs (see [Front Panel LED Icons and Error Conditions](#)) for more information).

You may have to reset the SB6141 configuration to the default factory settings if the SB6141 is not functioning properly. See [Reset the SB6141 Configuration Settings](#) for more information.

## Solutions

**Table 5. Troubleshooting Solutions**

Modem Problem	Possible Solution
<b>Power LED Icon is OFF</b>	<ul style="list-style-type: none"> <li>■ Check the power connection from the cable modem to the electrical wall outlet.</li> <li>■ Check that the electrical wall outlet is working. Is the outlet controlled by a light switch? If so, disconnect the cable modem power cord and connect it to another electrical wall outlet that is not controlled by a light switch.</li> </ul>
<b>Cannot Send or Receive Data</b>	<ul style="list-style-type: none"> <li>■ Check each end of the coaxial cable connection on the cable modem and cable wall outlet. Use your hand to tighten each connector, if necessary.</li> <li>■ Check the Ethernet cable to make sure it is properly connected to the cable modem and computer.</li> <li>■ On the front panel, check the status of the LED icons and refer to <a href="#">Front Panel LED Icons and Error Conditions</a> to identify the problem.</li> <li>■ If you have cable television service, check your television to ensure your cable service is operating properly.</li> <li>■ If none of the above solutions resolves the problem, contact your service provider or call ARRIS Technical Support at <b>1-877-466-8646</b> for assistance.</li> </ul>

Modem Problem	Possible Solution
<b>Cannot Access the Internet</b>	<ul style="list-style-type: none"> <li>■ Check that all cable and power connections on your cable modem and computer are properly connected.</li> <li>■ Check that the <b>Power</b> and <b>Online</b> LED icons on the front panel are lit up solid.</li> <li>■ Contact your service provider for assistance.</li> </ul>

## Front Panel LED Icons and Error Conditions

The SB6141 front panel LED icons provide status information for the following error conditions:

**Table 6. Front Panel LED Icons and Error Conditions**

Led Icon	Status	If, During Startup:	If, During Normal Operation
 POWER	OFF	SB6141 is not properly plugged into the electrical outlet	SB6141 is unplugged
 RECEIVE	FLASHING	Downstream receive channel cannot be acquired	Downstream channel is lost
 SEND	FLASHING	Upstream send channel cannot be acquired	Upstream channel is lost
 ONLINE	FLASHING	IP registration is unsuccessful	IP registration is lost
 LINK	OFF	No connected device is detected	Device is disconnected

## Warranty Information

---

SURFboard SB6141 DOCSIS 3.0 Cable Modem

ARRIS Enterprises, Inc. ("ARRIS")

**Retail Purchasers:** If you purchased this Product directly from ARRIS or from an authorized ARRIS retail reseller, ARRIS warrants to you, the original end user customer, that (A) the Product, excluding Software, will be free from defects in materials and workmanship under normal use, and (B) with respect to Software, (i) the media on which the Software is provided will be free from defects in material and workmanship under normal use, and (ii) the Software will perform substantially as described in its documentation. This Limited Warranty to you, the original end user customer, continues (A) for Software and the media upon which it is provided, for a period of ninety (90) days from the date of purchase from ARRIS or an authorized ARRIS reseller, and (B) for the Product (excluding Software), for a period of two (2) years from the date of purchase from ARRIS or from an authorized ARRIS reseller. To take advantage of this Limited Warranty or to obtain technical support, you must call the ARRIS toll-free phone number **1-877-466-8646**. Technical support charges may apply. ARRIS' sole and exclusive obligation under this Limited Warranty for retail sales shall be to repair or replace any Product or Software that does not meet this Limited Warranty. All warranty claims must be made within the applicable Warranty Period.

**Cable Operator or Service Provider Arrangements.** If you did not purchase this Product directly from ARRIS or from a ARRIS authorized retail reseller, ARRIS does not warrant this Product to you, the end-user. A limited warranty for this Product (including Software) may have been provided to your cable operator or Internet Service Provider ("Service Provider") from whom you obtained the Product. Please contact your Service Provider if you experience problems with this Product.

**General Information.** The warranties described in this Section shall not apply: (i) to any Product subjected to accident, misuse, neglect, alteration, Acts of God, improper handling, improper transport, improper storage, improper use or application, improper installation, improper testing or unauthorized repair; or (ii) to cosmetic problems or defects which result from normal wear and tear under ordinary use, and do not affect the performance or use of the Product. ARRIS' warranties apply only to a Product that is manufactured by ARRIS and identified by ARRIS owned trademark, trade name or product identification logos affixed to the Product. ARRIS does not warrant to you, the end user, or to anyone else that the Software will perform error free or without bugs.

ARRIS IS NOT RESPONSIBLE FOR, AND PROVIDES "AS IS" ANY SOFTWARE SUPPLIED BY 3RD PARTIES. EXCEPT AS EXPRESSLY STATED IN THIS SECTION ("WARRANTY INFORMATION"), THERE ARE NO WARRANTIES OF ANY KIND RELATING TO THE PRODUCT, EXPRESS, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THE WARRANTY AGAINST INFRINGEMENT PROVIDED IN THE UNIFORM COMMERCIAL CODE. Some states do not allow for the exclusion of implied warranties, so the above exclusion may not apply to you.

What additional provisions should I be aware of? Because it is impossible for ARRIS to know the purposes for which you acquired this Product or the uses to which you will put this Product, you assume full responsibility for the selection of the Product for its installation and use. While every reasonable effort has been made to insure that you will receive a Product that you can use and enjoy, ARRIS does not warrant that the functions of the Product will meet your requirements or that the operation of the Product will be uninterrupted or error-free.

ARRIS IS NOT RESPONSIBLE FOR PROBLEMS OR DAMAGE CAUSED BY THE INTERACTION OF THE PRODUCT WITH ANY OTHER SOFTWARE OR HARDWARE. ALL WARRANTIES ARE VOID IF THE PRODUCT IS OPENED, ALTERED, AND/OR DAMAGED.

THESE ARE YOUR SOLE AND EXCLUSIVE REMEDIES for any and all claims that you may have arising out of or in connection with this Product, whether made or suffered by you or another person and whether based in contract or tort.

IN NO EVENT SHALL ARRIS BE LIABLE TO YOU OR ANY OTHER PARTY FOR ANY DIRECT, INDIRECT, GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR OTHER DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF INFORMATION OR ANY OTHER PECUNIARY LOSS), OR FROM ANY BREACH OF WARRANTY, EVEN IF ARRIS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO CASE SHALL ARRIS' LIABILITY EXCEED THE AMOUNT YOU PAID FOR THE PRODUCT.

These matters are governed by the laws of the Commonwealth of Pennsylvania, without regard to conflict of laws principles and excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods.

**Retail Purchasers Only.** If you purchased this Product directly from ARRIS or from an ARRIS authorized retail reseller, please call the ARRIS toll-free number, **1-877-466-8646** for warranty service or technical support. Technical support charges may apply.

**Cable Operator or Service Provider Arrangements.** If you did not purchase this Product directly from ARRIS or from an ARRIS authorized retail reseller, please contact your Service Provider for technical support.

**Corporate Headquarters**

**ARRIS · Suwanee · Georgia · 30024 · USA**

T: 1-678-473-2000 F: 1-678-473-8470

[www.arris.com](http://www.arris.com)

PN: 365-095-25778 x.2

December 2015