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> [Motorola ARRIS SURFboard SBG6580 DOCSIS 3.0 Cable Modem and Wi-Fi N300 Dual Band Router User Manual](#)

Motorola SBG6580

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Model: SBG6580

1. INTRODUCTION

The Motorola ARRIS SURFboard SBG6580 is an integrated home networking solution combining a DOCSIS 3.0 cable modem, a four-port 10/100/1000 Ethernet switch with advanced firewall capabilities, and an 802.11n Wi-Fi access point. This device is designed to provide ultra-broadband data and multimedia services, as well as high-bandwidth home networking, allowing users to share a single internet connection, files, and networked peripherals via wired or Wi-Fi connectivity.

2. PACKAGE CONTENTS

Upon opening the retail packaging, ensure the following items are included:

- ARRIS SURFboard SBG6580 Cable Modem/Wi-Fi Router
- Power Cord
- Ethernet Cable
- Instruction Manual (this document)

3. DEVICE OVERVIEW

3.1 Front Panel Indicators

The front panel of the SBG6580 features several LED indicators that provide status information about the device's operation. These lights help in monitoring the connection status and identifying potential issues.



Figure 1: Front view of the ARRIS SURFboard SBG6580 showing indicator lights.

- **Power (Green):** Indicates the device is powered on.
- **Receive (Blue/Green):** Indicates downstream channel bonding (blue) or single channel connection (green).
- **Send (Blue/Green):** Indicates upstream channel bonding (blue) or single channel connection (green).
- **Online (Green):** Indicates successful internet connection.
- **Wi-Fi (Green):** Indicates Wi-Fi functionality is active.

3.2 Rear Panel Ports

The rear panel provides all the necessary connection ports for the cable modem and router functionalities.



Figure 2: Rear view of the ARRIS SURFboard SBG6580 with various ports.

- **COAX (Blue):** Connects to the coaxial cable from your cable service provider.
- **Ethernet Ports (Yellow, 1-4):** Four Gigabit Ethernet ports for wired connections to computers, gaming consoles, or other network devices.
- **Power (Green):** Connects to the power adapter.
- **Reset Button:** Used to reset the device to factory default settings (recessed button).

4. SETUP

4.1 Pre-installation Checks

- Verify compatibility with your Internet Service Provider (ISP). The SBG6580 is compatible with major U.S. cable operators like Comcast Xfinity, Time Warner Cable, Charter, Cox, and Cablevision. Contact your ISP if not listed.
- Ensure you have an active cable internet service subscription.
- Gather your ISP account information, including account number and contact details.

4.2 Connecting the Modem/Router

1. Connect one end of the coaxial cable to the COAX port on the SBG6580 and the other end to a cable wall outlet. Ensure the connection is finger-tight.
2. Connect the Ethernet cable from one of the Ethernet ports (1-4) on the SBG6580 to the Ethernet port on your computer (optional for initial setup, Wi-Fi can also be used).
3. Connect the power cord to the Power port on the SBG6580 and then plug the other end into an electrical outlet.
4. Allow the device several minutes to power on and establish a connection. The front panel lights will cycle through various states before settling.

4.3 Activating with ISP

After connecting the hardware, you will need to activate the SBG6580 with your ISP. This typically involves:

- Calling your ISP's customer service.
- Providing them with the MAC address (CM MAC) and Serial Number (SN) located on the label on the bottom or back of your SBG6580.
- Following their instructions to complete the activation process.

5. OPERATION

5.1 Understanding Indicator Lights

Once fully operational, the front panel LEDs should display the following status:

- **Power:** Solid Green
- **Receive:** Solid Blue (for bonded channels) or Solid Green (for single channel)
- **Send:** Solid Blue (for bonded channels) or Solid Green (for single channel)
- **Online:** Solid Green
- **Wi-Fi:** Solid Green

If any lights are blinking or off when they should be solid, refer to the Troubleshooting section.

5.2 Accessing the Web Interface

To configure advanced settings, including Wi-Fi network name and password, you can access the SBG6580's web interface:

1. Open a web browser (e.g., Chrome, Firefox, Edge).
2. In the address bar, type 192.168.0.1 or 192.168.100.1 and press Enter.
3. When prompted, enter the default username admin and password motorola (or the password printed on the device label if different).
4. You will now have access to the modem/router's configuration pages.

5.3 Basic Wi-Fi Configuration

From the web interface, navigate to the Wireless section to configure your Wi-Fi network:

- **SSID (Network Name):** Change the default SSID to a unique name for your network.
- **Security Key (Password):** Set a strong, unique password for your Wi-Fi network. WPA2-PSK (AES) is recommended for optimal security.
- **Dual Band:** The SBG6580 supports dual-band Wi-Fi (2.4GHz and 5GHz). You can configure separate SSIDs and passwords for each band or use a single SSID for both if supported by your devices.
- **Disabling SSID Broadcasting:** To hide your network name, navigate to the 'Wireless' section, then 'Primary Network'. Under 'Automatic Security Configuration', click 'Disabled'. In the 'Closed Network' section, set it to 'Enabled'. Save and exit.

5.4 Wired Connections

Use the four Gigabit Ethernet ports on the rear panel to connect devices that require a stable, high-speed wired connection, such as desktop computers, smart TVs, or gaming consoles. Simply plug an Ethernet cable from the device into any of the numbered Ethernet ports on the SBG6580.

6. MAINTENANCE

6.1 Firmware Updates

Firmware updates for the SBG6580 are typically managed and pushed by your Internet Service Provider (ISP). It is generally not recommended to attempt manual firmware updates unless instructed by your ISP, as incorrect updates can cause device malfunction.

6.2 Resetting the Device

If you experience persistent issues or wish to restore the device to its factory default settings, you can perform a factory reset:

- With the SBG6580 powered on, use a paperclip or a similar pointed object to press and hold the recessed Reset button on the rear panel for at least 10-15 seconds.
- Release the button. The device will restart and revert to its original factory settings. You will need to reconfigure your Wi-Fi settings and potentially reactivate with your ISP.

6.3 Physical Care

- Place the device in a well-ventilated area to prevent overheating. Avoid enclosed spaces.
- Keep the device away from moisture, direct sunlight, and extreme temperatures.
- Clean the exterior with a soft, dry cloth. Do not use liquid cleaners or aerosols.

7. TROUBLESHOOTING

This section addresses common issues and their potential solutions.

7.1 Intermittent Disconnections or Slow Speed

One common cause for intermittent disconnections or slow internet speeds is improper signal power levels. You can check these levels via the modem's web interface:

1. Access the SBG6580 web interface (refer to Section 5.2).
2. Navigate to the 'Connection' or 'Status' page. Look for tables displaying 'Downstream Bonded Channels' and 'Upstream Channels'.
3. **Downstream Power Levels:** Check the 'Power' column. Optimal range is typically between -8 dBmV and +8 dBmV. Values outside this range (e.g., -9 dBmV or +9 dBmV) may indicate a problem.
4. **Upstream Power Levels:** Check the 'Power' column. Optimal range is typically up to 52 dBmV. Values higher than this (e.g., 55 dBmV or 57 dBmV) may indicate a problem.
5. Also, ensure all channels (typically 8 downstream and 4 upstream) are locked. If only one upstream channel is locked, it can indicate an issue.

If power levels are outside the optimal range or channels are not locked, contact your ISP. They may need to send a technician to inspect your cable lines or adjust signal strength from their end. Remote fixes may offer temporary relief, but a physical inspection is often required for a lasting solution.

7.2 No Internet Connection

- Check all cable connections (coaxial, Ethernet, power) to ensure they are secure.
- Restart the modem by unplugging the power cord for 10 seconds and then plugging it back in.
- Verify that the 'Online' LED on the front panel is solid green. If it's blinking or off, the modem is not establishing an internet connection.
- Contact your ISP to confirm service status and modem activation.

7.3 Wi-Fi Not Working

- Ensure the 'Wi-Fi' LED on the front panel is solid green.
- Check your device's Wi-Fi settings to ensure it's connected to the correct SSID and using the correct password.
- Try restarting the modem/router.
- Access the web interface (Section 5.2) to verify Wi-Fi settings are correctly configured and not disabled.

7.4 Contacting Support

If troubleshooting steps do not resolve your issue, contact your Internet Service Provider for assistance. For hardware-related inquiries, you may contact Motorola/ARRIS support.

8. SPECIFICATIONS

Feature	Specification
Model	SBG6580
DOCSIS Standard	DOCSIS 3.0
Wi-Fi Standard	802.11n (N300 Dual Band)
Ethernet Ports	4 x Gigabit Ethernet (10/100/1000 Mbps)

Feature	Specification
Max Downstream Data Rate	343 Mbps (8 bonded channels)
Max Upstream Data Rate	131 Mbps (4 bonded channels)
Frequency Range	DOCSIS and EuroDOCSIS 108 to 1002 MHz
Dimensions (L x W x H)	5.9" x 1.77" x 6.69"
Weight	15.04 ounces
Color	Black

9. PRODUCT OVERVIEW VIDEO

Watch this video for a visual overview of the ARRIS SURFboard SBG6580 Cable Modem & Wi-Fi Router features and benefits.

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Video: ARRIS SURFboard SBG6580 DOCSIS 3.0 Cable Modem/ Wi-Fi N300 2.4Ghz + N300 5GHz Dual Band Router Overview. This video highlights the device's capabilities and integrated features.

10. WARRANTY AND SUPPORT

The Motorola ARRIS SURFboard SBG6580 comes with a 1-Year Full Coverage Warranty. For warranty claims or technical support, please refer to the contact information provided by your retailer or Internet Service Provider. You may also visit the official Motorola support website for additional resources.

