Touchstone® CM8200
DOCSIS® 3.1 Cable Modem

User Guide

July 2016

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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.

- Installation of an AC surge protector in the AC outlet to which this device is connected is recommended. 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, laundry tub, swimming pool, or in a wet basement.

- 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 due to lightning and 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 THESE 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 must 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 to the device not expressly approved by ARRIS 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.*

Getting Started

Introduction

The ARRIS Touchstone® CM8200 DOCSIS® 3.1 Cable Modem provides significantly higher downstream (send) and upstream (receive) Internet connection speeds over the broadband connection on your home or small business network. You use the CM8200 to directly connect a computer to your LAN through an Ethernet connection.

This guide provides instructions for installing and setting up the CM8200 to get it connected on your home or small business network, and also for viewing the operational status and network configuration settings of the CM8200.

In the Box

Before installing the CM8200, check that the following items are included in the box. If any items are missing, please contact your service provider for assistance.

Table 1. CM8200 Package Contents

Item		Description
CM8200 Cable Modem		High-speed DOCSIS 3.1 cable modem
Power Supply		Power cord for an electrical wall outlet connection
Ethernet Cable		Standard Category 5 (CAT5e) or higher network cable

Item		Description
Software License & Regulatory Card		Contains safety and regulatory information, software license, and warranty for the cable modem
CM8200 Quick Start Guide		Provides basic instructions for installing the cable modem and setting up your network connections

Additional Item(s) Needed

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

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

System Requirements

■ High-speed Internet access account
■ Web browser access – Microsoft Internet Explorer, Google Chrome, Firefox, or Safari
■ Compatible operating systems:

   • Windows® 10
   • Windows 8
   • Windows 7 Service Pack 1 (SP1)

   Note: Although older versions of Microsoft Windows operating systems are no longer specifically supported, they should still function with the CM8200.

   • Macintosh® 10.4 or higher

   • UNIX®
   • Linux®

Contact Information

For customer service and Technical Support, choose any of the following methods:

■ Visit the ARRIS Technical Support web page at **ask.arris.com**
■ Email: **techsupport.na@arris.com**
■ Telephone: **1-888-944-4357** (US toll-free)

Product Overview

Front Panel

Figure 1: CM8200 Front View

Table 2. CM8200 Front Panel LED Icons

LED Icon	Flashing	On
POWER	Not applicable — icon does not flash	**Green**: Power is properly connected
RECEIVE	Scanning for a downstream (receive) channel Internet connection	**Green**: Downstream channel is connected in DOCSIS 3.0 mode **Blue** *: High-speed Internet connection with downstream channels in DOCSIS 3.1 mode
SEND	Scanning for an upstream (send) channel Internet connection	**Green**: Upstream channel is connected in DOCSIS 3.0 mode **Blue***: High-speed Internet connection with upstream channels in DOCSIS 3.1 mode
ONLINE	Scanning for an Internet connection	**Green**: Connection to the Internet is completed

*__Blue__ - Indicates DOCSIS 3.1 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: CM8200 Rear View

Table 3. CM8200 Rear Panel Ports & Connectors

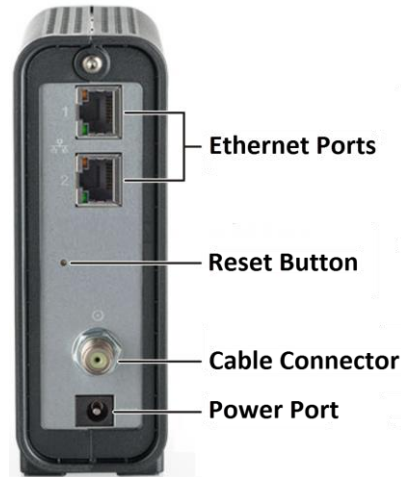| Port Name	Description
ETHERNET	Two Ethernet ports for RJ-45 network cable connections **Green**: LED indicates a GigE data connection is made **Amber**: LED indicates a 10/100 Mbps data connection is made
Reset Button	Recessed button located on the back of the CM8200 can be used to either reboot the cable modem or reset the cable modem configuration settings. To reboot (or restart) the cable modem: 1. Insert the end of a paper clip or other small object with a narrow tip into the **Reset** opening on the back of the CM8200. 2. Press and hold the indented **Reset** button for three to four seconds only. 3. Remove the paper clip or small object from the **Reset** opening. To reset the cable modem configuration back to the factory default settings: 1. Insert the end of a paper clip or other small object with a narrow tip into the **Reset** opening on the back of the CM8200. 2. Press and hold the **Reset** button for 10 seconds or until the front panel LEDs flash. 3. Remove the paper clip or small object from the **Reset** opening. See Reset the Cable Modem Configuration Settings for more information on restoring the factory default settings on the CM8200.

Port Name	Description
	Coaxial cable connector
	+12VDC Power Connector **WARNING**! To avoid any damage to your CM8200, only use the power supply provided in the box.

Cable Modem Label
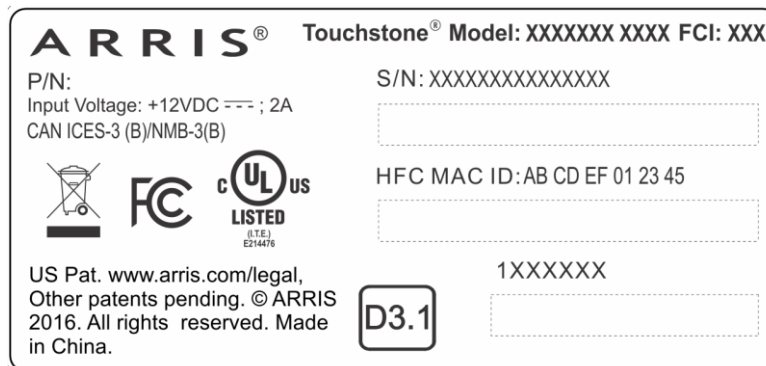
Figure 3: Sample CM8200 Cable Modem Label

The cable modem label is located on the bottom of your CM8200. It contains specific cable modem ID that you may need when contacting your service provider or ARRIS Technical Support for assistance.

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

- Model name (**CM8200**)
- MAC address (**HFC MAC ID**)
- 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 CM8200 to Your Computer

Before installing the CM8200:

■ 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 4: CM8200 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 CM8200.

   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 CM8200.

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 CM8200.

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 CM8200. There may be up to a 15 second delay for the **Power** LED on the CM8200 front panel to light up after the power is connected.*

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 CM8200, if it is turned off, and then log in.

2. Contact your service provider to activate (provision) the CM8200. 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 CM8200 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.arris.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 CM8200 light up in sequential order. See *Front Panel* 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 CM8200 or check for possible signal issues.
   - If you still cannot connect to the Internet, the CM8200 may be defective. Please contact your service provider for assistance.

Using the Cable Modem Web Manager

The CM8200 Web Manager is available to view and monitor the CM8200 operational status and network configuration settings.

Start the CM8200 Web Manager

1. Open any Web browser on the computer connected to the CM8200.
2. Type the default LAN IP address, **192.168.100.1**, in the Address bar and then press **Enter.** The CM8200 Status screen displays.

Startup Procedure

Procedure	Status	Comment
Acquire Downstream Channel		Locked
Connectivity State	OK	Operational
Boot State	OK	Operational
Configuration File	OK	
Security	Enabled	BPI+
DOCSIS Network Access Enabled	Allowed	

Downstream Bonded Channels

Channel	Lock Status	Modulation	Channel ID	Frequency	Power	SNR	Corrected	Uncorrectables
1	Locked	QAM256	3	717000000 Hz	-0.9 dBmV	44.5 dB	0	0
2	Locked	QAM256	2	711000000 Hz	-1.0 dBmV	48.1 dB	4	0
3	Locked	QAM256	1	705000000 Hz	-0.9 dBmV	48.4 dB	0	0
4	Locked	QAM256	4	723000000 Hz	-0.9 dBmV	48.0 dB	0	0
5	Locked	QAM256	5	741000000 Hz	-0.7 dBmV	46.2 dB	0	0
6	Locked	QAM256	6	747000000 Hz	-0.7 dBmV	47.1 dB	0	0
7	Locked	QAM256	7	753000000 Hz	-0.7 dBmV	47.2 dB	0	0
8	Locked	QAM256	8	759000000 Hz	-0.9 dBmV	47.3 dB	0	0

Upstream Bonded Channels

Channel	Lock Status	US Channel Type	Channel ID	Symbol Rate	Frequency	Power
1	Locked	ATDMA	49	5120 Ksym/sec	30700000 Hz	45.2 dBmV
2	Locked	TDMA and ATDMA	50	2560 Ksym/sec	18500000 Hz	44.9 dBmV
3	Locked	ATDMA	51	5120 Ksym/sec	23300000 Hz	45.0 dBmV
4	Locked	TDMA and ATDMA	52	2560 Ksym/sec	35500000 Hz	45.2 dBmV
9	Locked	Unknown	49	4294967295 Ksym/sec	30700000 Hz	0.0 dBmV
10	Locked	Unknown	49	4294967295 Ksym/sec	30700000 Hz	0.0 dBmV

Current System Time: Fri Jan 22 08:13:14 2016

Figure 5: CM8200 Opening Screen

Note: *If you cannot access the HTML pages in the CM8200 Web Manager, please contact your service provider or* ARRIS Technical Support *for assistance.*

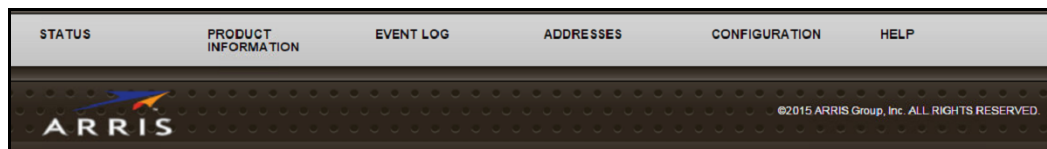# CM8200 Web Manager Screen Options

Menu Buttons and Links

You can use the web manager buttons or links to view the status and network configuration screens for the CM8200.

- The CM8200 menu buttons are displayed along the top of the CM8200 Web Manager screen. To display a specific web manager screen, click the menu button.
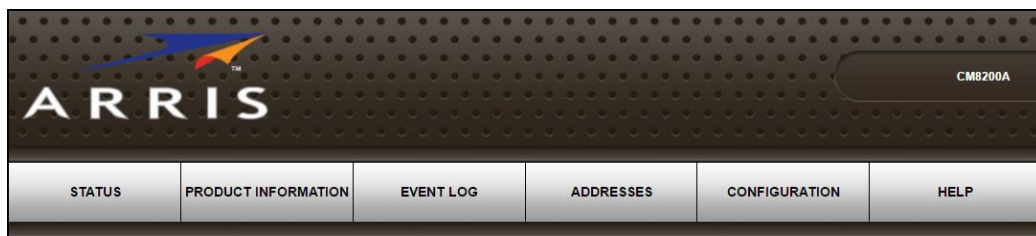
Figure 6: CM8200 Web Manager Menu Buttons

- The CM8200 menu links are displayed along the bottom of the CM8200 Web Manager screen. To display a specific web manager screen, click the menu link.

Figure 7: CM8200 Web Manager Menu Links

Table 4.   CM8200 Web Manager Screen Options

Screen Option	Function
Status	Provides the current operational status of the cable modem.
Product Information	Provides the current hardware and software-related information for the cable modem.
Event Log	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.

Screen Option	Function
Addresses	Provides the serial number and MAC addresses for the cable modem and computers connected on your home network.
Configuration	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 also restart the cable modem.
Help	Provides a brief description for each screen option and general troubleshooting tips.

Get Help

The Help Pages screen provides a brief description for each web manager screen.

■ Click the **Help** menu button or link on the CM8200 Web Manager screen to open the CM8200 Help Pages screen.

Figure 8: CM8200 Help Pages Screen

Exit the CM8200 Web Manager

To exit the CM8200 Web Manager:

■ Click ❎ (**Close** button) in the upper right corner of the web browser window.

Monitoring Your Cable Modem and Connected Network

Note: *You may notice that some of the CM8200 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 Cable Modem Product Information

The CM8200 Product Information screen displays the hardware and firmware versions, MAC address, serial number, and operation status for the CM8200.

To open the Product Information screen:
1. Open the CM8200 Web Manager (see *Start the CM8200 Web Manager*).
2. Click the **Product Information** menu button or link on the CM8200 Web Manager screen.
3. Press **F5** to refresh or update the information on the screen.

Information	
Standard Specification Compliant	Docsis 3.0
Hardware Version	3
Software Version	D31CM-PEREGRINE-1.0.0.0-GA-00-DIAG
Cable Modem MAC Address	20:3D:66:AE:33:51
Serial Number	G3HBWY445300145
Status	
Up Time	1 days 04h:39m:30s.00

Figure 9: CM8200 Product Information Screen

View the Cable Modem Network Connection Status

The CM8200 Status screen displays the current connection status of the CM8200 and the downstream and upstream bonded channel connections for receive and send data transmissions. *Help* is available to resolve any connection issues that resulted in a "failed" state during the cable modem startup.

To open the Status screen:

1. Open the CM8200 Web Manager (see *Start the CM8200 Web Manager*).

2. Click the **Status** menu button or link on the CM8200 Web Manager screen.

   The Status screen displays (see Figures 10 and 11).

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

Startup Procedure		
Procedure	**Status**	**Comment**
Acquire Downstream Channel	663000000 Hz	Locked
Connectivity State	OK	Operational
Boot State	OK	Operational
Configuration File	OK	"generic_30_bpi_plus_all_interfaces_TLV55_On.cm"
Security	Enabled	BPI+
DOCSIS Network Access Enabled		

Figure 10: CM8200 Status Screen (1 of 2)

Downstream Bonded Channels								
Channel	**Lock Status**	**Modulation**	**Channel ID**	**Frequency**	**Power**	**SNR**	**Corrected**	**Uncorrectables**
1	Locked	QAM256	3	717000000 Hz	-0.9 dBmV	44.5 dB	0	0
2	Locked	QAM256	2	711000000 Hz	-1.0 dBmV	48.1 dB	4	0
3	Locked	QAM256	1	705000000 Hz	-0.9 dBmV	48.4 dB	0	0
4	Locked	QAM256	4	723000000 Hz	-0.9 dBmV	48.0 dB	0	0
5	Locked	QAM256	5	741000000 Hz	-0.7 dBmV	46.2 dB	0	0
6	Locked	QAM256	6	747000000 Hz	-0.7 dBmV	47.1 dB	0	0
7	Locked	QAM256	7	753000000 Hz	-0.7 dBmV	47.2 dB	0	0
8	Locked	QAM256	8	759000000 Hz	-0.9 dBmV	47.3 dB	0	0

Upstream Bonded Channels						
Channel	**Lock Status**	**US Channel Type**	**Channel ID**	**Symbol Rate**	**Frequency**	**Power**
1	Locked	ATDMA	49	5120 Ksym/sec	30700000 Hz	45.2 dBmV
2	Locked	TDMA and ATDMA	50	2560 Ksym/sec	18500000 Hz	44.9 dBmV
3	Locked	ATDMA	51	5120 Ksym/sec	23300000 Hz	45.0 dBmV
4	Locked	TDMA and ATDMA	52	2560 Ksym/sec	35500000 Hz	45.2 dBmV
9	Locked	Unknown	49	4294967295 Ksym/sec	30700000 Hz	0.0 dBmV
10	Locked	Unknown	49	4294967295 Ksym/sec	30700000 Hz	0.0 dBmV

Current System Time: Fri Jan 22 08:13:14 2016

Figure 11: CM8200 Status Screen (2 of 2)

View the Cable Modem Event Log

The CM8200 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 your service provider or ARRIS Technical Support for assistance.*

To open the Event Log screen:

1. Open the CM8200 Web Manager (see *Start the CM8200 Web Manager*).
2. Click the **Event Log** menu button or link on the CM8200 Web Manager screen.
3. Press **F5** to refresh or update the information on the screen.

Time	Priority	Description
Thu Jun 30 00:37:34 2016	Error (4)	DHCP RENEW WARNING - Field invalid in response v4 option;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:37:34 2016	Warning (5)	DHCP WARNING - Non-critical field invalid in response ;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:37:34 2016	Critical (3)	DHCP FAILED - Request sent, No response;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Time Not Established	Notice (6)	Honoring MDD; IP provisioning mode = Dual-Stack
Time Not Established	Critical (3)	No Ranging Response received - T3 time-out
Wed Jun 29 12:36:26 2016	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire FEC framing;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.0;CM-VER=3.0;
Wed Jun 29 12:36:22 2016	Critical (3)	Received Response to Broadcast Maintenance Request, But no Unicast Maintenance opportunities received - T4 time out;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:36:22 2016	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire QAM/QPSK symbol timing;;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:36:20 2016	Critical (3)	Received Response to Broadcast Maintenance Request, But no Unicast Maintenance opportunities received - T4 time out;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:36:20 2016	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire QAM/QPSK symbol timing;;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:35:59 2016	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire QAM/QPSK symbol timing;;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:35:54 2016	Critical (3)	DHCP FAILED - Request sent, No response;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;
Wed Jun 29 12:34:49 2016	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire FEC framing;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:00:00:00:00:00;CM-QOS=1.0;CM-VER=3.0;
Wed Jun 29 12:34:45 2016	Critical (3)	Received Response to Broadcast Maintenance Request, But no Unicast Maintenance opportunities received - T4 time out;CM-MAC=e4:83:99:1d:27:82;CMTS-MAC=00:30:b8:c6:3a:23;CM-QOS=1.1;CM-VER=3.0;

Figure 12:   CM8200 Event Log Screen

View the Cable Modem Configuration Settings

The CM8200 Cable Modem Configuration screen displays the downstream and upstream connection to the network. When the CM8200 successfully connects to the network, it stores the connection frequency to automatically connect whenever you have to log in to the CM8200.

To open the Configuration screen:

1. Open the CM8200 Web Manager (see *Start the CM8200 Web Manager*).
2. Click the **Configuration** menu tab or link on the CM8200 Web Manager screen.

Note: The configuration settings on the CM8200 Configuration screen are read-only and cannot be modified. You will have to contact your service provider to obtain special authorization to change the cable modem frequencies and other configuration settings.

Configuration	
Downstream Frequency (Hz)	663000000
Upstream Channel ID	25
Downstream Frequency Plan	NorthAmerica
Energy Efficient Ethernet	▾

Figure 13:   CM8200 Configuration Screen

Reset the Cable Modem Configuration Settings

You can restore the factory default configuration settings on the CM8200. This process will delete the current CM8200 settings and take approximately five to 30 minutes to complete. Your network connection will remain disabled until after the CM8200 configuration settings are restored.

WARNING! This process will delete the current CM8200 configuration and replace it with the factory default settings.

To restore the factory default settings on the CM8200:

1. Insert the end of a paper clip or other small object with a narrow tip into the **Reset** opening on the back of the CM8200.
2. Press and hold the **Reset** button for 10 seconds or until the front panel LEDs flash.
3. Remove the paper clip or small object from the **Reset** opening.

Reboot the Cable Modem

To restart the CM8200:

1. Insert the end of a paper clip or other small object with a narrow tip into the **Reset** opening on the back of the CM8200.

2. Press and hold the indented **Reset** button for three to four seconds only, and then release.

    WARNING! If you press the **Reset** button for more than seven seconds, the cable modem configuration settings will be reset to the factory default settings.

Exit the CM8200 Web Manager

To exit the CM8200 Web Manager:

▪   Click (**Close** button) in the upper right corner of 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 CM8200 front panel LEDs (see *Front Panel LED Icons and Error Conditions*) for more information).

You may have to reset the CM8200 configuration to the default factory settings if the CM8200 is not functioning properly. See *Reset the Cable Modem Configuration Settings* for more information.

Solutions

Table 5.   Troubleshooting Solutions

Modem Problem	Possible Solution
Power LED Icon is OFF	■ Check the power connection from the cable modem to the electrical wall outlet.
	■ Check that the electrical wall outlet is working.
	Is the outlet controlled by a wall light switch?
	If so, disconnect the cable modem power cord and connect it to another electrical wall outlet that is not controlled by a wall light switch.
Cannot Send or Receive Data	■ 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.
	■ Check the Ethernet cable to make sure it is properly connected to the cable modem and computer.
	■ On the front panel, check the status of the LED icons and refer to *Front Panel LED Icons and Error Conditions* to identify the problem.
	■ If you have cable television service, check your television to ensure your cable service is operating properly.
	■ If none of the above solutions resolves the problem, contact your service provider or call ARRIS Technical Support at **1-888-944-4357** (US toll-free) for assistance.

Modem Problem	Possible Solution
Cannot Access the Internet	■ Check that all cable and power connections on your cable modem and computer are properly connected. ■ Check that the **Power** and **Online** LED icons on the front panel are lit up solid. ■ Contact your service provider for assistance.

Front Panel LED Icons and Error Conditions

The CM8200 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**	CM8200 is not properly plugged into the electrical outlet	CM8200 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

Warranty Information

Touchstone CM8200 DOCSIS 3.1 Cable Modem

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