Ubee Interactive

DOCSIS 3.0 Cable Modem

Model# U10C035

User Guide

Rev. 1.2

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1 Before You Begin

Your new cable modem provides high-speed access to the Internet by an active Internet connection through your cable service provider. This user guide describes how to set up and use the cable modem. Before installing the cable modem, you should read this user guide to ensure proper cable modem operation.

1.1 Features

Your cable modem has the following features to help you access the Internet:

- Two-way design allows the cable modem to send and receive data over the cable television network.
- Cable bandwidth allows data rates of up to 160 megabits per second (Mbps)*, which is faster than traditional DOCSIS 2.0 cable modems, integrated services digital network (ISDN), or asymmetric digital subscriber line (ADSL).
- Using your cable line means that the cable modem is always on, always connected, and does not tie up your phone line.
- Data Over Cable Service Interface Specification (DOCSIS™) compliance ensures interoperability with DOCSIS compliant cable operators.

***NOTE:** The following causes may affect the connection speed.

Computer specification, including available RAM space and processor speed.

Software applications that may be using computer's resources.

Network traffic depending on the time of day.

Limitations set by your Cable Service Provider.

1.2 Minimum Requirements

PC – Minimum System Requirements

Feature	
Processor	300Mhz
Operating System	Windows 2000 pro, Windows XP
Memory	128 MB RAM
Hard Drive	125 MB free space
Disk Drive	CD-ROM drive
Email Client	Outlook Express 5.5/6
Internet Browser	Internet Explorer version 5.5, 6 (sp1+sp2)
Computer Interface Ethernet card	Ethernet based connection (Network Interface Card) that can support 10/100/1000Mbps connection rates
Screen Display	SVGA display 800x600x256 colors or greater

Apple Mac - Minimum System Requirements

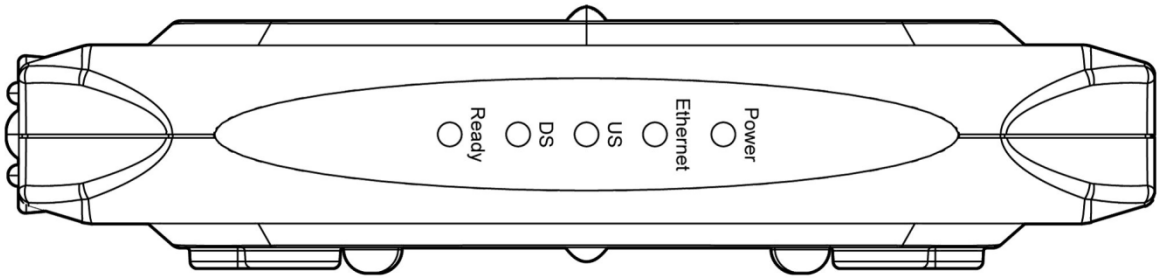
Feature	
Processor	Power PC 300Mhz +
Operating System	Mac OS 9.0+ (including OSX)
Memory	64 MB RAM
Hard Drive	150 MB free space
Disk Drive	CD-ROM drive
Email Client	Mac Mail
Internet Browser	Safari 1.2 +
Computer Interface	Ethernet based connection (Network Interface Card) that can support 10/100/1000Mbps connection rates
Screen display	SVGA display 800x600x256 colors or greater

2 Cable Modem LEDs and Connectors

This chapter describes the functions of the cable modem's LEDs and connectors. When the **Power**, and **Ready** LEDs are illuminated, the cable modem is working properly.

The following section provides an overview of the LEDs on the front of the cable modem and what each LED represents.

2.1 LEDs on the Front Panel



LED Name	Description
Power	Indicates that the cable modem has successfully completed internal power-on tests.
Ethernet	Indicates connectivity and traffic between the Ethernet port on the cable modem and the PC's Ethernet port.
US	Indicates upstream status and traffic received from the cable network. If cable modem operates with bonded channels, LED color will be orange; otherwise, it will be green.
DS	Indicates downstream status and traffic transmitted from the cable modem to the cable network. If cable modem operates with bonded channels, LED color will be orange; otherwise, it will be green.
Ready	Indicates that the cable modem has completed the IP acquisition and registration process and is ready to send/receive data.

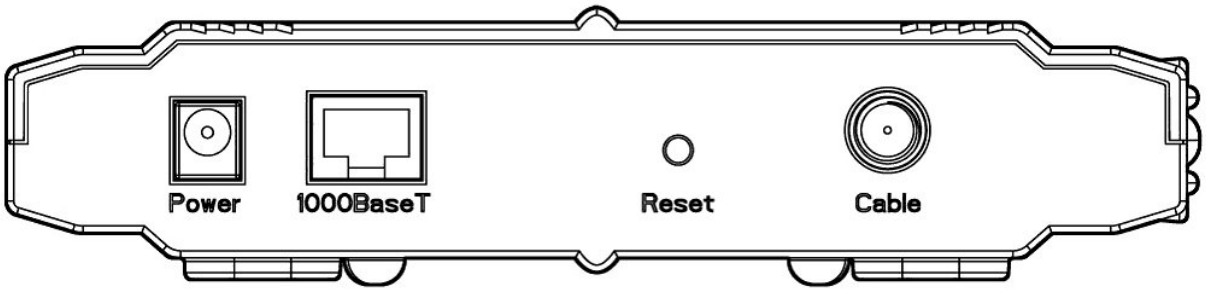
Installation problems with the cable modem are commonly due to the cable network and its topology. LEDs on the front panel of the cable modem reveal operational status and help you determine problem areas.

LED Name / Provisioning State		Ready	DS		US		Ethernet	Power
			single	bonded	single	bonded		
Driver init		off	off		off		off	on
DS scanning		off	blink		off		depends on Ethernet status	on
DS locked		off	on		off			on
US ranging		off	on		blink			on
US ranged		off	on		on			on
IP Init & Registration		blink	on		on			on
Operational	Network Access Enabled	on	on	on	on	on		on
	Network Access Disabled	off	on	on	on	on		on

LED Name / Interface Status	Ready	DS		US		Ethernet	Power
		single	bonded	single	bonded		
Cable interface traffic (network access enabled)	on	on	on	on	on	depends on Ethernet status	on
Ethernet connected	depends on provisioning state					on	on
Ethernet traffic	depends on provisioning state					blink	on

2.2 Rear Panel

This list of connectors describes where to connect the cables and power adapter when installing the cable modem.



Power	This is where you plug in the included power adapter. Remember to use only the power adapter that came with the cable modem.
1000BaseT	This is where you plug in the included Ethernet cable. The other end connects to the Ethernet port on the PC or NIC.
Reset	Allows you to power-cycle the cable modem.
Cable	This is where you connect the coaxial cable (not included) that leads to the cable splitter (not included) or the cable wall outlet.

Web-Based Management Utility

By visiting the Web-based Management, you can see status information on the cable modem.

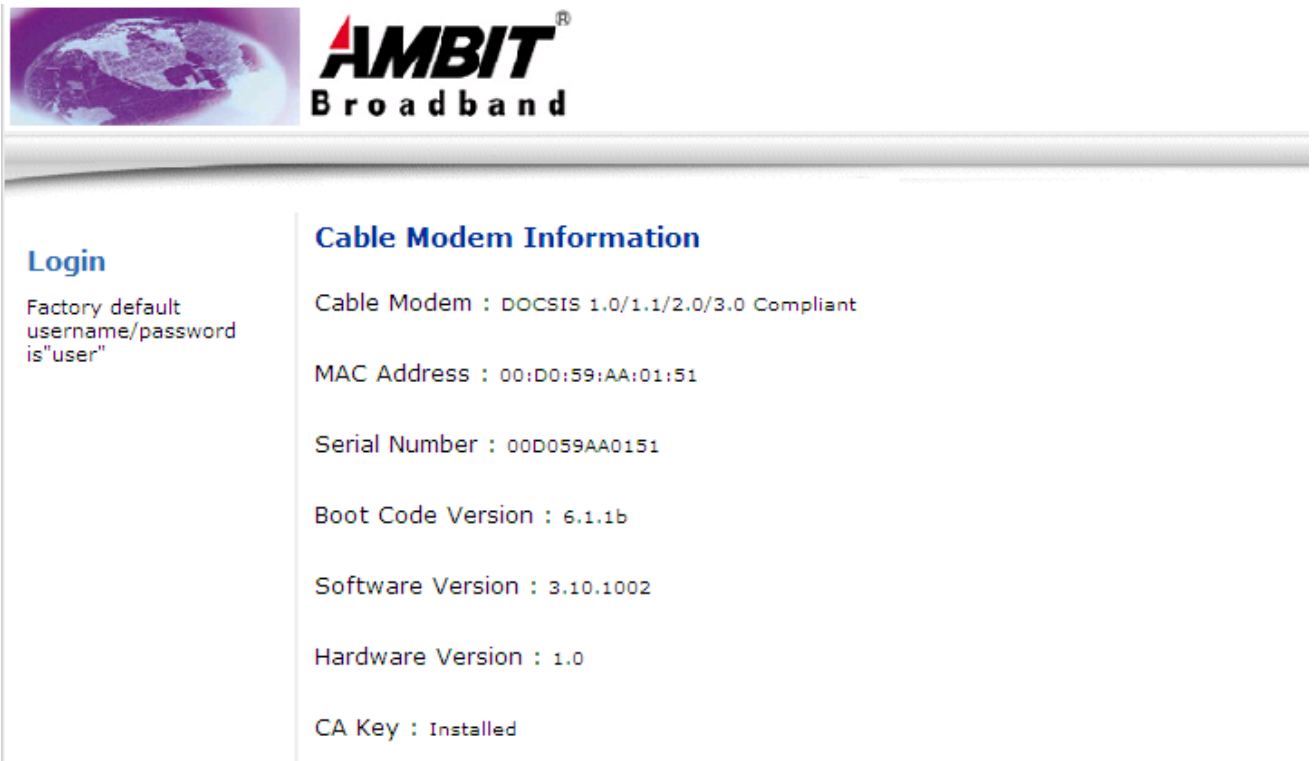
2.3 PC Requirements

- Supporting TCP/IP
- Supporting DHCP
- Web browser

2.4 Logging In

Follow the steps below to access the Web-based management utility.

1) Start the web browser and go to http://192.168.100.1. You may also access using the cable/RF IP address



Greeting Window

2) Click **LOGIN** and a window shown as follows will appear. Type ***user*** as Username and type ***user*** as Password, and then click **OK**.

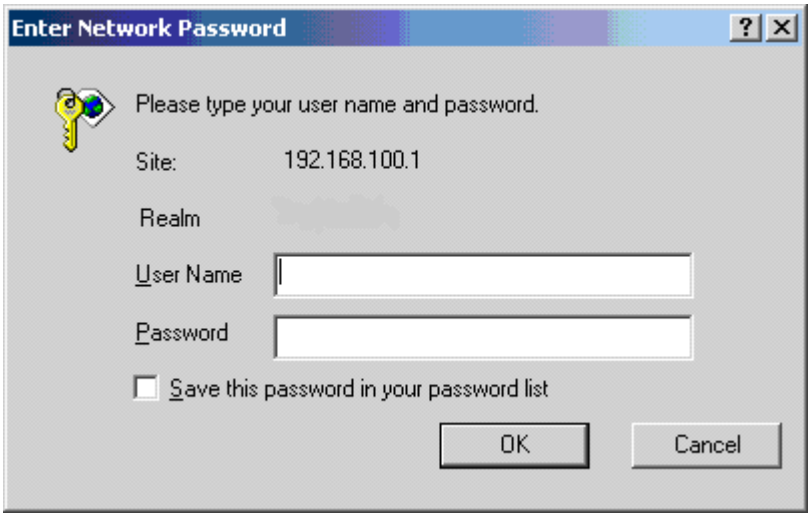


Figure 2-1 Log-in window

3) The Web page will show the message“401Unauthorized” when the entered username or password is invalid.

2.5 Cable Modem Page

After you log in successfully, the following will be the first page you have access to as displayed in Figure 2-2. One hyperlink in the top right corner are the main menus. The respective sub-menus will be listed on the left-hand side of the page.

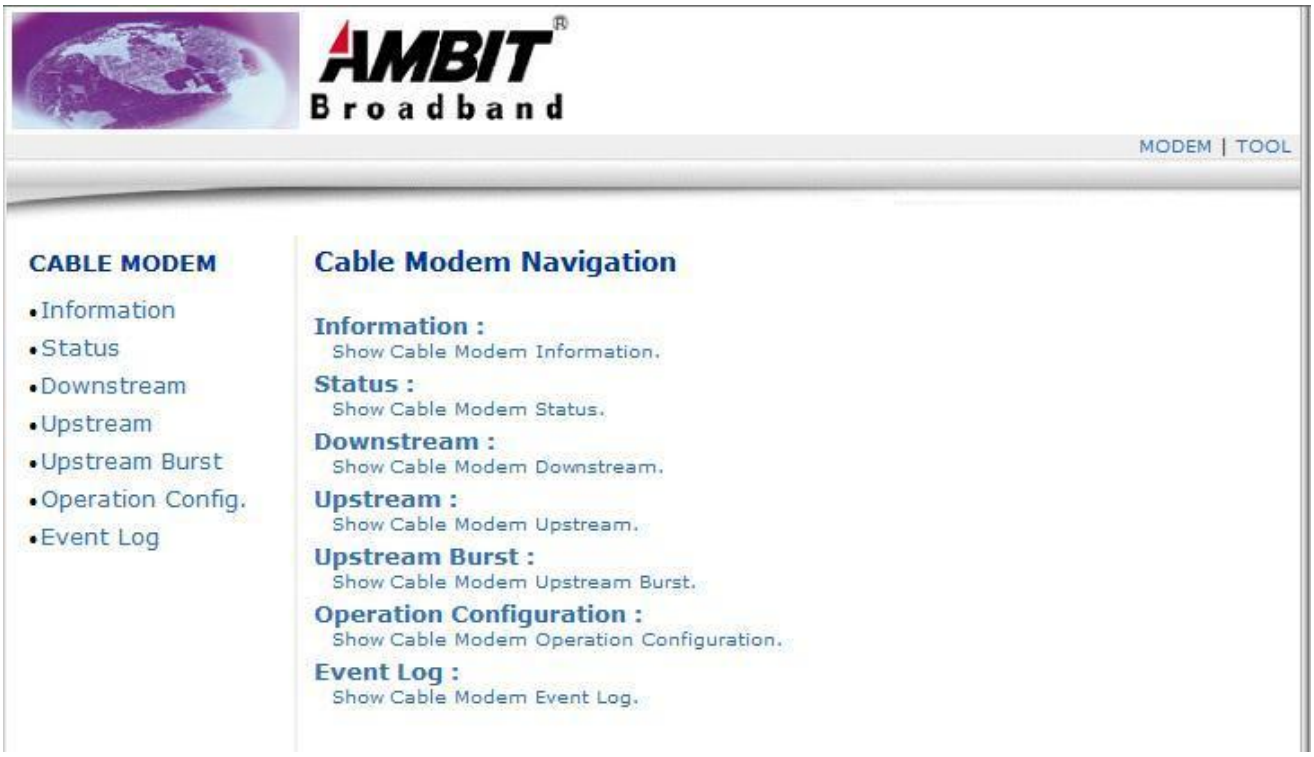


Figure 2-2 Home page of the Web-based management utility.

Cable Modem page contains six sub-pages: **Information**, **Status**, **Downstream**, **Upstream**, **Upstream Burst**, and **Event Log**.

2.5.1 Information

Information page lists important information about the modem.

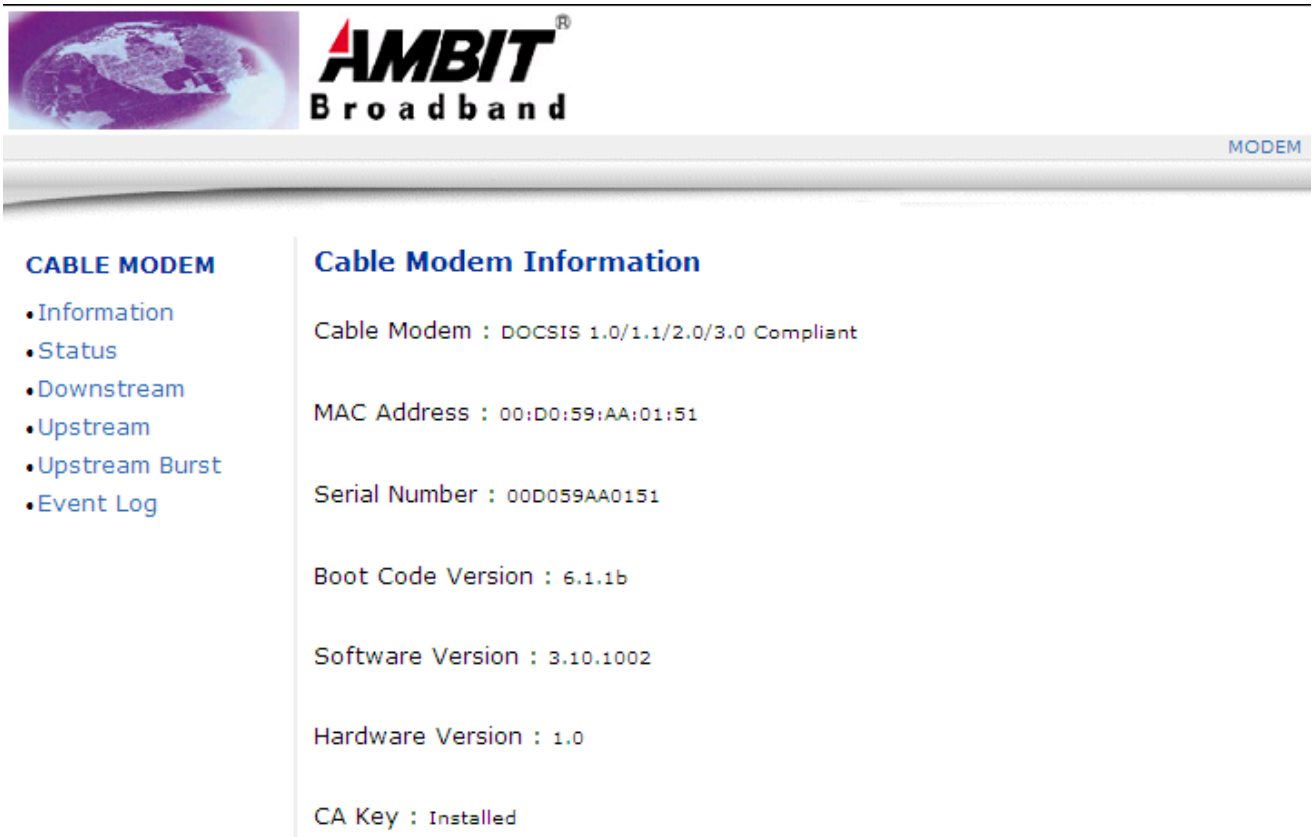


Figure 2-3 CABLE MODEM: Information

Item	Description
Cable Modem	This cable modem is Docsis1.0/Docsis1.1/Docsis2.0/Docsis3.0 compliant.
MAC Address	MAC address of Cable Modem
Serial Number	Serial number of Cable Modem
Boot Code Version	Current boot code version.
Software Version	Current software version.
Hardware Version	Current hardware version.
CA Key	Indicate if CA key is installed or not.

2.5.2 Status

Status page lists three items of the status of the modem. Click **Refresh** to obtain the latest information.

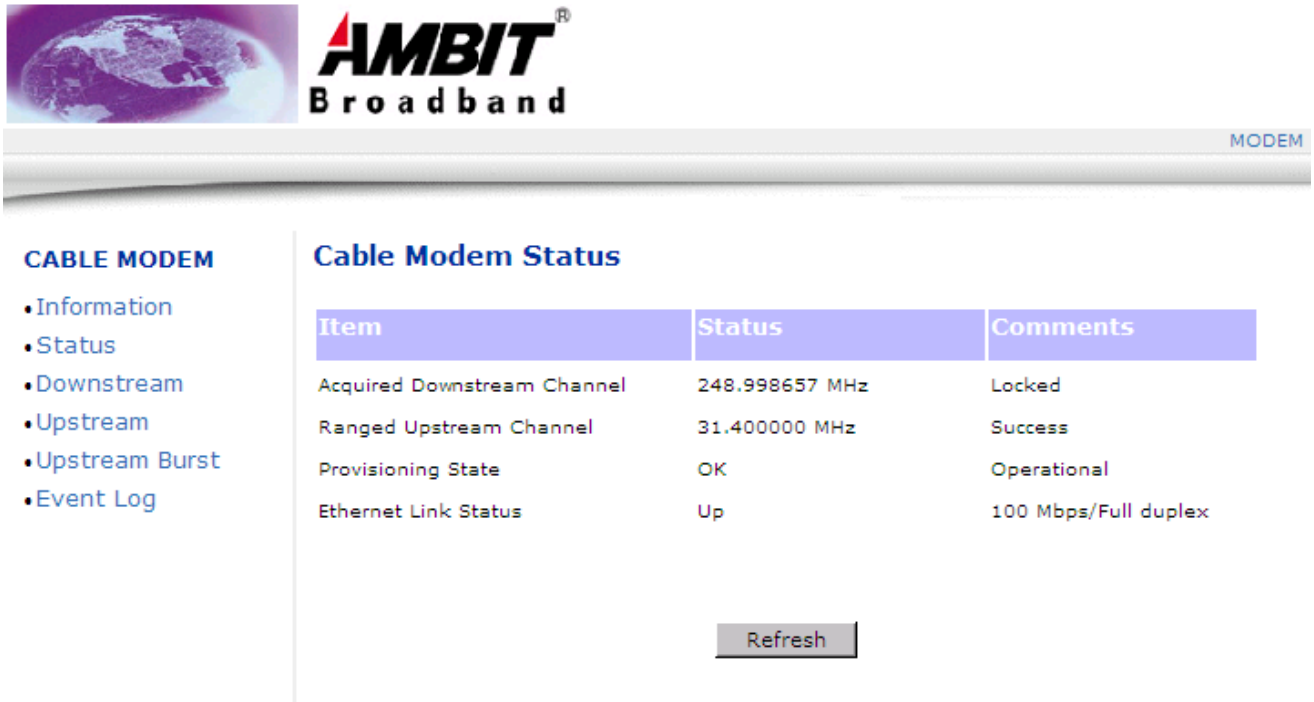


Figure 2-4 Status Page

Item	Description
Acquired a Downstream Channel	Current downstream lock status. (Status field will show downstream frequency. If comment field show "Locked", cable modem already locked onto this frequency. Otherwise, it will show "In Progress", cable modem is trying to lock onto a frequency).
Ranged Upstream Channel	Current upstream ranging status. (Status field shows currently locked upstream frequency, and comments filed shows ranging status of locked upstream.)
Provisioning State	Current cable modem state. (Status field show "Ok", cable modem is operational. Otherwise, it will show "In Progress", meaning the cable modem is in progress, and comments field will show current provisioning state).
Ethernet Link Status	Current link status of the Ethernet interface. (Status field shows Up/Down to indicate if there are CPEs connected to the Ethernet interface, and comment field shows speed and duplex of connected CPEs.)

2.5.3 Downstream

Downstream page is shown as in Figure 2-5. Click **Refresh** to obtain the latest information.

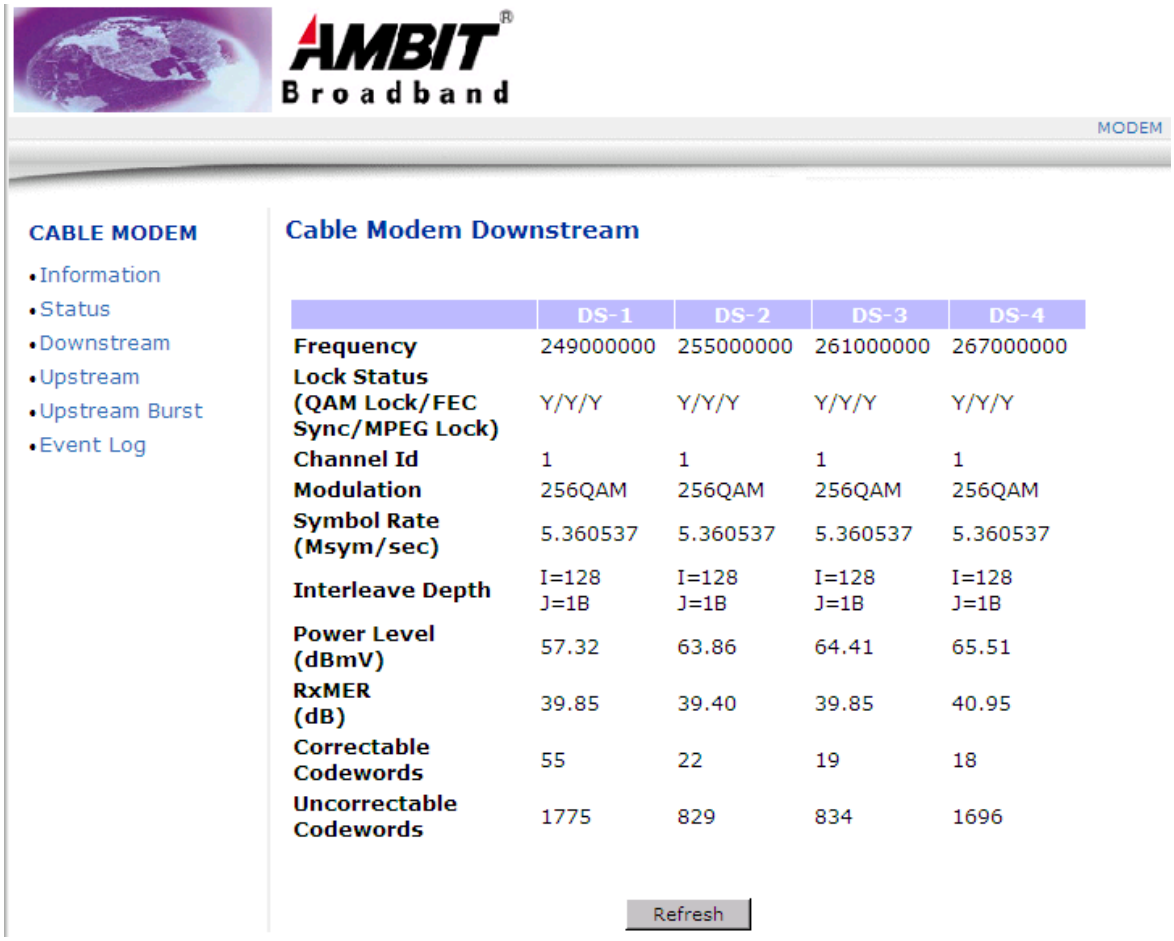
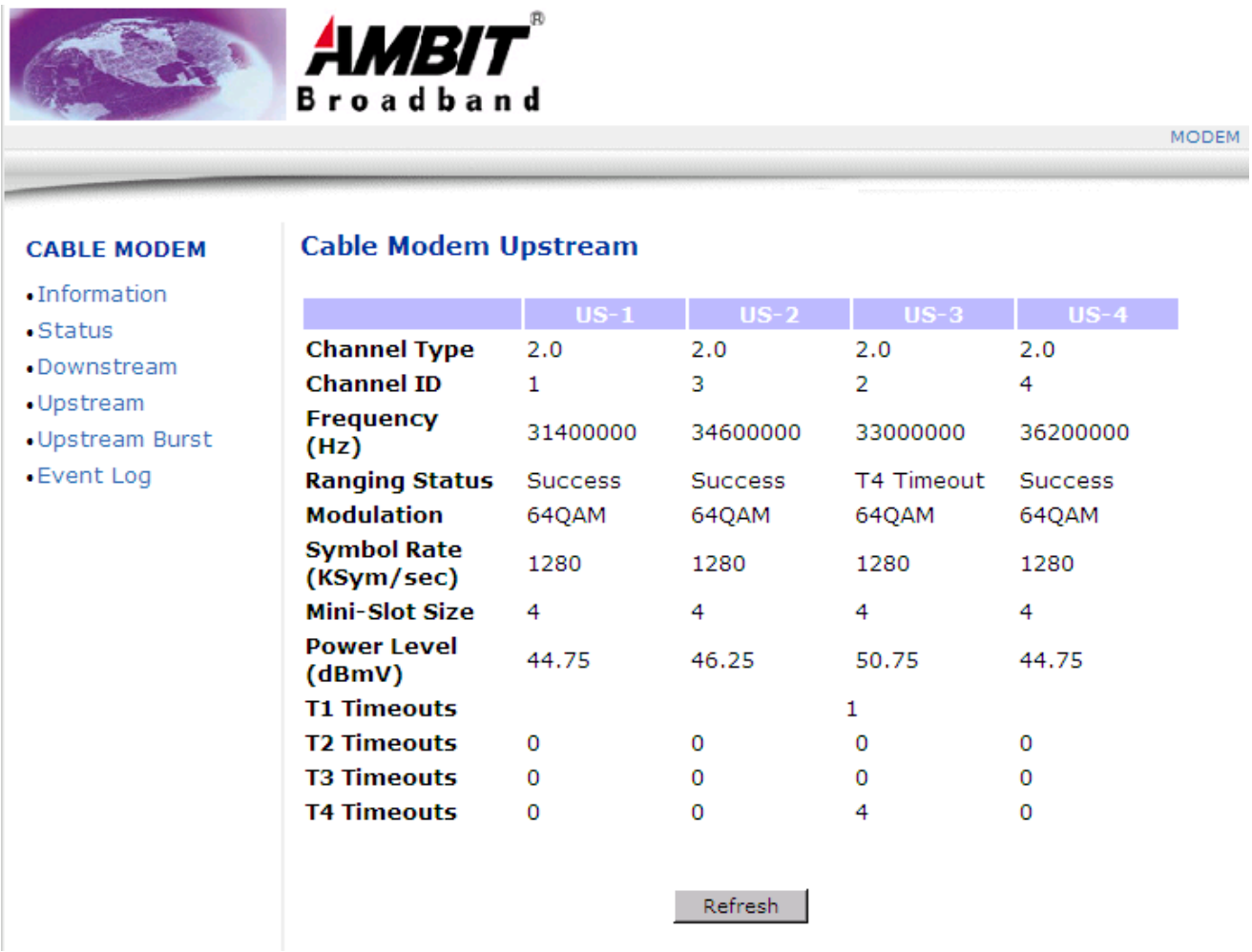


Figure 2-5 Downstream page

Item	Description
Frequency	Current cable modem downstream frequency (Hz).
Lock Status (QAM Lock/FEC Lock/MPEG Lock)	Current cable modem downstream lock status. It contains three sub-item, QAM Lock, FEC Lock, and MPEG Lock.
Channel ID	Current locked downstream channel ID.
Modulation	Current locked downstream modulation type (QAM64/ QAM256).
Symbol Rate (Msym/sec)	Current locked downstream symbol rate (QAM64 is 5.056941 Msym/sec, QAM256 is 5.360537 Msym/sec).
Interleave Depth	Current locked downstream interleaver characteristics. I means number of taps, and J means increment..
Power Level (dBmV)	Current locked downstream received power (dBmV).
RxMER (dB)	Current locked downstream Modulation Error Rate (MER).
Correctable Codewords	This field shows R-S codewords received on this channel with correctable errors.
Uncorrectable Codewords	This field shows R-S codewords received on this channel with uncorrectable errors.

2.5.4 Upstream

Figure 2-6 shows the page of **Upstream**. Click **Refresh** to obtain the latest information.



	US-1	US-2	US-3	US-4
Channel Type	2.0	2.0	2.0	2.0
Channel ID	1	3	2	4
Frequency (Hz)	31400000	34600000	33000000	36200000
Ranging Status	Success	Success	T4 Timeout	Success
Modulation	64QAM	64QAM	64QAM	64QAM
Symbol Rate (KSym/sec)	1280	1280	1280	1280
Mini-Slot Size	4	4	4	4
Power Level (dBmV)	44.75	46.25	50.75	44.75
T1 Timeouts			1	
T2 Timeouts	0	0	0	0
T3 Timeouts	0	0	0	0
T4 Timeouts	0	0	4	0

Figure 2-6 Upstream page

Item	Description
Channel Type	Current locked upstream channel type. It may be 1.0/2.0/mixed/3.0 according to collected UCDs.
Channel ID	Current locked upstream channel identify.
Frequency (Hz)	Current locked upstream frequency.
Ranging Status	Current locked upstream ranging status. (Other/Aborted/Retries Exceed/Success/Continue/T4 Timeout)
Modulation	Current locked upstream modulation type (QPSK/ 8QAM /16QAM/ 32QAM/64QAM/128QAM/256QAM).
Symbol Rate (Ksym/sec)	Current locked upstream symbol rate
Mini-Slot Size	Current locked upstream mini-slot.
Power Level (dBmV)	Current locked upstream transmit power.
T1 Timeouts	Wait for UCD timeout.
T2 Timeouts	Wait for broadcast ranging timeout.
T3 Timeouts	Wait for ranging response.
T4 Timeouts	Wait for unicast ranging opportunity.

2.5.5 Upstream Burst

Figure 2-7 provides the **Upstream Burst information**. Click the **Refresh** button to obtain the latest information.

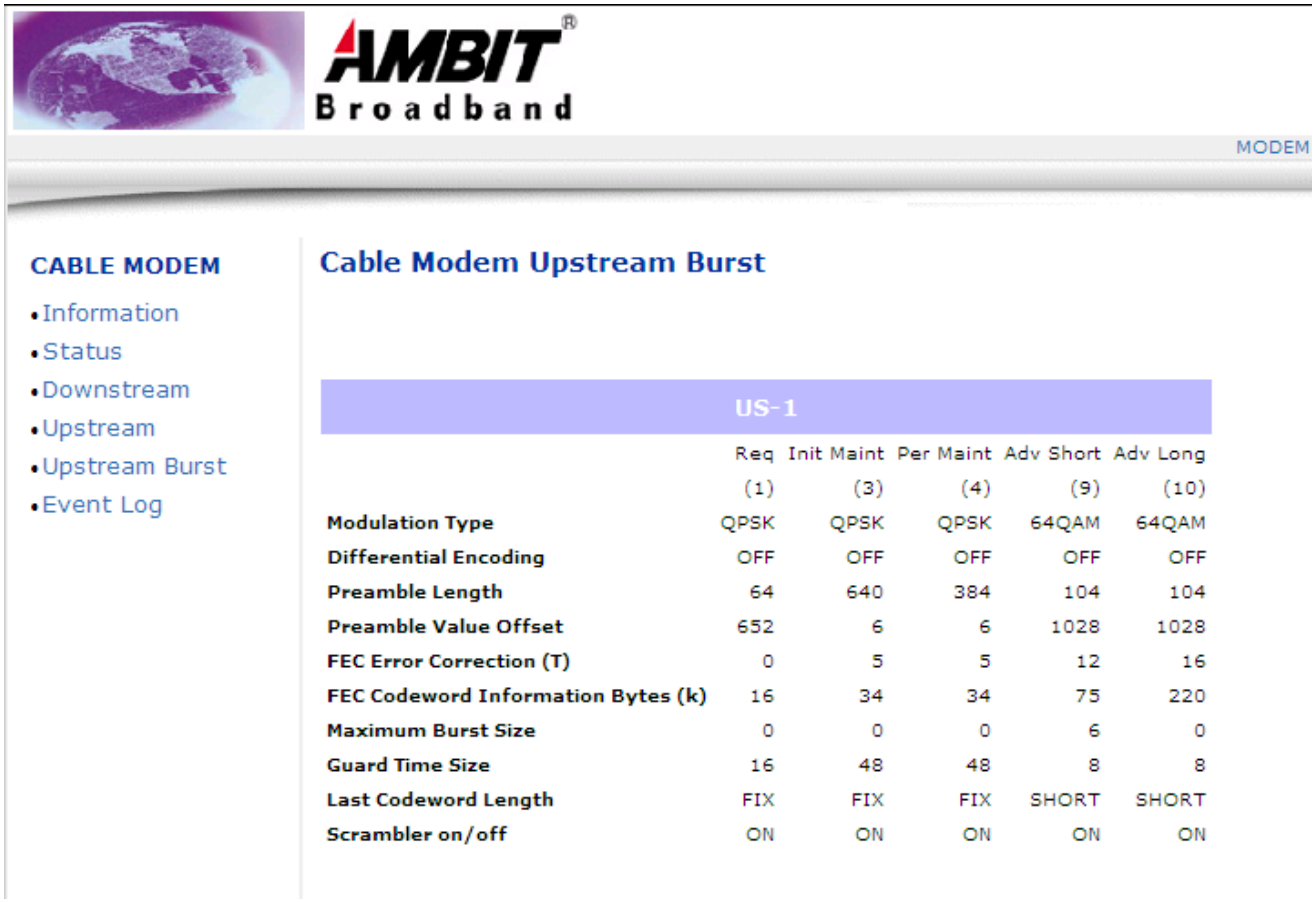


Figure 2-7 Upstream Burst

Item	Description
Modulation Type	QPSK/16QAM/8QAM/32QAM/64QAM/128QAM.
Differential Encoding	ON/OFF
Preamble Length	0-1536 (bits).
Preamble Value Offset	0-1534 (bits).
FEC Error Correction (T)	0 to 16 (0 implies no FEC. The number of codeword parity bytes is 2*T)
FEC Codeword Information Bytes (k)	Fixed: 16 to 253 (assuming FEC on). Shortened: 16 to 253 (assuming FEC on)
Maximum Burst Size	0-255 (mini-slots)
Guard Time Size	4-255 (symbols)
Last Codeword Length	FIX/SHORT
Scrambler on/off	ON/OFF

2.5.6 Event Log

Figure 2-8 is the **Event Log** page.

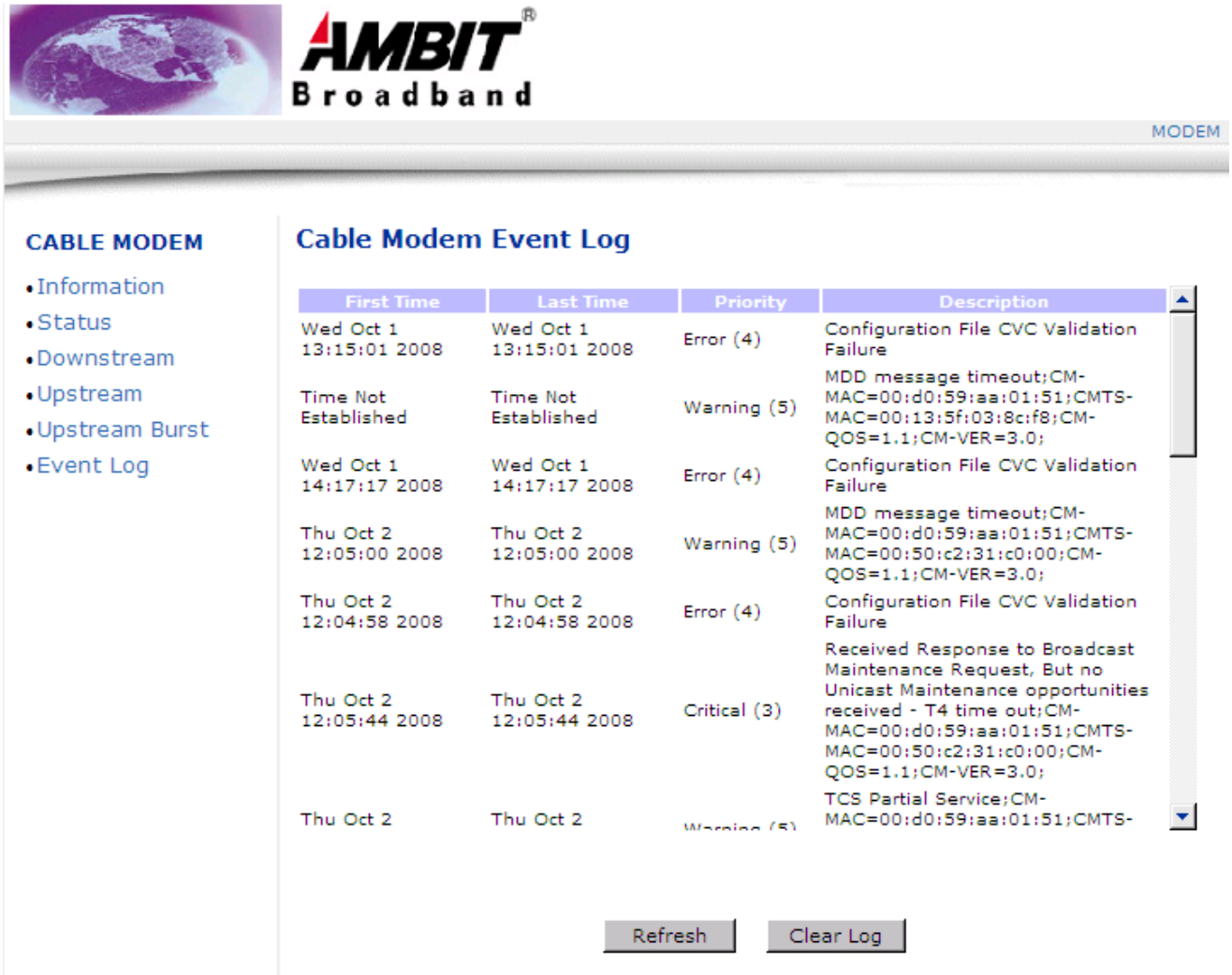


Figure 2-8 Event log page

Item	Description
Refresh	Update result.
Clear Log	Empty event log.

2.6 Tool Page

After you have logged in successfully, you may choose the MODEM or TOOL link located in the upper right hand corner. The tool link will allow you to reset/power cycle the modem or perform a factory default..

2.6.1 Reset Modem

Figure 2-10 displays the Reset Modem page. This page allows you to reset the cable modem just as you would by power-cycling or performing an snmp reset to the device. This reset does not perform a factory default.

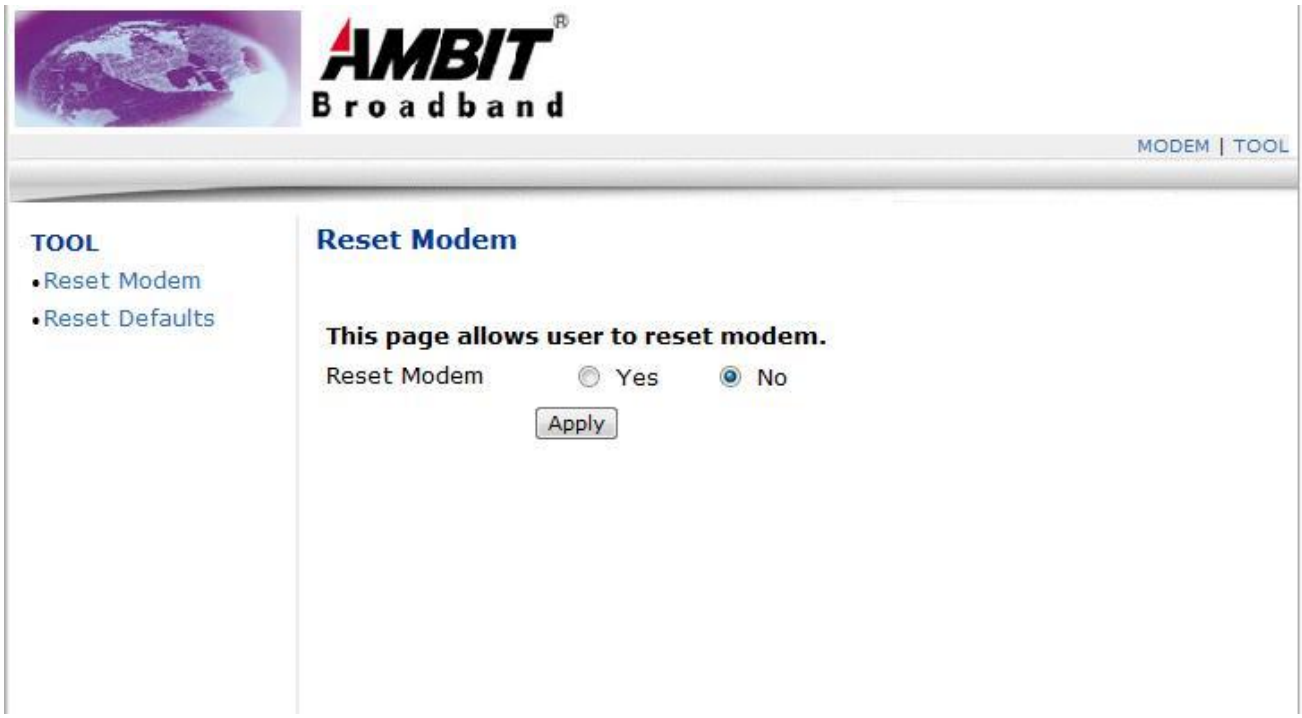


Figure 2-10 Modem Reset Page

Item	Description
Yes	Choose to perform a reset
No	Choose to not perform a reset
Apply	Choose Apply to perform the action chosen

2.6.2 Factory Default Reset

Figure 2-11 displayed the Reset Defaults page. This page allows you to reset the cable modem and perform a factory default of the device by clearing all cached information stored in non-volatile memory. This reset restores the device to the default factory settings but does not change the current firmware version.

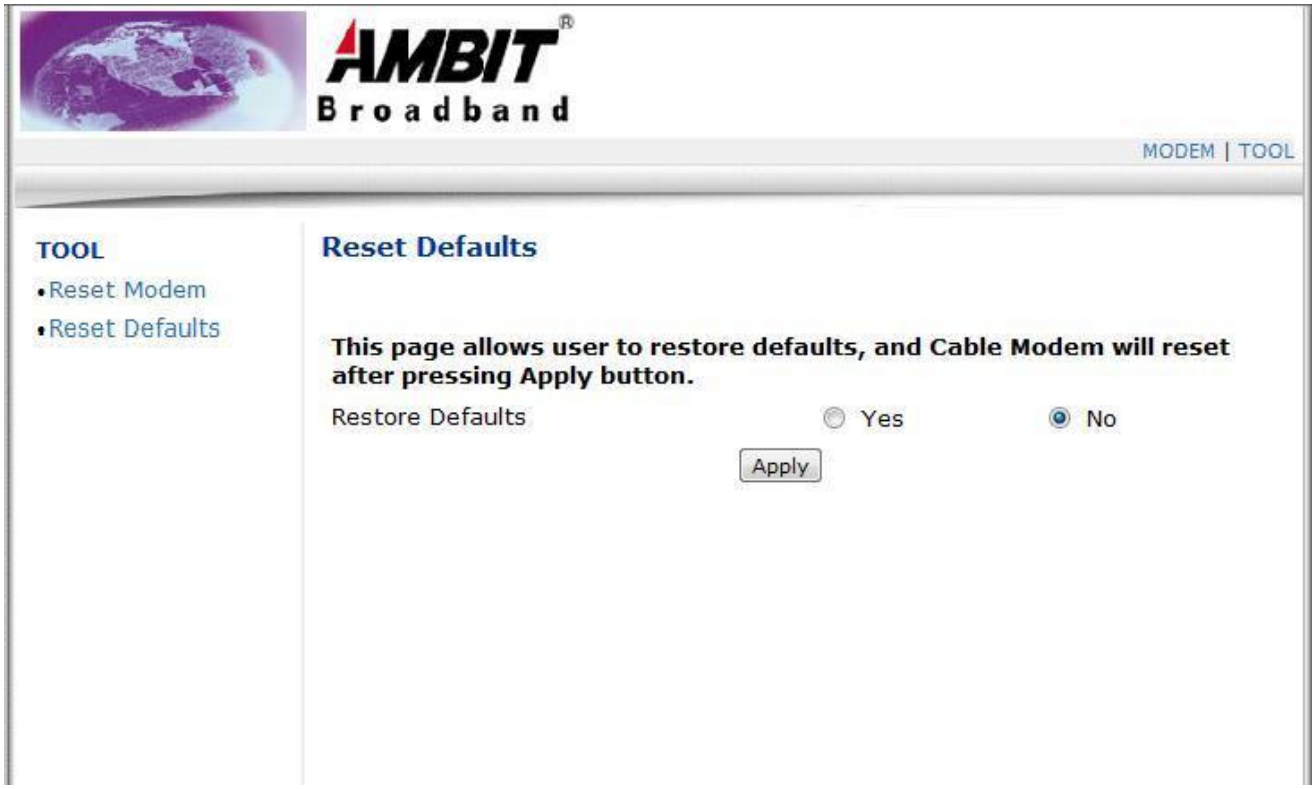


Figure 2-11

Item	Description
Yes	Choose to perform a factory reset
No	Choose to not perform a factory reset
Apply	Choose Apply to perform the action chosen

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"Installation" should include bonding the screen of the coaxial cable to the earth at the building entrance.

Power Adaptor

Vendor: DVE (DEE VAN ENTERPRISE CO., LTD)

Part Number: DSA-12R-12

AC input voltage range: 90-130 VAC

AC input voltage frequency range: 50-60 Hz,

Input current: 0.3A maximum

Output voltage: 12V

Output current: 1A

Safety certificate: 60950

Electrolytic discharge(ESD) :EN6100-4-2 +/-16KV(air discharge)

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